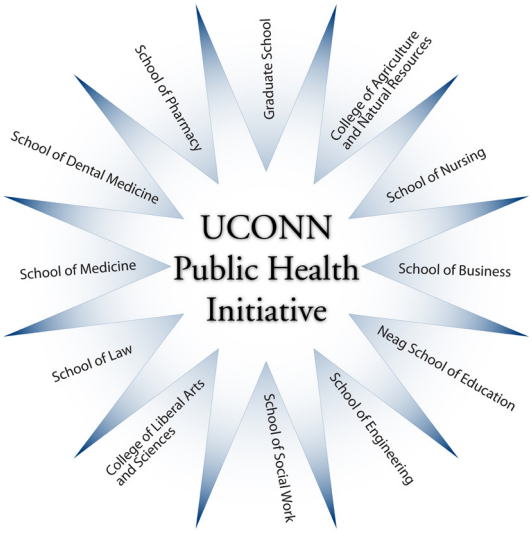
Review and Evaluation of Certain Health Benefit Mandates in Connecticut

2012

University of Connecticut

Center for Public Health and Health Policy



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Executive Summary

Pursuant to Public Act 09-179, the Chairs of the Insurance and Real Estate Committee of the Connecticut General Assembly (the Committee) directed the Connecticut Insurance Department to review six proposed health benefits in a letter dated August 26, 2011. The proposed health benefits listed in the letter to be reviewed include:

- an act concerning health insurance coverage for autism spectrum disorders, P.A. 09-115;
- group health insurance coverage for an alternative therapy in the treatment of autism spectrum disorders, based on S.B. 974 from the 2011 Regular Session;
- an expansion of group health insurance coverage for the treatment of autism spectrum disorders to certificate holders in this state based on S.B. 978 from the 2011 Regular Session;
- an act concerning coverage for the treatment of prostate cancer, P.A. 11-225;
- elimination of cost-sharing on breast cancer screening by ultrasound procedures, based on S.B. 848 from the 2011 Regular Session; and
- health insurance coverage for breast cancer screening by means of thermography, based on H.B. 5448 from the 2011 Regular Session.

This review has been performed in accordance with that request and with follow-up communication with the Committee. Reviews of proposed health benefits are collaborative efforts of the Connecticut Insurance Department and the University of Connecticut Center for Public Health and Health Policy, with the assistance of OptumInsight, an actuarial consulting firm. Each proposed health benefit was studied separately and the key findings of these studies are reported below. At a date following receipt of the original letter, the CPHHP and the Connecticut Insurance Department agreed to analyze only Section 2 of P.A. 11-225, as this was the only section dealing with a benefit mandate within the meaning of P.A. 09-179.

Brief summary of the health benefit mandates under review

- ***Expanded autism spectrum disorders treatment***: P.A. 09-115 added diagnosis of autism spectrum disorders to group insurance contracts and expanded the covered treatments to include prescription drugs, mental health care and behavioral therapies. It prohibited limits on physical therapy, occupational therarpy, and speech therapy visits. These services were originally mandated by P.A. 08-132. It also established dollar limits for certain therapies.

- ***Alternative autism spectrum disorder therapy***: S.B. 974 proposed to add developmental/ relationship based therapies as an alternative to behavioral therapy as mandated treatments for autism spectrum disorders in group insurance policies.

- ***Extension of autism spectrum disorder mandate to certificate holders***: S.B. 978 proposed

to extend the group insurance mandate in P.A. 09-115 to all certificates of insurance issued, delivered renewed or amended in Connecticut.

- ***Prostate cancer treatments***: P.A. 11-225 added a mandate to cover prostate cancer treatments performed in accordance with specified national guidelines to individual and group policies to the existing prostate cancer screening mandates.
- ***Breast cancer screening cost-sharing***: S.B. 848 proposed to eliminate any member cost-sharing for breast cancer screening by means of ultrasound in both individual and group policies.
- ***Breast cancer screening by thermography***: H.B. 5448 proposed to mandate coverage for breast cancer screening by means of thermography in both individual and group policies.

Estimated medical cost of health benefit mandates

The vast majority of the incremental expense of these mandates is medical cost. The estimated medical costs shown below are for group policies and are based on the OptumInsight Actuarial Report. The total 2012 medical cost is estimated to be $0.83 per member per month (PMPM). Please note $0.40 of this amount is due to P.A. 09-115, and is therefore already included in existing premiums. (The PMPM cost of extending the ASD mandate to certificate holders does not apply to Connecticut carriers.) The estimated total medical cost of the three mandates that are applicable to individual policies is $0.34.

Mandate	**Per Member Per Month (PMPM)**
Expanded autism spectrum disorder mandate	$0.40
Alternative autism spectrum disorder therapy	$0.08
Extension of autism spectrum disorder mandate to certificate holders	Not applicable
Prostate cancer treatment	$0.00
Breast cancer screening cost-sharing: ultrasound	$0.20
Breast cancer screening cost-sharing: MRI	$0.10
Breast cancer screening by thermography	$0.05
Total	$0.83

Impact on premiums

The impact of mandates on premiums includes medical costs and non-medical costs. Non-medical cost includes administrative costs and risk/profit charges. For non-medical costs in group plans, the 2012 estimated cost of the six proposed health benefits is $0.15 PMPM. The estimated non-medical cost of the three mandates that are applicable to individual policies is $0.06 PMPM.

Total estimated 2012 impact on premium in group plans for the six proposed health benefits is $1.02 PMPM. The total estimated impact on premium in individual plans for the three mandates that are applicable to individual policies is $0.40 PMPM

Note: Due to lack of data, estimated costs in self-funded plans in Connecticut is not available.

Existing health insurance coverage for the proposed health benefits

Five health insurers and managed care organizations (MCOs) domiciled in Connecticut were surveyed regarding existing insurance coverage for the existing and proposed health benefits in their fully insured group plans, individual policies, and self-funded plans for which they administer benefits. All insurers/ MCOs provided some information about current coverage.

Mandate	Percent of Group Plans with Coverage
Expanded autism spectrum disorder treatments	100
Alternative autism spectrum disorder therapies	0
Autism spectrum disorder mandate extended to certificate holders	Not applicable
Prostate cancer treatment	100
Breast cancer screening without cost-sharing: ultrasound and MRI	Varies by plan
Breast cancer screening by thermography	0

Financial burden on insureds if no coverage

The estimation of the financial burden on insureds if the mandate is not enacted is based on individuals with an annual income of $50,000. Individuals with higher incomes will experience less burden, and those with lower incomes will experience higher burdens. The level of burden is also affected by other expenses of the individual in addition to health care.

Mandate	Burden
Expanded autism spectrum disorder treatments	Can be significant
Alternative autism spectrum disorder therapies	Can be significant
Autism spectrum disorder mandate extended to certificate holders	Can be significant
Prostate cancer treatment	None
Breast cancer screening without cost-sharing: ultrasound and MRI	Ultrasound – slight MRI-can be significant
Breast cancer screening by thermography	Small

Impact of health benefit mandates on use of procedure, service or equipment

These estimates of the impact on use are based on the OptumInsight Actuarial Report.

Mandate	Impact on Use
Expanded autism spectrum disorder treatments	10 percent increase
Alternative autism spectrum disorder therapies	10 percent increase
Autism spectrum disorder mandate extended to certificate holders	0
Prostate cancer treatment	0

Mandate	Impact on Use
Breast cancer screening without cost-sharing: ultrasound and MRI	Ultrasound - 10 percent increase MRI- 5 percent increase
Breast cancer screening by thermography	20 percent increase

Required Coverage in Other States

The following list is not exhaustive, and is subject to change as other states continue to consider and enact additional mandates.

Mandate	Other States
Expanded autism spectrum disorder treatments	33 states have some level of autism treatment mandate
Alternative autism spectrum disorder therapies	No states specify this alternative
Autism spectrum disorder mandate extended to certificate holders	Many states already require coverage; therefore, many Connecticut certificate holders may already have equivalent coverage.
Prostate cancer treatment	No states specify coverage of prostate cancer, most have general mandate for cancer treatment
Breast cancer screening without cost-sharing: ultrasound and MRI	Some states have eliminated cost-sharing on all breast cancer screening technologies (Illinois)
Breast cancer screening by thermography	No states require coverage of this

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Review and Evaluation of Certain Mandated Health Insurance Benefits in Connecticut 2012

General Overview

Over the last 60 years, the Connecticut General Assembly has enacted numerous health insurance benefit mandates and limitations on health insurers licensed to sell insurance in Connecticut. In keeping with a growing trend among the states, the General Assembly in 2009 directed the Connecticut Department of Insurance (Department) to review and evaluate both proposed and existing mandates, as requested by the co-chairs of the Insurance and Real Estate Committee of the General Assembly (P.A. 09-179). This statute directed the Department to contract with the University of Connecticut Center for Public Health and Health Policy (CPHHP) to perform such reviews, and authorized the Department to recover the costs of such contract through assessments on the insurers. It also authorized the CPHHP to obtain whatever expertise it needed to perform the reviews, whether from inside or outside the university. P.A. 09-179 is attached to this report as Appendix I.

By letter dated August 26, 2011, the co-chairs of the Insurance and Real Estate Committee (Committee) requested the Department to report on two Public Acts and four proposed health insurance benefit mandates. A copy of this letter is attached to this report as Appendix II. By agreement between the Department and the co-chairs of the Committee, the deadline for this report is February 1, 2012.

Three of the reports deal with services for people with autism spectrum disorders. Public Act 09-115, which became effective in 2010, covers diagnosis and treatment of autism spectrum disorders (ASD). The other two reports on autism spectrum disorder services are based on proposed bills from the 2011 Session. One bill proposes coverage of an alternative treatment for ASD. The other bill proposes applying Public Act 09-115 to certificate holders.

A fourth report evaluates the mandate passed in the 2011 Session regarding treatment for prostate cancer (P.A. 11-225). The remaining two reports evaluate proposed mandates concerning breast cancer screening services. These are also based on bills proposed in the 2011 Session. One proposes the elimination of any cost sharing on screening breast ultrasound procedures. Because magnetic resonance imaging was added to the pertinent statutory subsections during the 2011 Session, this proposed mandate has been evaluated for its effect on the costs of both ultrasound screening and MRI screening. The other bill proposes to mandate coverage of breast cancer screening by thermography. Copies of these Public Acts and proposed bills are attached to this report as Appendix IV.

This report is comprised of seven parts: the general overview and six sections. Each section reviews one of the six proposed mandates. Each of the six sections can stand on its own, since insurance benefit mandates generally are raised separately in individual proposed legislation.

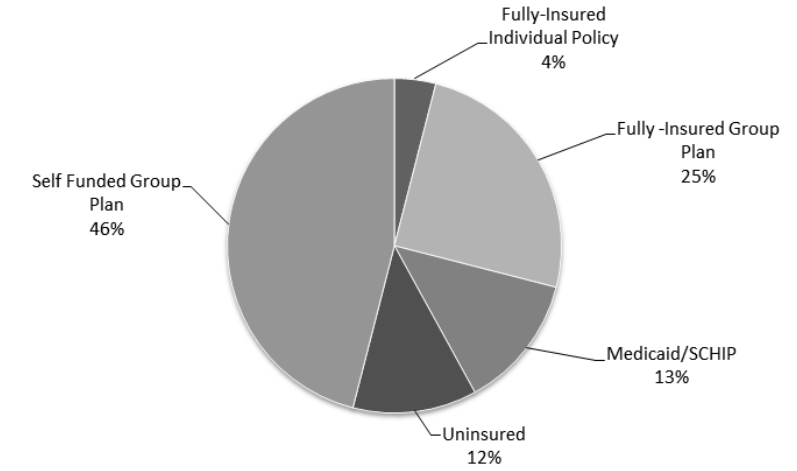
P.A. 09-179 detailed 25 issues to be addressed in the review of each mandate. These issues are divided into those which affect primarily the social impact of a mandate and those which affect primarily the financial

impact, although we found a good deal of overlap among the two categories in the course of our research. Each section of this report addresses these issues for the respective proposed mandate. In addition, each section contains a background section that describes the condition, services, equipment or supplies addressed by the mandate proposal and the segment of the general population most affected by the condition, service, equipment or supplies.

Caveat: It is important to understand that states only have the power to mandate health insurance benefits in fully insured products, which are regulated by the states as the business of insurance. Health plans provided by employers or organizations that do not purchase insurance policies to fund them are beyond the reach of state insurance regulation and are only subject to federal regulation under the Employee Retirement Income Security Act (so-called ERISA preemption). This is so even if the employer or group sponsor contracts with an insurance company to provide "administrative services only," because the employer retains the risk of funding the benefits itself and no insurance is involved. So-called ASO contracts are not considered insurance policies and therefore are not subject to state insurance regulation.

In prior years, the Department has estimated that approximately 50 percent of Connecticut's workforce is covered by fully insured health plans, and approximately 50 percent are covered by employer-funded health plans. The Department has also expressed a concern that the trend is for more and more employers and organizations to opt for self-funded plans, even relatively medium or small employers. In this year's data survey, Connecticut-domiciled insurers and managed care organizations reported that self-funded health plans administered by them cover substantially more members than do their fully insured health plans. Thus, state benefit mandates may be applicable to an ever shrinking number of Connecticut residents. The figures below shows the sources of health care coverage for Connecticut residents and the types of health plans in which Connecticut residents are enrolled.

Figure 1. Type of Health Coverage for Connecticut Residents under age 65



Sources:
Connecticut Insurer Survey conducted by the Center for Public Health and Health Policy, September 2011

The Kaiser Commission on Medicaid and the Uninsured. Supplemental data tables. In: The Uninsured A primer. Key facts about Americans without health insurance. Kaiser Family Foundation. October 2011. p.36-37. Accessed December 2, 2011 from: http://kff.org/uninsured/upload/7451-07.pdf

U.S. Census Bureau. Census Intercensal Estimate, July 2010.

Mandates

The six mandates for which the Insurance Committee requested review are:

- an act concerning health insurance coverage for autism spectrum disorders, P.A. 09-115;
- group health insurance coverage for an alternative therapy in the treatment of autism spectrum disorders, based on S.B. 974 from the 2011 Regular Session;
- an expansion of group health insurance coverage for the treatment of autism spectrum disorders to certificate holders in this state based on S.B. 978 from the 2011 Regular Session;
- an act concerning coverage for the treatment of prostate cancer, P.A. 11-225;
- elimination of cost-sharing on breast cancer screening by ultrasound procedures, based on S.B. 848 from the 2011 Regular Session; and
- coverage for breast cancer screening by means of thermography, based on H.B. 5448 from the 2011 Regular Session.

Process

The CPHHP performed the analysis and developed this report pursuant to a Memorandum of Agreement with the Department. The CPHHP was assisted in the development of this report by the Department and OptumInsight (OI), an actuarial consulting firm (formerly Ingenix Consulting). OI was selected through a competitive bidding process managed by the Department.

The CPHHP staff researched medical issues, including the conditions addressed by the proposed mandates, the available treatments for those conditions and the medical efficacy of the treatment addressed by the mandate. CPHHP also researched the existence of other types of coverage for the conditions addressed by the mandates, including mandates in other states, Medicare and Medicaid coverage, and programs of other units of state government and non-profit organizations. OI performed the actuarial analyses and the economic analysis. OI submitted a separate report which formed the basis for the actuarial analyses included in each of the individual mandate reports by CPHHP.

Methods

University of Connecticut, Center for Public Health and Health Policy

CPHHP staff consulted with medical librarians at the Lyman Maynard Stowe Library at the University of Connecticut Health Center (UCHC). Medical librarians conducted literature searches under search terms particular to each proposed mandate using various resources available to them.

CPHHP staff consulted with clinical faculty and staff from the University of Connecticut School of Medicine on matters pertaining to medical standards of care, current and traditional practices, and evidence-based medicine related to the proposed benefit. Additional information was gathered through telephone and e-mail inquiries to appropriate state, federal, municipal, and non-profit entities and from internet sources such as the State of Connecticut website, Medicare website, other states' websites, and the websites of non-profit and community-based organizations.

CPHHP staff also surveyed the insurance companies and managed care organizations domiciled in Connecticut as to whether their fully insured group and individual plans currently included the proposed mandated benefit.

OptumInsight

The Department contracted with OptumInsight (OI) to provide actuarial and economic analyses of the

proposed mandated benefit. Further details regarding the actuarial methods used to estimate the cost of the benefit and the economic methods used to estimate financial burden may be found in the OI report, which is attached as Appendix III. We strongly recommend that the mandate reports be read in conjunction with this actuarial report for a more in-depth discussion of the issues addressed in those reports.

Chapter 1

Autism Spectrum Disorders

A Report to the Insurance and Real Estate Subcommittee
of the Connecticut General Assembly

Analysis of Public Act 09-115:
"An act concerning group health insurance for autism spectrum disorders."

Prepared by:

Erin Havens, MPA, MPH

University of Connecticut
Center for Public Health and Health Policy

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I. Overview

On August 26, 2011, the Chairs of the Insurance and Real Estate Committee of the Connecticut General Assembly (the Committee) directed the Connecticut Insurance Department to review Public Act (P.A.) 09-115, "An Act Concerning Health Insurance For Autism Spectrum Disorders." This report follows the requirements stipulated under P.A. 09-179, An Act Concerning Reviews of Health Insurance Benefits Mandated in this State. Reviews of required health insurance benefits are a collaborative effort of Connecticut Insurance Department and the University of Connecticut Center for Public Health and Health Policy (CPHHP).

This report evaluates the financial and social impact of group insurance coverage requirements for diagnosis and therapies of autism spectrum disorder (ASD), as established under P.A. 09-115. Effective as of January 1, 2010, P.A. 09-115 repealed and substituted the following language excerpt under Connecticut General Statutes, Section 38a-514b.

(b) Each group health insurance policy providing coverage of the type specified in subdivisions (1), (2), (4), (11) and (12) of section 38a-469 that is delivered, issued for delivery, renewed, amended or continued in this state … shall provide coverage … for the diagnosis and treatment of autism spectrum disorders. For the purposes of this section and section 38a-513c, an autism spectrum disorder shall be considered an illness.

(c) Such policy shall provide coverage for the following treatments, provided such treatments are (1) medically necessary, and (2) identified and ordered by a licensed physician, licensed psychologist or licensed clinical social worker for an insured who is diagnosed with an autism spectrum disorder, in accordance with a treatment plan developed by a licensed physician, licensed psychologist or licensed clinical social worker pursuant to a comprehensive evaluation or reevaluation of the insured:

(A) Behavioral therapy;

(B) Prescription drugs, to the extent prescription drugs are a covered benefit for other diseases and conditions under such policy, prescribed by a licensed physician, licensed physician assistant or advanced practice registered nurse for the treatment of symptoms and comorbidities of autism spectrum disorders;

(C) Direct psychiatric or consultative services provided by a licensed psychiatrist;

(D) Direct psychological or consultative services provided by a licensed psychologist;

(E) Physical therapy provided by a licensed physical therapist;

(F) Speech and language pathology services provided by a licensed speech and language pathologist; and

(G) Occupational therapy provided by a licensed occupational therapist.

(d) Such policy may limit the coverage for behavioral therapy to a yearly benefit of fifty thousand dollars for a child who is less than nine years of age, thirty-five thousand dollars for a child who is at least nine years of age and less than thirteen years of age and twenty-five thousand dollars for a child who is at least thirteen years of age and less than fifteen years of age.

(e) Such policy shall not impose (1) any limits on the number of visits an insured may make to an autism services provider pursuant to a treatment plan on any basis other than a lack of medical necessity, or (2) a coinsurance, copayment, deductible or other out-of-pocket expense for such coverage that places a greater financial burden on an insured for access to the diagnosis and

treatment of an autism spectrum disorder than for the diagnosis and treatment of any other medical, surgical or physical health condition under such policy…"

To evaluate this mandate, in October 2011, the CPHHP distributed and received responses to a survey requesting policy documents (e.g., utilization review processes, parameters for defining medical necessity, etc.) and data for the proportion of members with policy exclusions, the extent of member coverage, treatments requested and approved, and claims related to diagnosis and treatment of ASDs, as specified by the mandate. Respondents included five insurers and managed care organizations (carriers) domiciled in Connecticut that cover approximately 911,000 covered lives enrolled in fully insured group and individual health insurance plans in Connecticut. Including self-funded plans, respondents cover about 77 percent (2.3 million lives) of the Connecticut population under age 65.

The CID also contracted with the actuarial firm OptumInsight (OI) to conduct a fiscal analysis of claims data for the mandate. The OI analysis estimates the 2012 per member per month (PMPM) cost for behavior therapy as a treatment for ASDs under fully insured group plans. The cost projections focus on the added cost due to coverage for behavioral therapy using cost and utilization data from 2010, the initial year of implementing P.A. 09-115. The cost estimate assumes growth in utilization rates and ASD prevalence among the fully insured population in 2012.

Current coverage

The extent of coverage for diagnosis and treatment of ASDs as described under P.A. 09-115 depends on whether the policy is from a fully insured group, individual health plan, self-funded group or government health plan. Approximately 25 percent of Connecticut residents are enrolled in fully insured group health plans and thus receive coverage for diagnosis and treatment of ASD as required by P.A. 09-115. Covered treatments include physical therapy (PT), occupational therapy (OT), speech therapy (ST), psychological and psychiatric services, behavioral therapy (including applied behavior analysis), and prescription drugs. The same breadth of coverage is not guaranteed under individual policies. However, Connecticut General Statutes C.G.S.A. §38a-488b affords the 4 percent of Connecticut residents under individual policies with coverage for physical therapy, occupational therapy and speech therapy for treatment of ASD to the extent these therapies are covered for other conditions. These same residents also have access to psychological and psychiatric consultations and prescription drugs under §38a-488a, which requires coverage for diagnosis and treatment of mental or nervous conditions.

Self-funded plans

For the 46 percent of Connecticut residents covered by self-funded plans, less than 1 percent of self-funded groups, covering less than 3 percent of lives under self-funded plans had coverage at the level described under P.A. 09-115 during 2010.

Premium impact

Group plans: Based on 2010 claims data, the actuarial report projects the paid medical cost for ASD related claims for behavioral therapy in 2012 at $0.40 per member per month (PMPM). The total premium impact when including medical cost, administrative fees, risk factor, and profit or surplus is projected to be $0.47 PMPM, which is 0.1 percent of the estimated total premium for group plans. It is expected that utilization of PT, OT and ST for the treatment of ASD will cost $0.03 to $0.04 PMPM, less than 0.01 percent of the total premium. This is approximately the same amount as estimated for the mandate implemented in 2009 (P.A. 08-132), which covered these therapies for ASD to the same extent as other illness in the policy. However, it is worth noting that pre/post data for related claims suggests that the PMPM cost did not significantly increase when comparing before and after implementation of the PT, OT, ST mandate in

2009. For 2012, coverage of psychiatric/psychological consultative services and pharmaceuticals for the diagnosis and/or treatment of ASDs is not anticipated to have an additional impact on cost. C.G.S.A. §38a-514, implemented in 2000, requires each group health insurance policy to cover diagnosis and treatment of mental or nervous conditions.

Individual policies: There is no anticipated change in PMPM for individual policies as a result of P.A. 09-115 since the scope of coverage does not extend to individual policies.

This report is intended to be read in conjunction with the General Overview to this volume and the OptumInsight Actuarial Report, which is included as Appendix III.

II. Background

Classified as "pervasive developmental disorders" in the Diagnostic and Statistical Manual of Mental Health Disorders (DSM IV-TR), autism spectrum disorders (ASDs) are a group of biologically-based neurodevelopmental disorders.[1, 2] Neurodevelopmental disorders are impairments of growth and development often affecting the child's emotional responses, learning ability and memory. In the DSM IV-TR, five disorders are identified as ASDs: autistic disorder (classic autism), Asperger's syndrome, pervasive developmental disorder, not otherwise specified (PDD-NOS, atypical autism), Rett's Disorder, and Childhood Disintegrative Disorder. These disorders become apparent within the first three years of life and are often apparent by age two.[3] The core symptoms include atypical development of socialization, communication and behavior[4]

The manifestation and severity of cognitive, social, communication, motor, and adaptive abilities varies widely by disorder and across individuals with an ASD. The hallmark trait across ASDs is impaired social skills. Autistic disorder involves reciprocal social skill impairments, language deficits, stereotypical behaviors, and restricted interests or activities. Individuals with Asperger's syndrome also have reciprocal social skills impairments but no significant delay in language and higher verbal and cognitive skills than typical of autistic disorder. Symptoms of PDD-NOS or "atypical autism," do not match the full criteria for autistic disorder due to late onset, atypical symptoms, and/or below threshold symptoms. The rarest disorders, Rett's Disorder and Childhood Disintegrative Disorder (CDD), involve normal, age appropriate development after birth followed by a clinically significant loss of previously acquired skills in areas such as language, social skills and motor skills by 30 months or ten years old, respectively.[5] Rett's disorder is diagnosed among females almost exclusively whereas CDD cases are predominantly diagnosed among boys.[6] Of children with ASD, an estimated two-thirds present with communication deficits and less than half fail to use speech as a

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1 Augustyn, M. Diagnosis of autism spectrum disorders. *UpToDate.* 19.3. Literature review version: September 2011. Last updated March 17, 2011.

2 American Psychiatric Association (Ed.). Pervasive developmental disorders. In: Diagnostic and statistical manual of mental disorders: DSM-IV-TR (Fourth edition, text revision). Washington, DC: American Psychiatric Association, 2000. p.69-70.

3 American Speech-Language Hearing Association. 2006. Roles and responsibilities of speech-language pathologists in diagnosis, assessment, and treatment of autism spectrum disorders across the lifespan. [Position Statement]. Accessed December 2, 2011 from: http://www.asha.org/docs/html/PS2006-00105.html.

4 Centers for Disease Control and Prevention. December 18, 2009. Prevalence of Autism Spectrum Disorders—Autism and Developmental Disabilities Monitoring Network, United States, 2006. Accessed August 30, 2010 from: http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5810a1.htm.

5 American Psychiatric Association (Ed.). Pervasive developmental disorders. In: Diagnostic and statistical manual of mental disorders: DSM-IV-TR (Fourth edition, text revision). Washington, DC: American Psychiatric Association, 2000. Pp.69-70

6 National Institute of Mental Health. Autism Spectrum Disorders. Accessed December 2, 2011 from: http://mentalhealth.gov/health/publications/autism/complete-index.shtml.

primary means of communication. As summarized by the American Speech-Language Hearing Association (ASHA), individuals with an ASD may have difficulties with "*joint attention, shared enjoyment, social reciprocity in nonverbal as well as verbal interactions, mutually satisfying play and peer interaction, comprehension of others' intentions, and emotional regulation*." [7]

Associated Symptoms and Comorbidities

Associated symptoms[8] include sensory impairments or abnormalities[9] and delays in gross motor skills (low muscle tone, poor coordination, motor apraxia, toe walking, and difficulties with physical play), fine motor skills or both.[10] An estimated 39 percent of children with ASD are under reactive to sensation, 20 percent are hypersensitive, and 36 percent show a mixed pattern of hypersensitivity and hyposensitivity.[11] These symptoms further complicate participation in basic day-to-day activities.

A higher rate of medical and psychological comorbidities has also been documented for individuals with ASDs. Management of co-morbid conditions or co-occurring conditions distinct from ASDs, is often complicated by the impaired communication and social skills typical of ASDs. Examples of co-occurring conditions include: epilepsy, nutrition deficiencies, intellectual disability (IQ <70); behavior or conduct problems (58.9 percent), genetic disorders, seizure disorders, bone, joint or muscle problems (23 percent); sleep dysfunction; obsessive compulsive disorder; rigidity or repetitive behavior; hyperactivity, attention deficit disorder or attention deficit hyperactive disorder (45.1 percent); respiratory, skin and/or food allergies (58.9 percent), and underdevelopment of self-help skills.[12, 13, 14] Studies estimate 45-60 percent of individuals with ASD have an intellectual disability (IQ<70).[15] Moderate or high levels of difficulty with emotional symptoms, conduct, hyperactivity and/or peer relationships are also high, with 83 percent of parents of children with ASD reporting problems.[16]

Prevalence

National Prevalence Estimate

Using a national sample of 8 year olds, the Autism and Developmental Disabilities Monitoring (ADDM) Network, a project of the Centers for Disease Control and Prevention (CDC), estimated that in 2006, on

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[7] American Speech-Language Hearing Association. 2006. Roles and responsibilities of speech-language pathologists in diagnosis, assessment, and treatment of autism spectrum disorders across the lifespan. [Position Statement]. Accessed December 2, 2011 from: http://www.asha.org/docs/html/PS2006-00105.html.

[8] American Speech-Language Hearing Association. 2006. Roles and responsibilities of speech-language pathologists in diagnosis, assessment, and treatment of autism spectrum disorders across the lifespan. [Position Statement]. Accessed December 2, 2011 from: http://www.asha.org/docs/html/PS2006-00105.html.

[9] Wiggins, L.D., Robbins, D.L., Bakeman, R, Adamson, L.B. Brief report: sensory abnormalities as distinguishing symptoms of autism spectrum disorders in young children. *Journal of Autism Development Disorders.* 2009, 39(7): 1087-91.

[10] Provost, B., Lopez, B.R., Heimer,l S. A comparison of motor delays in young children: autism spectrum disorder, developmental delay, and developmental concerns. *Journal of Autism Development Disorders*. 2006, 37(2): 321-8.

[11] Greenspan, S. L., & Wieder, S. Developmental patterns and outcomes in infants and children with disorders in relating and communicating: A chart review of 200 cases of children with autistic spectrum diagnoses. *Journal of Developmental and Learning Disorders.* 1997, 1, 87-141

[12] Kogan, MD., Strickland, B.B., Blumberg, S.J., Sing, G.K., Perrin, J.M., van Dyck, P.C. A national profile of the health care experience and family impact of autism spectrum disorders among children in the United States, 2005-2006. *Pediatrics*. 2008, 122: e1149-1158.

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[14] Gurney, JG, McPheeters, ML., Davis, MM. Parental report of health conditions and health care use among children with and without autism. *Arch Pediatr Adolesc Med*. 2006, 160:825-830.

[15] Augustyn, M. Terminology, epidemiology, and pathogenesis of autism spectrum disorders. *UpToDate.* 19.3. Last literature review version 19.3: September 2011. Last updated: August 17, 2011.

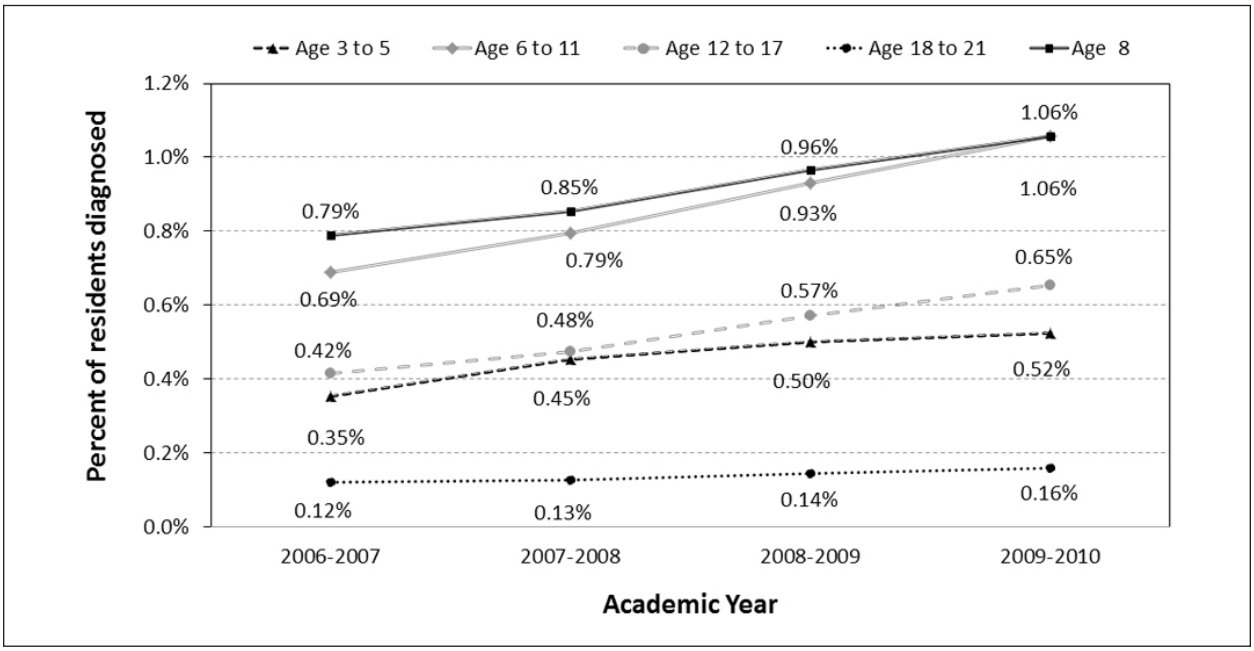
[16] Centers for Disease Control and Prevention. Mental health in the United States: Parental report of diagnosed autism in children aged 4—17 years---United States, 2003-2004. MMWR Surveillance Summary. 2006 May 5; 55(17):481-486. Accessed December 2, 2011 from: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5517a3.htm.

average, 1 in every 110 children (0.91 percent) has an ASD.[17] Since children generally exhibit symptoms by age 8, prevalence of ASD symptoms among 8 year olds was used as a proxy measure of ASD prevalence among children. The ADDM estimate includes diagnosed and undiagnosed cases of ASD. Of those meeting the ASD case definition, approximately 77 percent had a documented ASD classification in their records, with a range across sites of 65-93 percent.[18] Prevalence rates calculated from the 2003-2004 nationally representative surveys, the National Health Interview Survey (NHIS) (0.57 percent) and the National Survey of Children's Health (NSCH) (0.55 percent), were lower for school age children from 4 to 17 years old.[19, 20] The lower NHIS and NSCH prevalence is likely due to the reliance on caregiver reporting and the scope of diagnosis being limited to children receiving the diagnosis from a physician.

Connecticut Prevalence Estimate

In 2009-2010, approximately 1 in 127 Connecticut children (0.79 percent) between the ages of 3 to 17 had a diagnosis of ASD and received special education services under the Individuals with Disabilities Act (IDEA).[21] Figure 1.1 illustrates by age range, the percentage of Connecticut children with an ASD diagnosis who received educational services under IDEA-Part B. Children ages 6 to 11 had the highest rate of ASD with 1 in 95 children (1.06 percent) diagnosed and receiving special education services.

Figure 1.1. Percent of Connecticut children diagnosed with an autism spectrum disorder receiving special education services



[17] Centers for Disease Control and Prevention. Prevalence of Autism Spectrum Disorders—Autism and Developmental Disabilities Monitoring Network, United States, 2006. *MMWR Surveillance Summary.* 2009 Dec 18; 58(10):1-20. Accessed 8/30/2011 from: http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5810a1.htm.

[18] Centers for Disease Control and Prevention. December 18, 2009. Prevalence of Autism Spectrum Disorders—Autism and Developmental Disabilities Monitoring Network, United States, 2006. Accessed August 30, 2011 from: http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5810a1.htm.

[19] Centers for Disease Control and Prevention. Mental health in the United States: Parental report of diagnosed autism in children aged 4—17 years---United States, 2003-2004. *MMWR Surveillance Summary.* 2006 May 5; 55(17):481-486. Accessed December 2, 2011 from: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5517a3.htm.

[20] Liptak, G.S., Benzoni, L.B., Mruzek, D.W., *et. al.* Disparities in diagnosis and access to health services for children with autism: data from the National Survey of Children's Health. *Journal of Developmental & Behavioral Pediatrics*. 2008; 29(3): 152-160.

[21] U.S. Office of Special Education Programs. Accessed from: http://IDEAdata.org.

The same rate was found for children 8 years of age. Using this data, the diagnosed prevalence in Connecticut of ASD among children receiving special education services would be 1 in 95 children. These data likely underreport the prevalence of ASD among children in Connecticut since the numbers are specific to children receiving related school-based special education services under IDEA. Adjusting for potential undiagnosed cases, an estimated 1.2 to 1.7 percent of children in Connecticut has an ASD. For the 2009-2010 school year, 3,731 children with ASD were indicated in school records as having special health care needs, representing approximately 70 percent of children with an ASD receiving special education services.[22]

Symptom Severity and ASD Subtypes

According to the NSCH, 32 percent of parents reported mild symptom severity for their child with ASD, 48 percent reported moderate severity and 22 percent reported severe symptoms.[23] To date, study of ASD subtypes are lacking. Of children with ASD in one study, 64 percent had classic autism and 35 percent had another ASD. Health care spending was significantly greater for children with classic autism compared to those with other ASDs ($6,700 versus $4,900).[24] Classic autism was also most prevalent in another study, where 71 percent of the children had classic autism, 21 percent had Asperger's disorder and 8 percent had PDD-NOS.[25] According to the National Institute of Mental Health, Rett's Syndrome and Childhood Disintegrative Disorder are extremely rare affecting one out of 10,000 to 15,000 and fewer than 2 per 100,000 children with ASD, respectively.[26]

Diagnosis

During well-visits children are routinely screened for developmental disabilities. Professional guidelines recommend screening for ASDs as part of well-visits at 9 months, 18 months and 24 or 30 months.[27, 28, 29] Practice parameters of the American Academy of Neurology (AAN) require physicians immediately follow up with caregivers to discuss results of positive screenings, perform additional medical and developmental assessment and/or refer the child to a specialist or specialists for further assessment. Physicians should also provide anticipatory guidance and referral to early intervention services or special education.[30] Exploring a diagnosis of developmental disabilities typically involves a multidisciplinary team of health professionals and multiple assessment mechanisms.

The gold standard for diagnosing ASDs involves multidisciplinary team assessments and one or more

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[22] Lorentsen, Mhora. Health Services Program Information Survey Report. Report to the Connecticut State Department of Education. Education Connection.
Accessed December 2, 2011 from: http://www.sde.ct.gov/sde/lib/sde/PDF/deps/student/health/HealthServices1110.pdf.

[23] *Ibid.*

[24] Leslie, D.L., Martin, Andres. Health care expenditures associated with autism spectrum disorders. *Archives of Pediatrics & Adolescent Medicine*. 2007; 161(4): 350-355.

[25] Thomas, K.C., Ellis, A.R., McLaurin, C., Daniels, J., Morrissey, J.P. Access to care for autism-related services. *Journal of Autism and Developmental Disorders.* 2007 Nov; 37(10): 1902-1912.

[26] National Institute of Mental Health. Autism Spectrum Disorders.
Accessed December 2, 2011 from: http://mentalhealth.gov/health/publications/autism/complete-index.shtml.

[27] Myers SM, Johnson CP. 2007. Management of children with autism spectrum disorders. *Pediatrics.* 2007; 120(5): 1162-82.

[28] Centers for Disease Control and Prevention. Autism spectrum disorders (ASDs): Screening and diagnosis. Page last reviewed: May 13, 2010. Accessed December 2, 2011 from: http://www.cdc.gov/ncbddd/autism/screening.html.

[29] Filipek, P.A., Accardo, P.J., Ashwal, S. et, al. Practice parameter: screening and diagnosis of autism: report of the Quality Standards Subcommittee of the American Academy of Neurology and the Child Neurology Society. *Neurology* 2000 Aug 22; 55(4): 468-79.

[30] *Ibid.*

diagnostic tools.[31] Neurodevelopmental and developmental-behavioral pediatricians, child neurologists, child psychologists or psychiatrists, geneticists, speech-language pathologists, physical therapists or occupational therapists, and early intervention programs that provide assessment services may inform the diagnosis. Diagnostic processes may vary across specialists depending on which diagnostic tools are used.[32] Comprehensive evaluations may include the use of diagnostic observation instruments for ASDs; medical and neurological evaluation; speech, language, and communication evaluations; cognitive and adaptive behavior evaluations; sensorimotor, neuropsychological, behavioral, and academic assessments; genetic testing if certain traits are indicated; and, ongoing evaluation and monitoring by the team of health professionals.[33]

Six diagnostic tests are recommended for the diagnosis of ASDs in a recent Cochrane report.[34] However, current research has not established what test, combinations of tests or administration sequence should be used to maximize test accuracy. For the most part, existing methods for screening and diagnosis by age and for specific ASDs has yet to be evaluated. The Autism Diagnosis Interview-Review (ADI-R), the Gilliam Autism Rating Scale (GARS), and Diagnostic Interview for Social and Communication Disorders (DISCO) are examples of diagnostic tests completed during face-to-face interviews with a caregiver. Length varies from 15 minutes to 3 hours. The Developmental, Dimensional and Diagnostic Interview (3di) is a computerized interview survey for caregivers. The Autism Diagnostic Observation Schedule (ADOS-G) is a semi-structured professional observation of child behavior using four 30-minute modules whereas the Childhood Autism Rating Scale (CARS) combines a caregiver interview with an observation of the child during unstructured activity.[35]

The AAN consensus-based general principles of management recommend GARS, ADOS-G, The Parent Interview for Autism, and The Pervasive Developmental Disorders Screening Test-Stage 3 as diagnostic parental interviews and CARS, ADOS-G and The Screening Tool for Autism in Two-Year Olds for diagnostic observation instruments.[36] Diagnostic tools typically capture caregiver descriptions of the child's development and/or professional observation of the child's behavior. Standardized criteria from the DSM-IV-TR is also used to evaluate the potential for autism disorder, Asperger's syndrome or pervasive developmental disorders-not otherwise specified. According to the AAN guidelines, "*no single tool should be used as the basis for diagnosis*."[37] The Center for Disease Control and Prevention also does not endorse or approve of any specific tools for screening purposes despite their established priority of early screening, diagnosis and treatment of ASDs.[38]

Treatment

Treatments received by individuals with ASDs are typically prescribed or delivered by a specialist or team of

[31] Samtani, A., Sterling-Levis, K., Scholten, RJPM, Woolfenden, S., Hooft, L., Williams, K. Diagnostic tests for autism spectrum disorders (ASD) in preschool children (Protocol). *Cochrane Database of Systematic Reviews*. 2011; 3. Art. No.: CD009044. DOI: 10.1002/14651858/CD009044.

[32] Al-Qabandi, M., Gorter, JW., Rosenbaum P. Early autism detection: are we ready for routine screening? *Pediatrics*. 2011; 128: 1-8.

[33] Weissman, L., Bridgemohan, C. Autism spectrum disorders in children and adolescents: Overview of management. UpToDate. 19.3. Last literature review version 19.3: September 2011. Last updated: June 8, 2011.

[34] Samtani, A., Sterling-Levis, K., Scholten, RJPM, Woolfenden, S., Hooft, L., Williams, K. Diagnostic tests for autism spectrum disorders (ASD) in preschool children (Protocol). *Cochrane Database of Systematic Reviews*. 2011; 3. Art. No.: CD009044. DOI: 10.1002/14651858/CD009044.

[35] *Ibid.*

[36] Filipek, P.A., Accardo, P.J., Ashwal, S. et, al. Practice parameter: screening and diagnosis of autism: report of the Quality Standards Subcommittee of the American Academy of Neurology and the Child Neurology Society. *Neurology* 2000 Aug 22; 55(4): 468-79.

[37] *Ibid.*

[38] Centers for Disease Control and Prevention. Autism spectrum disorders (ASDs): Screening and diagnosis. Page last reviewed: May 13, 2010. Accessed December 2, 2011 from: http://www.cdc.gov/ncbddd/autism/screening.html.

core health professionals that may include a behavioral pediatrician, neurologist, psychologist, psychiatrist and ancillary professionals such as a speech-language pathologist, occupational or physical therapist, audiologist, and/or social worker. Treatment delivered and frequency of ongoing follow-up health care visits should be individualized based on progress and specific health care issues requiring care.[39] The American Academy of Pediatrics (AAP) Council on Children with Disabilities defines the goals of treatment as maximizing *"the child's ultimate functional independence and quality of life by: minimizing the core autism spectrum disorder features, facilitating development and learning, promoting socialization, reducing maladaptive behaviors and educating and supporting families."*[40] The AAP report on management of ASDs recommends aggressive use of educational and behavioral interventions. Therapies may focus on reducing problematic behaviors, fostering communication and social skill development, or addressing sensory problems, motor skills, emotional issues or food sensitivities. Table 1.1 displays intervention strategies for several functional areas.[41-42]

Table 1.1. Functional areas and intervention strategies

Functional area	Intervention strategies
Communication	Speech/language therapy, development of facilitated communication skills, picture exchange communication, the Fast for Word computer program
Social Skills	Social-cognitive training, social stories, play therapy, music therapy, holding therapy, dog therapy, dolphin therapy, therapeutic riding, etc.
Sensory/Motor	Clinic-based sessions (i.e., occupational therapy, physical therapy, etc.), sensory diet (sensory integration therapy, auditory integration, music therapy, squeeze machine, craniosacral trauma release therapy, myofacial release, etc.)
Behavior	Positive behavior support, intensive behavioral intervention, applied behavior analysis (ABA), incidental teaching, pivotal response therapy, verbal behavior therapy

The types of services provided to treat ASDs may be carried out in a child's school, at the office of a physician or health professional, or in the home or community. A description of speech-language therapy, occupational therapy, physical therapy, and behavior therapy as applied for children with ASDs is provided below. Prescription drugs and miscellaneous other therapies that may be used by families of children with ASDs are also described. It is assumed that readers may be less familiar with behavioral therapy, thus a more extensive historical background on behavioral therapy is provided. Treatments are often provided in a concurrent fashion and are sometimes tailored to achieve goals in multiple functional areas.

Speech-language therapy addresses the barriers to communication. The American Speech-Language Hearing Association states that speech-language pathologists should assess and enhance initiation of spontaneous communication, comprehension of verbal and nonverbal communication, reciprocal communication, and development of friendships and social networks. Natural gestures, speech, signs, pictures, written words, and other augmentative and alternative communication systems are among the

[39] Weissman, L., Bridgemohan, C. Autism spectrum disorders in children and adolescents: Overview of management. *UpToDate*. 19.3. Last literature review version 19.3: September 2011. Last updated: June 8, 2011.

[40] Myers SM, Johnson CP. 2007. Management of children with autism spectrum disorders. *Pediatrics* 120(5): 1162-82.

[41] Weissman, L., Bridgemohan, C. Autism spectrum disorders in children and adolescents: Behavioral and educational interventions. *UpToDate*. 19.3. Literature review version 19.3: September 2011. Last updated: June 9, 2011.

[42] Case-Smith, J., Arbesman, M. Evidence-based review of interventions for autism used in or of relevance to occupational therapy. American Journal of Occupational Therapy, 62, 416-429.

verbal and nonverbal communication strategies that may be initiated through therapy.[43] According to AAP guidelines, "*people with ASDs have deficits in social communication, and treatment by a speech-language pathologist usually is appropriate. Most children with ASDs can usually develop useful speech, and chronological age. Lack of typical prerequisite skills, failure to benefit from previous language intervention and lack of discrepancy between language and IQ scores should not exclude a child from receiving speech-language services.*" [44]

***Occupational therapy**:* Occupational therapists and occupational therapy assistants help people with ASDs find ways to adjust tasks and conditions while attending to the individual's abilities and needs. Such help may focus on daily living skills (such as getting dressed, eating or brushing teeth), sensory integration (to address overreaction or under-reaction to stimuli such as noise or touch), adjusting the environment to minimize distractions, and/or identifying tools to ease communication or daily living.[45] "*In young children with ASD, occupational therapists often focus on enhancing children's sensory processing, sensorimotor performance, social-behavioral performance, self-care, and participation in play. In older children and adolescents, occupational therapy goals may focus on social and behavioral performance, transition to work, and independence in the community.*"[46] Approaches focus on facilitative engagement of the child such as: appropriate attention and arousal, sustained eye contact, joint attention to an activity and another person, appropriate affect, communication of needs, turn taking, gesturing as part of interaction, and initiation of social engagement.[47]

Physical therapy involves "*interventions for, and prevention of impairments, functional limitations, and disabilities related to movement, function, and health.*" Physical therapists are described as the "*provider of choice for neuromusculoskeletal deficits.*" Specific to autism, physical therapy commonly focuses on mobility, balance, coordination, low muscle tone and under-developed motor skills. A visit with a physical therapist may involve working on basic motor skills such as sitting and rolling or more complex movements like standing, kicking, throwing, catching or other basic activities. Therapists may also develop programs tailored towards building muscle strength or coordination.[48] "*In general, the physical therapist uses standard clinical tools and functional play to identify and monitor concerns with gross motor skills among children with the aim of helping them achieve motor milestones and prevent secondary impairments.*"[49]

Behavioral Therapy: Ogden Lindsley is credited with coining the term '*behavior therapy*' to describe the use of operant conditioning theory as a therapeutic approach for behavior change. Operant conditioning assumes that the promise or possibility of reward or punishment for a given behavior changes the likelihood of behavior when the same or similar environmental stimulus presents in the future. Behavior therapy introduces positive or negative stimuli into the environment to change behavior. In 1965, Lindsley began training educators to use operant conditioning as a learning tool, observing, measuring and charting

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[43] American Speech-Language Hearing Association. 2006. Roles and responsibilities of speech-language pathologists in diagnosis, assessment, and treatment of autism spectrum disorders across the lifespan. [Position Statement]. Accessed November 30, 2010 from: http://www.asha.org/docs/html/PS2006-00105.html.

[44] American Speech-Language Hearing Association. 2006. Roles and responsibilities of speech-language pathologists in diagnosis, assessment, and treatment of autism spectrum disorders across the lifespan. [Position Statement]. Accessed November 30, 2010 from: http://www.asha.org/docs/html/PS2006-00105.html.

[45] American Occupational Therapy Association Fact Sheet: Occupational Therapy's Role with Autism. 2006. Accessed December 2, 2011 from: http://www.aota.org/Consumers/professionals/WhatisOT/RDP/Facts/38517.aspx.

[46] Case-Smith, J., Arbesman, M. Evidence-based review of interventions for autism used in or of relevance to occupational therapy. American *Journal of Occupational Therapy*, 62, 416-429.

[47] *Ibid.*

[48] Rudy, L. About.com Guide. 2010. Physical therapy as a treatment for autism. Accessed September 20, 2011 from: http://autism.about.com/od/autismtherapy101/a/PTbasics.htm.

[49] Peranich L, Reynolds KB, O'Brien S, et al. The roles of occupational therapy, physical therapy and speech/language pathology in primary care. *The Journal for Nurse Practitioners* 2010; 6(1): 36-43.

individual behavior change over time.[50]

Behavior management, behavior modification, and behavior analysis are terms commonly used when discussing BT.[51] For many patients, a functional behavior assessment is used to track antecedents, behaviors and consequences, also called the 'ABCs', related to the desirable or undesirable behavior(s) of interest. *Behavior modification* involves identifying the consistent circumstances preceding ('A') and following ('C') the targeted behavior and adapting 'As' and 'Cs' to increase the likelihood of increasing appropriate behaviors and decreasing inappropriate behaviors. Manipulation of antecedents and consequences to affect behavior is called 'shaping.' In some cases, patients are taught to substitute an appropriate behavior for an inappropriate behavior.[52,53] For *positive behavior support*, a style of behavior management often used in schools, functional behavior assessment is used to identify the causal factors of challenging behaviors such as aggression towards others, self-injury, tantrums or disruptive actions so procedures may be developed and applied consistently by the team of people working with a child.[54]

Applied behavior analysis *(ABA),* a widely accepted therapeutic approach for treating children with ASDs, traces back to research conducted by O. Ivar Lovaas in the 1960s. ABA is used to teach children how to interact with others, play with toys, and improve their verbal and nonverbal skills. ABA is also used to address behaviors such as self-injury or repetitive, self-stimulatory behaviors such as twirling, finger flicking, and rocking. Lovaas' is considered by many as the first researcher to show that behavior of "autistic children" could be modified with intensive teaching during early childhood, including learning of social skills, verbal behaviors and language. Commonly referred to as the '*Lovaas approach*' or 'Early Intensive Behavior Intervention' (EIBI), the therapy taught young children with autism new skills by breaking those skills into manageable small parts or steps (i.e., trials), requesting the child perform the task, requiring repetition of the small step to ensure mastery, incorporating punishment and rewards, and progressing from simple to more complex tasks over time.[55] The Lovaas approach became popularized following Lovaas' 1987 publication "*Behavioral Treatment and Normal Educational and Intellectual Functioning in Young Autistic Children"* and a related article and subsequent book in the early 1990s.

Discrete trial training *(DTT)* is often considered synonymous with the Lovaas approach. DTT uses clearly defined interactions between a trainer and a subject using a typical pattern of the trainer presenting a stimulus such as a request, task or behavior to imitate, the subjects response and the trainer delivering a consequence (i.e., praise, access to a desired object, removal or a desired object, over correction, or ignoring). In ABA, breaking down complex tasks into smaller units that can be 'shaped' more easily is known as chaining or reverse chaining depending on whether the 'trial' begins with the first or last element of the skill. Within ABA, verbal or physical prompts or clues are also used to increase the likelihood of the child producing the desired behavior. As the child's responses trend in the desired direction, prompts are systematically decreased or 'faded.'

Traditional ABA such as the Lovaas' approach and DTT are typically highly-structured, adult-directed, regimented programs that emphasize correct responses and compliance. In 2011, the delivery of ABA to

[50] Binder, C. Ogden R. Lindsley. Association for Behavior Analysis International® Newsletter. 2005; 28(1). Accessed December 2, 2011 from: http://www.abainternational.org/aba/newsletter/vol281/ogdenlindsley.asp.

[51] National Institute of Child Health & Human Development. Autism Spectrum Disorders (ASDs). Accessed December 2, 2011 from: http://www.nichd.nih.gov/health/topics/asd.cfm.

[52] Zirpoli, T.J., Mellow, K.J. Behavior management: Applications for teachers and parents. New York: MacMilan: 1993.

[53] O'Leary, K.D., O'Leary, S.G. Classroom management: The successful use of behavior modification (2nd ed.). New York: Pergamon Press Inc. 1977.

[54] Case-Smith, J., Arbesman, M. Evidence-based review of interventions for autism used in or of relevance to occupational therapy. American *Journal of Occupational Therapy*, 62, 416-429.

[55] Autism Speaks. What is Autism? Treatment. Applied Behavior Analysis. Available December 2, 2011 from: http://www.autismspeaks.org/what-autism/treatment/applied-behavior-analysis-aba.

children with ASDs varies substantially across practices with a range of intervention strategies, intensity and duration of programs, methods to document progress, philosophical approach and extent of supportive research. Notably, over time there has been a trend away from regimented, discrete trials and towards a more flexible, natural approach that emphasizes social initiation and spontaneity during daily routines and activities in social settings. Programs and practitioners vary in how they apply shaping, chaining, prompting and fading, and generalization. Some behaviorists approach ABA emphasizing generalization of skills regardless of setting, conditions, prompts or the order of tasks.

Cognitive Behavioral Therapy *(CBT),* a form of psychotherapy developed by Aaron Beck in the early 1960s, involves the therapist and patient examining and modifying the specific patterns of beliefs and behavior held by the patient to produce lasting emotional and behavioral change.[56] CBT is based on the cognitive theory of psychopathology where the "*cognitive model describes how people's perceptions of, or spontaneous thoughts about situations influence their emotional, behavioral (and often physiological) reactions. Individuals' perceptions are often distorted and dysfunctional when they are distressed…[Individuals] can learn to identify and evaluate their automatic thoughts*."[57] According to the National Association of Cognitive Behavioral Therapists (NACBT), the therapeutic process aims to help patients recognize the point where thoughts go awry and teaches them to replace dysfunctional cognitive processes with a more reasonable or adaptive one. The therapy is goal-oriented and time-limited, with a typical course lasting from 12-16 hour-long sessions with a structured agenda for each session and homework assignments between sessions.[58] Initially used by Beck for treatment of depression, CBT has been evaluated as a successful approach for multiple mental health disorders and medical conditions in both adult and children population. [59]

Prescription drugs: Pharmacological interventions treat medical (i.e., gastrointestinal disorders) and/or psychiatric comorbidities (i.e., anxiety). Pharmaceuticals are often prescribed by developmental-behavioral pediatricians, child psychiatrists, or child neurologist. It is recommended that general pediatricians consult with a developmental-behavioral pediatrician. There has been little research on the use of drug treatments within the ASD population. The general recommendation is to provide treatment using the same methods that would apply for those without an ASD. However, research shows that health professionals may have difficulty identifying the target symptom(s) or the most appropriate dosages for treatment due to communication impairment(s). Individuals with ASD also have greater likelihood of adverse reactions and sensitivity to medicine effects so health professionals are advised to place extra weight on the risks for this population when considering the risk-benefit ratio of prescribing a given drugs. Notably, many drugs are prescribed off-label for individuals with ASD.

Other therapies sometimes used as a treatment for symptoms experienced by individuals with an ASD include dietary modifications, chelation therapy, hyperbaric oxygen therapy, touch or massage therapy, specialized eye glasses, enzyme potentiated desensitization, immune system therapy, secretin, acupuncture, cranial electrical stimulation, and neurotherapy. In addition, a broad variety of interventions are designed using a developmental or relationship-based approach where therapies are directed towards helping the child meet developmental milestones and building the parent-child relationship. These approaches tend to structure events in the natural environment into teachable moments rather than taken a "discrete trial" approach. A number of programs designed to treat children with ASD take an "integrative" approach to designing individualized programs to meet a given child's needs. This may involve blending a variety of the

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[56] Judith S. Beck, Aaron T. Beck. Cognitive Behavior Therapy: Basics and Beyond. Second Edition.(c)2011. The Guilford Press: New York, NY

[57] Beck Institute for Cognitive Behavior Therapy. The history of cognitive behavior therapy. Accessed December 2, 2011 from: http://www.beckinstitute.org/what-is-cognitive-behavioral-therapy/

[58] National Association of Cognitive Behavioral Therapists. What is CBT? Accessed December 2, 2011 from: http://www.nacbt.org/whatiscbt.htm.

[59] Judith S. Beck, Aaron T. Beck. Cognitive Behavior Therapy: Basics and Beyond. Second Edition.(c)2011. The Guilford Press: New York, NY

treatments described.

III. Methods

CPHHP staff gathered published articles and other information related to medical, social, economic, and financial aspects of the required benefit for diagnosis and treatment of ASDs. Databases oriented towards health, education, economics and psychology professions, including PubMed, PsycInfo, UptoDate, DynaMed, Cochrane database, ECONLit via EBSCOhost, and ERIC via EBSCOhost were queried for related articles. All searches were set to identify articles with autism or autistic in the title/abstract fields. The initial search for articles on diagnosis and treatment of ASDs was limited to articles published in the last 10 years, systematic reviews, meta analysis, randomized controlled trials, and clinical trials. Title/abstract searches incorporated a combination of autism or autistic with each of the following words: therap*, parent*, family, father, mother, DIR, RDI, applied behavior* analysis, TEACCH, Floortime, floor time, Lovaas, UCLA, Denver, SCERTS, relationship-based, counsel*, psychi*, therapy, occupational, diagnosis, diagnostic and test. The * expands the search to include related word endings (e.g., therapist, therapists, therapy, therapies, therapeutic). To explore cost, utilization and effectiveness, the autism wild card in combination with utilization, usage, use, insurance, insure, cost, access, and health service, was used as title/abstract search term.

Staff gathered additional information through telephone and e-mail inquiries to appropriate state, federal, municipal, and non-profit entities and from internet sources such as the Centers for Medicare and Medicaid (CMS) website, other states' websites, and non-profit and community-based organization websites. Google was also used to search web sites of carriers, state government (e.g., www.ct.gov), and professional organizations for policies or proposals related to the diagnosis and treatment of ASDs.

CPHHP staff also consulted with administrative staff from the Connecticut Birth to Three System and the Division on Autism Spectrum Disorders within the Department of Developmental Services (DDS), the Connecticut Department of Education Bureau of Special Education, and the Department of Social Services regarding the prevalence of, availability and use of therapies by children diagnosed with an autism spectrum disorder. The CPHHP staff also consulted as needed with clinical faculty from the University of Connecticut's School of Medicine on matters pertaining to medical standards of care, traditional, current and emerging practices, and evidence-based medicine related to the benefit.

With the assistance of the Connecticut Insurance Department (CID), CPHHP requested and received 2009 and 2010 coverage, plan enrollment and claims data from five insurance companies and managed care organizations (MCOs), referred to as "carriers," domiciled in Connecticut. Five carriers provided coverage and claims data for their fully insured group plans and five provided coverage and enrollment data for self-funded groups for which they provide administrative services only. Responding carriers account for approximately 90 percent of covered lives under fully insured group plans and self-funded plans.

CPHHP and the CID contracted with the actuarial firm OptumInsight (OI) to provide actuarial and economic analyses of the mandated benefit. OI analyzed 2010 data received from Connecticut domiciled health plan carriers and OI's in-house national and Connecticut-specific claims data from 2009 and 2010 to assess utilization and cost of services provided for the treatment of ASDs. The full OI report is available in Appendix III.

IV. Social Impact

1. The extent to which treatments for ASDs are utilized by a significant portion of the population.

Children with ASDs, the primary consumers of treatments for ASDs, comprise an estimated 0.17 to 0.27 percent of the overall population under age 65 in Connecticut and 0.9 percent of the child population ages 3 to 15.[60] Those children receiving treatment represent an even smaller portion of the Connecticut population. The OI analysis of all medical claims for children with ASD related diagnosis codes in the first three positions found a utilization rate of 0.2 percent of children for ASD-related medical care. Based on reported claims data from Connecticut carriers, the treated prevalence for behavioral therapy in the fully insured group population ranged from less than 0.01 percent to 0.1 percent in 2010. The carrier data reports 291 children with ASD under the age of 15 received behavioral therapy during 2010. This accounts for roughly 18 percent of children with ASD who are estimated to be enrolled in fully insured group plans. This finding of a much lower treated prevalence rate is not unique to the Connecticut carrier data. Similar patterns have been found using data from Medicaid, the nationally representative Medical Expenditure Panel Survey (MEPS), private insurer Kaiser Permanente and special education reporting systems.

Although consumers of treatments for ASDs represent a fairly small portion of the population, a higher percentage of the ASD population accesses services and does so at a higher frequency compared to the general population and the subpopulation of children with special health care needs (CSHCN). According to parents of children with ASDs responding to the 2003-2004 NSCH, 94 percent indicated children with an ASD needed special services for medical, behavioral or other health conditions[61] and 76 percent needed treatment or counseling for emotional, developmental or behavioral problems.[62]

Treatment utilization estimates from several studies are presented below by type of therapy. Findings of these studies may or may not be generalizable to actual utilization in Connecticut. It is also worth noting that the literature search conducted for this study identified only two articles describing behavior therapy utilization, both of which were limited to a North Carolina sample. The articles found two-thirds of families in the sample reported a behavioral, developmental/relationship-based or integrative intervention and treatment approach for their child with an ASD. Many families received multiple approaches simultaneously. 17 percent reported receiving applied behavior analysis and 7 percent reported Lovaas' behavior-based therapy (intensive, discrete trial-based approach).[63-64] In the same North Carolina sample of caregivers to children 8 and under with ASDs, 98 percent of children received services, 90 percent received services in school, and 95 percent received services out-of-school. For out-of-school services, 59 percent used other specialist providers, 57 percent used medications and supplements, 37 percent used communication therapies or systems, 33 percent used social therapies, 26 percent used sensory/motor therapies and 16 percent used biological therapies.[65]

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[60] Data Accountability Center. Individuals with Disabilities Education Act (IDEA) Data. Accessed October 5, 2011 from: https://www.ideadata.org/default.asp.

[61] Centers for Disease Control and Prevention. Mental health in the United States: Parental report of diagnosed autism in children aged 4—17 years---United States, 2003-2004. *MMWR Surveillance Summary.* 2006 May 5; 55(17):481-486. Accessed December 2, 2011 from: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5517a3.htm.

[62] Gurney, JG, McPheeters, ML., Davis, MM. Parental report of health conditions and health care use among children with and without autism. *Arch Pediatr Adolesc Med.* 2006, 160:825-830.

[63] Thomas, K.C., Morrissey, J.P., McLaurin C. Use of autism-related services by families and children. *Journal of Autism and Developmental Disorders.* 2007; 37: 818-829.

[64] Thomas, K.C., Ellis, A.R., McLaurin, C., Daniels, J., Morrissey, J.P. Access to care for autism-related services. *Journal of Autism and Developmental Disorders.* 2007; 37:1902-1912.

[65] Thomas, K.C., Morrissey, J.P., McLaurin C. Use of autism-related services by families and children. *Journal of Autism and Developmental Disorders.* 2007; 37: 818-829.

Therapies

According to parents responding to the 2003-2004 NSCH and self-reporting a child with an ASD, 76 percent indicated their child receives special therapy, such as physical, occupational or speech therapy.[66-67] In the North Carolina study, use of speech therapy peaks by age 4 whereas occupational and physical therapy peak by age eight and social skills therapy (which may be administered by a speech pathologist, occupational therapist or other service provider) increases with age during childhood.[68] Regardless of age group, the percentage of children with ASD receiving speech, occupational, or physical therapy in school settings exceeds the percent receiving therapies out-of-school (Table 1.2).

Table 1.2: Caregiver reported therapy use for child with ASD by location type[69]

	Ages 4 and under (%)		Ages 5-8 (%)		Ages 9-11 (%)	
	In school	Out-of-School	In School	Out-of-School	In School	Out-of-School
Speech/language therapy	91 %	29 %	79 %	15 %	65 %	10 %
Occupational therapy	60 %	21 %	66 %	11 %	42 %	11 %
Physical therapy	9 %	4 %	11 %	0 %	6 %	0 %
Social skills training	29 %	6 %	28 %	16 %	46 %	24 %
Music therapy	6 %	8 %	8 %	6 %	6 %	0 %

Outpatient Clinic Visits, Physician and Non-Physician Visits

An analysis of Kaiser Permanente's 2003-2004 administrative data showed significantly more outpatient clinic office visits for children with an ASD diagnosis to those without.[70] 90 percent of children with an ASD went to outpatient clinic office visit(s), 75 percent of children went to pediatric outpatient visit(s), 38 percent went to psychiatric office visits, 31 percent went to medication management office visits and 5 percent went to neurology outpatient visits. The ASD population had an average of 5.6 visits to outpatient clinics and 2.2 visits to pediatric clinics. A different report using MEPS found numbers of outpatient visits (42 versus 3), physician visits (8 versus 2), non-physician visits (8 versus 1) and time spent per visit (32 versus 16 minutes) significantly greater for children with ASD compared to those without ASDs and children with other special health care needs.[71]

Specialist Providers

Results from the North Carolina survey reported 57 percent of children age 8 and under received care in out-of-school settings from "other specialist providers" such as a case manager (28 percent), neurologist (16 percent), developmental pediatrician (13 percent), psychologist (10 percent), psychiatrists (9 percent),

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[66] Centers for Disease Control and Prevention. Mental health in the United States: Parental report of diagnosed autism in children aged 4—17 years---United States, 2003-2004. *MMWR Surveillance Summary*. 2006 May 5; 55(17):481-486. Accessed December 2, 2011 from: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5517a3.htm.

[67] Gurney, JG, McPheeters, ML., Davis, MM. (2006). Parental report of health conditions and health care use among children with and without autism. *Arch Pediatr Adolesc Med*. 160:825-830.

[68] Thomas KC, Morrissey JP, McLaurin C. Use of autism-related services by families and children. *Journal of Autism Development Disorders*. 2007; 37(5): 818-829.

[69] Thomas, K.C., Ellis, A.R., McLaurin, C., Daniels, J., Morrissey, J.P. Access to care for autism-related services *Journal of Autism Development Disorders.* 2007; 37: 1902-1912.

[70] Croen, L.A., Najjar, D.V., Ray, G.T., Lotspeich, L., Bernal, P. A comparison of health care utilization and costs of children with and without autism spectrum disorders in a large group-model health plan. *Pediatrics.* 2006 Oct; 116(4): e1203-11.

[71] Liptak, G.S., Benzoni, L.B., Mruzek, D.W., et al. Disparities in diagnosis and access to health services for children with autism: data from the National Survey of Children's Health. *Journal of Developmental & Behavioral Pediatrics*. 2008; 29(3): 152-160.

and/or behavior specialist (8 percent).[72] Significantly more children age 9 to 11 received care from a case manager (35 percent), psychologist (23 percent), and psychiatrist (24 percent), whereas care from the other specialist providers stayed at the same level or declined.[73]

Prescription drugs[74]

Pharmaceuticals are commonly prescribed to treat conditions that co-occur with ASDs. In the literature review conducted for the study, estimates of prescription medication use by children with ASD ranged from a low of 39 percent to 74 percent.[75] 55 percent of parent's participating in the 2003-2004 National Survey of Children's Health (NSCH) reported their child with an ASD needed to use prescription medications, of which 51 percent expected the treatment to last 12 months or longer.[76] Notably, studies have found a direct positive relationship between age, ASD severity and prescription medication use.[77] In the North Carolina study, prescription drug use increased with age: 36 percent for ≤4, 52 percent for ages 5-8,[78] and 68 percent for ages 9-11.[79]

Data from California-based private insurer Kaiser Permanente suggests that children with ASD prescribed medications used an average of 8.7 drugs, compared to 4.5 in the non-ASD child population. 43 percent used psychotherapeutic drugs, 23 percent used respiratory/allergy drugs and 5 percent used gastrointestinal drugs.[80] The high prevalence of psycho therapeutic drug use has been mirrored in a number of studies, ranging from 30 to 60 percent. [81] Another study reports neuroepileptics followed by Risperidone and Adderall as the most common psycho therapeutic drug prescriptions.[82] Similarly, an examination of Tennessee Medicaid claims data found a psycho therapeutic drug prevalence of 56 percent and identified higher degrees of intellectual disability and presence of comorbid psychiatric conditions as positive correlates for psychotropic use.[83]

2. The extent to which the diagnosis and treatment of ASDs, is available to the population, including, but not limited to, coverage under the following state agencies and public programs, including, but not limited to, coverage under Medicare, or through public programs administered by charities, public schools, the Department of Public Health, municipal health departments or

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[72] Thomas, K.C., Morrissey, J.P., McLaurin C. Use of autism-related services by families and children. *Journal of Autism and Developmental Disorders.* 2007; 37: 818-829.

[73] Thomas, K.C., Ellis, A.R., McLaurin, C., Daniels, J., Morrissey, J.P. Access to care for autism-related services. *Journal of Autism and Developmental Disorders.* 2007; 37:1902-1912.

[74] Rosenberg, RE., Mandell, DS., Farmer, JE., Law, J.K., Marvin, AR., Law, PA. (2010). Psychotropic medication use among children with autism spectrum disorders enrolled in a national registry, 2007-2008. *Journal of Autism and Developmental Disorders* 40: 342-351.

[75] Croen, L.A., Najjar, D.V., Ray, G.T., Lotspeich, L., Bernal, P. A comparison of health care utilization and costs of children with and without autism spectrum disorders in a large group-model health plan. *Pediatrics.* 2006 Oct; 116(4): e1203-11.

[76] Gurney, JG, McPheeters, ML., Davis, MM. Parental report of health conditions and health care use among children with and without autism. *Arch Pediatr Adolesc Med.* 2006 160:825-830.

[77] Rosenberg, RE., Mandell, DS., Farmer, JE., Law, J.K., Marvin, AR., Law, PA. Psychotropic medication use among children with autism spectrum disorders enrolled in a national registry, 2007-2008. *Journal of Autism Development Disorders.* 2010;: 342-351.

[78] Thomas, K.C., Morrissey, J.P., McLaurin C. Use of autism-related services by families and children. *Journal of Autism and Developmental Disorders.* 2007; 37: 818-829.

[79] Thomas, K.C., Ellis, A.R., McLaurin, C., Daniels, J., Morrissey, J.P. Access to care for autism-related servi*ces. Journal of Autism and Developmental Disorders*. 2007; 37:1902-1912.

[80] Croen, L.A., Najjar, D.V., Ray, G.T., Lotspeich, L., Bernal, P. A comparison of health care utilization and costs of children with and without autism spectrum disorders in a large group-model health plan. *Pediatrics*. 2006 Oct; 116(4): e1203-11.

[81] Rosenberg, RE., Mandell, DS., Farmer, JE., Law, J.K., Marvin, AR., Law, PA. Psychotropic medication use among children with autism spectrum disorders enrolled in a national registry, 2007-2008. *Journal of Autism Development Disorders*. 2010;: 342-351.

[82] Liptak, G.S., Benzoni, L.B., Mruzek, D.W., et al. Disparities in diagnosis and access to health services for children with autism: data from the National Survey of Children's Health. *Journal of Developmental & Behavioral Pediatrics*. 2008; 29(3): 152-160.

[83] Mandell, D.S., Morales, K.H., Marcus, S.C., Stahmer, A.C., Doshi, J., Polsky, D.E. Psychotropic medication use among Medicaid-enrolled children with autism spectrum disorders. *Pediatrics*. 2008 Mar; 121(3): e441-8.

health districts or the Department of Social Services.

The Department of Public Health (DPH): The federally funded Title V Children with Special Health Care Needs (CSHCN) Program is administered by DPH through grants to regional CSHCN centers with the goal of providing care coordination, support and payment for certain goods and services. One of the nine Maternal and Child Health priorities for 2011-2015 is to "*Enhance early identification* [ages 0-3] *of developmental delays, including autism*."

Medicare: No resources identified.

The Department of Social Services (DSS): In 2009-2010, approximately 22.1 percent of Connecticut children were enrolled in the Connecticut's state insurance program, Healthcare for UninSured Kids and Youth (HUSKY) program, which is administered by DSS.[84] The program includes three plans: HUSKY A, HUSKY B, and HUSKY Plus.[85] *HUSKY A* provides Medicaid-covered benefits with no premium or cost sharing for eligible children (<19 years old) and their low-income families, with incomes under 185 percent of the federal poverty level (FPL). *HUSKY B*, a sliding fee plan is offered to uninsured children living in families with incomes above 185 percent FPL. The program is funded in part by the federal State Children's Health Insurance Program (SCHIP). Under HUSKY B, three income levels are used to determine the level of premium per covered child and co-payment requirements. *HUSKY Plus* covers additional health care services at no cost for children with special health care needs.[86]

Medicaid covers a broad spectrum of treatments including PT, OT and ST "*to correct or ameliorate physical or mental illnesses and conditions*" as part of the Early Periodic Screening, Diagnosis and Treatment (EPSDT) program.[87] HUSKY and Medicaid cover "*medically necessary ST, OT and PT for clients…If a physician deems the therapy as necessary and provides a written order for it, it can be billed to Medicaid*."[88] Developmental screening, which includes autism screening, is also covered as part of a pediatric well-care visit. Conversely, applied behavior analysis is routinely denied under Medicaid using the rationale that it is a "habilitative" rather than "rehabilitative" therapy. It is unclear whether the "habilitative" rationale for denying ABA therapy would be extended to PT, OT or ST if reviewed under medical necessity.[89]

The Department of Developmental Services (DDS): In 2010, DDS provided services under the Medicaid Home and Community-Based Services waivers to 1,475 individuals with co-occurring diagnoses of intellectual disability and an ASD. Services are allocated based upon an individual level of need assessment and available appropriations. DDS also provided services to an additional 60 individuals with an ASD and no intellectual disability through an Autism Pilot Program focused on transitional services for adults (21 or older).[90]

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[84] The Kaiser Commission on Medicaid and the Uninsured. Supplemental data tables. In: The Uninsured A primer. Key facts about Americans without health insurance. Kaiser Family Foundation. October 2011. p. 36-37. Accessed December 2, 2011 from: http://kff.org/uninsured/upload/7451-07.pdf

[85] State of Connecticut. HUSKY Health Care for Children. Accessed September 27, 2011 from: http://www.huskyhealth.com/hh/site/default.asp.

[86] *Ibid.*

[87] FamiliesUSA. November 2003. Continuing services for Children under Medicaid, IDEA. Accessed September 27, 2011 at: http://www.familiesusa.org/issues/medicaid/making-it-work-for-consumers/covering-services-children.html.

[88] Personal Communication. Nina Holmes, DSS Medical Policy Unit. June 16, 2010.

[89] Correspondence OHA and DSS Commissioner.

[90] Testimony of the Department of Developmental Services to the Select Committee on Children Informational Forum on Autism February 4, 2010. Accessed December 2, 2011 from: http://www.cga.ct.gov/KID/Autism/testimony/Peter percent20H. percent20O'Meara, percent20Commissioner percent20DDS.pdf

The DDS Division of Autism Services, initiated in 2007 (P.A. 07-73), coordinates three Autism Waiver Programs for children age three and above, children eight and above, and adults.[91] The Division is also responsible for coordinating state agencies with functions related to ASD and researching, designing and implementing appropriate and necessary services and programs for residents with ASD and no intellectual disability.[92] Individual service plans under the Autism Program can include varying levels of support in the form of residential habilitation, personal supports, respite, clinical behavioral supports, supported employment, job coaching, community transition services, life skills coaching, community transition services or short term crisis stabilization to remain in their own home, family home or other community home."[93] Over the next three years, the slots (137 to 191) for the Autism Program will be filled with children with an ASD diagnosis but no intellectual disability who receive services under the Department of Children and Families (DCF) Voluntary Services,[94] Department of Mental Health and Addiction Services or DDS.[95] It does not appear that DDS generates additional coverage for therapies described under P.A. 09-115. Such therapies appear to be covered to the extent that the individual is eligible for therapy under Medicaid.

The Birth to Three Program, administered by DDS, oversees delivery of services consistent with Part C of the Individuals with Disabilities Act (IDEA), which requires meeting the educational needs of children age 0 to 3 who "*develop differently, or at a slower rate than most other children*." [96] Each child referred to Birth to Three receives an ASD screening, is assessed using the education criteria for classification of ASD under IDEA and a DSM IV diagnosis may be given. If a child has an ASD diagnosis and developmental delay, the child may be eligible for occupational therapy, speech/language therapy, physical therapy or applied behavior analysis if the specific therapy is determined as a means to facilitate educational progress. For each participating child, the intervention team includes staff with expertise in areas such as "*speech pathology, occupational therapy, early childhood education, special education, or psychology*."[97] During FY 2011, 751 children were enrolled in one of the ASD-specific Birth to Three programs and 775 children had an ASD diagnosis listed on their Individual Family Service Plan (IFSP). Of children with an IFSP listed ASD diagnosis, 84 percent (648) received speech therapy, 60 percent (463) received occupational therapy, 47 percent (364) received behavioral therapy from a BCBA or BCaBA, 10 percent (75) received physical therapy, 8 percent (61) had a psychologist or professional counselor and 13 percent (98) had a social worker.[98]

Public Programs Administered by Public Schools: Part B of the Individuals with Disabilities Act (IDEA) requires the provision of a free and appropriate education to children ages 3 to 21 who experience learning difficulties related to a disability. School districts must provide eligible children with special education preschool and K-12 education with modifications as needed. A high percentage of children with ASD receive therapeutic services while at school. PT, OT, ST, behavioral therapy and parent counseling/training may be among the services rendered. However, services provided in this context are oriented towards education-based goals as part of an individualized education plan (IEP) and may not comprehensively cover

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[91] Connecticut Department of Developmental Services. Autism Medicaid Waivers. Accessed December 2, 2011 from: http://www.ct.gov/dds/cwp/view.asp?a=2730&Q=476378

[92] Connecticut General Assembly. Office of Legislative Research. 2009. H.B. 5696. Accessed September 27, 2011 from:: http://cga.ct.gov/2008/BA/2008HB-05696-R000187-BA.htm.

[93] http://www.ct.gov/dds/cwp/view.asp?a=2730&Q=476378

[94] Voluntary Services may be requested by a family for a child with behavioral health issues who is not in custody of the Department. The program may make services such as casework, community referrals and treatment, they would not otherwise be accessible. Accessed November 8, 2011 from: http://www.ct.gov/dcf/cwp/view.asp?a=2558&q=314906.

[95] Personal communication. Siobhan Morgan, interim director. DDS Division of Autism Services. correspondence 10/19/2011.

[96] Connecticut Birth-to-three Program. Accessed 11/23/2011 from: http://www.birth23.org/index.html

[97] *Ibid.*

[98] Personal communication. Linda Goodman, Director. DDS Birth To Three System. 11/23/2011; 12/1/2011.

the broader spectrum of needs a child may have. The Connecticut Department of Education "*Guidelines for Identification and Education of Children and Youth with Autism*" describes potential services and eligibility criteria for determining learning objectives for the child, the number of service-hours per week, whether an extended school year program will be implemented, and the types of services that will be provided.[99]

The curriculum goals for children with ASD include "*maximizing success in school settings; developing independent functioning in home, vocational and community settings; increasing the ability to make informed choices, becoming their own advocates and controlling their environment in effort to improve overall quality of life*."[100] IEPs should balance the development of functional skills (e.g., tying shoes or using the bathroom) and general education curricular components (e.g., math, science, etc). An IEP may also address common autism deficits such as social-emotional reciprocity, communication skills, attending skills, cognitive processing, observational learning and severe problem behaviors. The curriculum should be based on "*formal and informal assessments that identify student strengths, preferences, motivational characteristics, skill deficits, and behavior issues*." [101]

Public Programs Administered by Health Departments, Charities
Several Connecticut-based charities offer grants for ASD therapies. The amounts of the grants and the types of services allowed vary. It is unclear the number of children that can be served through these programs.

Active Duty Military
According to the Department of Defense, *"autistic children age three years and older often receive speech, physical, and occupational therapy provided by public or Department of Defense Educational Activity (DoDEA) schools to the extent that they are considered educationally necessary. Additional speech, physical, or occupational therapy may be provided by the TRICARE basic program when additional therapy is considered to be medically necessary*."[102] ABA is not covered under the basic TRICARE plan. Active duty members may be eligible to access financial assistance for "an integrated set of services" and supplies through the TRICARE Extended Care Health Option (ECHO). For individuals with a pervasive developmental disability, "*the program allots $36,000 for diagnosis-related service*s," which "*must be prior authorized for a six month authorization period*."[103] Applied behavior analysis is a covered service. However, families may face challenges securing qualified providers.[104] To address this concern, the Enhanced Access to Autism Services Demonstration Project launched in 2008 (extended to March 2012), allows reimbursement for "*educational interventions such as Applied Behavior Analysis (ABA) delivered by paraprofessional providers*" using a BCBA supervised tutor model rather than limiting service providers to BCBAs. Efforts are currently underway to make the BCBA-tutor model part of the permanent benefit structure under ECHO.[105]

3. The extent to which insurance coverage is already available for treatment and coverage of ASDs.

Fully insured group plans delivered, renewed and amended in Connecticut are required to cover treatment

[99] Guidelines for identification and education of children and youth with autism. Connecticut State Department of Education. July 2005. Accessed December 2, 2011 from: http://www.sde.ct.gov/sde/lib/sde/PDF/DEPS/Special/Guidelines_Autism.pdf

[100] *Ibid.*

[101] *Ibid.*

[102] Department of Defense. Report and Plan on Services to Military Dependent Children with Autism. July 2007. Accessed September 27, 2011 from: http://ww.bacb.com/Downloadfiles/707_DoD_TRICARE_rpt.pdf.

[103] HealthNet® Federal Services/TRICARE®. Health Net Federal Services—TRICARE® Extended Health Option Program Applied Behavioral Analysis.
Accessed 11/27/2011 from: https://www.hnfs.com/content/dam/hnfs/tn/common/pdf/HF0511x024 percent20Autism_Demo_Billing.pdf

[104] TRICARE®. New Autism Demonstration Expands Opportunities for ABA Providers. Welcome to the Media Center. News Releases. April 15, 2008; No. 08-30. Accessed 12/27/2011 from: http://www.tricare.mil/pressroom/news.aspx?fid=386

[105] U.S. Air Force. TRICARE autism demonstration proving positive. The official web site of the U.S. Air Force. 2/8/2011. Accessed 12/27/2011 from: http://www.af.mil/news/story.asp?id=123243341

and diagnosis of ASDs as described under P.A. 09-115.[106] Roughly 25 percent of children and adults <65 are covered by these plans.[107] An additional 4 percent of children and adults <65 are enrolled in individual health policies for which C.G.S.A. §38a-488b requires coverage of physical therapy, occupational therapy and speech therapy for the treatment of ASDs to the extent that each therapy would be covered for other conditions in the policy. Although research indicates that most plans cover these therapies, limitations to coverage also exist in a variety of forms.[108] For example, visits may be limited to rehabilitative therapy or the number of visits may be capped. These same residents also have access to psychological and psychiatric consultations and prescription drugs under C.G.S.A. §38a-488a. (This statute requires each individual health plan to cover diagnosis and treatment of mental or nervous conditions).

Another 22 percent of children and 12.5 percent of adults receive some coverage of treatment for ASDs through publicly-funded health programs. It is expected that of the estimated 6.5 percent of Connecticut children without health coverage, 45 percent would qualify for HUSKY A.[109] As described under ***Social Impact #2***, for this population, PT, OT and ST are covered as rehabilitative therapies. Medications and psychological/psychiatric counseling are also covered under such plans. However, it appears that applied behavior analysis is not considered a covered therapy under HUSKY in Connecticut.

It is important to note that self-funded, employer-based health plans are the most common type of coverage for Connecticut adults and children, accounting for 46 percent of the population under age 65. The benefits included in these plans are not subject to state-mandated health benefits. CPHHP received responses from all carriers about the employer groups for which they provided "administrative services only" during 2010. The respondents managed plans covering more than 1.4 million people living in Connecticut during 2010. Less than 1 percent of self-funded groups, covering less than 3 percent of lives under self-funded plans had coverage at the level described under P.A. 09-115.

Carriers responding to survey questions about 2009 coverage accounted for 57 percent to 70 percent of the 1.06 million lives under self-funded plans that year. Specifically, in 2009, 82 percent of covered lives under self-funded plans had coverage for prescription drugs at an extent equal to or greater than specified under P.A. 09-115 but 0 percent of plans had coverage to the same extent of P.A. 09-115 for behavioral therapy or PT, OT and ST. Only 4 percent of covered lives under self-funded plans had some coverage for behavioral therapy while 83 percent of covered lives had some coverage for PT, OT and ST.

4. If the coverage is not generally available, the extent to which such lack of coverage results in persons being unable to obtain necessary health care treatment.

Opinions vary dramatically across stakeholders regarding the definition of "necessary health care treatment." Caregivers often pursue a myriad of treatment options, all of which they likely consider a necessary avenue to potentially improve the symptoms experienced by their child. Some view these treatments (Defeat Autism Now doctors, biomedical approaches, cranial massages, music therapy, special diets, etc.) as experimental, unproven fads. Other stakeholders view the nature of the treatment(s) to be educational rather than behavioral. A lack of insurance coverage for a given treatment may in turn limit the ability to obtain and afford treatment at the level desired. At the public hearings in 2008 for House Bill 5696 and in 2009 for Senate Bill 301 numerous individuals testified as to the severe financial hardships endured to fund

[106] State of Connecticut. Public Act No. 09-115: An act concerning health insurance coverage for autism spectrum disorders.

[107] The Kaiser Commission on Medicaid and the Uninsured. Supplemental data tables. In: The Uninsured A primer. Key facts about Americans without health insurance. Kaiser Family Foundation. October 2011. p.36-37. Accessed December 2, 2011 from: http://kff.org/uninsured/upload/7451-07.pdf

[108] Fox HB, McManus MA, Reichman MB. 2002. The strengths and weaknesses of private health insurance coverage for children with special health care needs. U.S. Department of Health and Human Services Administration Maternal and Child Health Bureau. Washington, DC.

[109] Current Population Survey 2010

treatment(s) for children with ASDs.

Notably, many children with ASD access therapeutic services under the "*free and appropriate education*" standards specified under the Individuals with Disabilities Education Act (IDEA) and Section 504 of the Rehabilitation Act of 1973. If receiving services through school, the services must be offered in pursuit of educational goals specified in a child's Individualized Education Program (IEP). For Birth to Three, services are prescribed to meet the developmental goals of the child specified in the Individualized Family Services Plan (IFSP). Public hearing testimonies submitted in recent years to the Connecticut General Assembly report dramatic variation across towns in the extent and scope of services available through the public education system.[110]

A majority of children with ASD access some therapeutic services through the education system.[111-112] However, research and ASD-related advocacy organizations well document that caregivers of children with ASD often perceive their child's need for therapy as not being met. An analysis of the 2005-2006 National Survey of Children's Health shows approximately 31 percent of children with special health care needs (CSHCN) with an ASD had unmet needs for specific health care services, 14 percent delayed or forewent care, and 31 percent faced difficulties receiving referrals. CSHCN with ASD (31 percent) were significantly more likely to have unmet needs for specific health care services than CSHCN without emotional, developmental, or behavioral problems (25.4 percent), and other CSHCN (12 percent). CSHCN with ASD (14 percent) were also significantly more likely to have delayed or foregone care and/or to have had difficulty receiving referrals (31 percent), compared to CSHCN with other conditions (7 percent foregone care and 18 percent referral difficulty).[113]

5. If the coverage is not generally available, the extent to which such a lack of coverage results in unreasonable financial hardships on those persons needing treatment.

This response presents the Connecticut-specific data available. However, the quality and scope of Connecticut data is limited. To supplement the answer, a summary of relevant literature on financial hardship related to the diagnosis and treatment of ASD is provided.

Connecticut-specific Data

The 2010 census-based estimate of median household income for Connecticut's poorest county, Windham was $56,564.[114] Based on the claims data submitted for the CPHHP survey, the average allowed cost across responding carriers for behavioral therapy represents 4.9 percent of the median household income with a range of 0.8 percent ($455) to 15.6 percent ($8,841). The weighted average out-of-pocket cost represents 0.7 percent to 1.3 percent of the median household income in Windham County. Comparatively, the average allowed cost for BT was 10.2 percent ($5,773) of the median household income. It is important to note that the weighted claims data does not necessarily provide an accurate profile for the cost of behavioral therapy services. It also does not capture additional services, such as psychiatric counseling or PT, OT, or ST that a family may use. However, the average allowed cost and range in cost provides some insight into how

[110] Substitute for S.B. No. 30: An act concerning health insurance coverage for autism spectrum disorders. Testimonies submitted for the Insurance and Real Estate Committee Public Hearing on 2/25/2009. Accessed 11/10/2011 from: http://cga.ct.gov/asp/menu/CommDocTmyBillAllComm.asp?bill=SB-00301&doc_year=2009.

[111] Benedict RE. Disparities in use of and unmet need for therapeutic and supportive services among school-age children with functional limitations: a comparison across settings. *Health Services Research.* 2006 Feb; 41(1):103-124.

[112] Thomas, K.C., Morrissey, J.P., McLaurin C. Use of autism-related services by families and children. *Journal of Autism and Developmental Disorders.* 2007; 37: 818-829.

[113] Kogan, MD., Strickland, B.B., Blumberg, S.J., Sing, G.K., Perrin, J.M., van Dyck, P.C. A national profile of the health care experience and family impact of autism spectrum disorders among children in the United States, 2005-2006. *Pediatrics.* 2008, 122: e1149-1158.

[114] U.S. Census Bureau. Small Area Income and Poverty Estimates. Estimates for Connecticut Counties, 2010. Median household income, in dollars, 2010. Accessed 11/1/2011 from http://www.census.gov.

the potential for financial hardship may occur for families funding behavioral therapy without insurance coverage. Similarly, the out-of-pocket costs present the potential range in financial burden for families covered by the mandate.

Costs assumed by the Birth to Three Program in Connecticut also illustrate the potential for high expenditures and financial burden for ASD-related treatment. In the Birth to Three Program, a child with ASD receives an average of 40 hours (about 10 hours per week) of service each month. The average annual cost paid for 40 hours of services (which may include PT, OT, ST, behavioral therapy, counseling, etc.) is about $25,302, at an average of $52 per hour. For children receiving 80 hours per month (17-20 hrs/wk) the average cost is $58,956.[115] Regardless of income, an expenditure of $29,000-59,000 would present a clear financial hardship.

Financial Hardship in the Literature

A limited body of research explores financial hardship or burden experienced by caregiver(s) of children with ASD. Existing research suggests that some financial hardships may be experienced when a family seeks what they perceive as necessary treatment for the child. Kogan, *et. al.*'s analysis of the 2005-2006 National Survey of Children's Health found that children with special health care needs (CSHCN) with ASDs were more likely to live in families that reported treatment needs that caused financial problems (39 percent), a need for additional income to cover expenses (35 percent), a reduction of or stopping of employment (57 percent), and paying more for medical care (31 percent) in the previous year than both CSHCN with other emotional, developmental or behavioral issues and CSHCN with other health concerns.[116]

Another national study of CSHCN also found that compared to those with intellectual disability or other special health care needs, children with ASD were more likely to face access problems. Among those with ASD, 14 percent experienced health plans that would not pay for services and 11 percent faced problems with the out-of-pocket expenses the family needed to pay for services.[117]

Sharpe and Baker's (2007) analysis of the Family Experiences with Autism Survey, a survey including 333 families caring for a child with an ASD (<19 years old), found that use of medical interventions, having unreimbursed out-of-pocket medical, therapy or education expenses, and having relatively lower income (<$40,000 per family) was positively associated with the likelihood of financial problems. Controlling for other factors, unreimbursed out-of-pocket expenses significantly increased the likelihood of financial problems. Comments from many survey respondents emphasized foregoing future financial security and even experiencing bankruptcy to provide what they perceived as needed care for a child with autism.[118] Narratives provided by family members described living off student loans, unpaid student debt, job resignations, significantly cutting work hours, losing a career, living pay check to pay check, discontinuing college fund and/or retirement contributions, missing bill payments to cover child therapy, and food insecurity.[119] These narratives are similar to those provided as public hearing testimony to the Connecticut General Assembly over multiple legislative sessions.

Montes and Halterman (2008) analyzed nationally representative data from the National Household Education Survey (NHES)-After School Programs and Activities (2005) that surveys caregivers of children

[115] Personal communication. Linda Goodman, Director. DDS Birth To Three System. 12/1/2011.

[116] Kogan, MD., Strickland, B.B., Blumberg, S.J., Sing, G.K., Perrin, J.M., van Dyck, P.C. 2008. A national profile of the health care experience and family impact of autism spectrum disorders among children in the United States, 2005-2006. *Pediatrics.* 122: e1149-1158.

[117] Krauss MW, Gulley S, Sciegai M, Wells N. Access to specialty medical care for children with mental retardation, autism, and other special health care needs. *Ment Retard.* 2003 Oct; 41(5): 329-39.

[118] Sharpe, D.L., Baker, D.L. Financial issues associated with having a child with autism. *Journal of Family Economic Issues.* 2007; 28: 247-264.

[119] *Ibid.*

in kindergarten thru eighth grade. Having a child with an ASD was associated with a loss of annual income of $6,200 or 14 percent of reported income compared to a $1,092 or 2 percent average loss of income for families of children with other disabilities and compared to families where children do not have disabilities. These findings held even after controlling for parental education, family type, parental age, household location and minority ethnicity.[120]

6. The level of public demand and the level of demand from providers for treatment and diagnosis of ASDs.

Demand for services, as shown through public hearing testimony, primarily highlights the perceived benefit of and desire for the types of treatments described in P.A. 09-115. National surveys also reflect a high level of demand for services among ASD families.[121] The national professional organizations for speech, physical and occupational therapy all note the role of their respective profession in the treatment of ASDs.[122, 123, 124] The American Academy of Pediatrics supports use of these physical, speech and behavioral therapies in the treatment of ASDs.

7. The level of public demand and the level of demand from providers for insurance coverage for treatment and diagnosis of ASDs.

Provider and public demand for insurance coverage for treatment and diagnosis of ASDs is reflected in public hearing testimony for House Bill 5696 during the 2008 legislative session (Public Act 08-132) and Senate Bill 301 during the 2009 legislative session. These bills received nearly unanimous bipartisan support in the Connecticut General Assembly and were signed into law (Public Act 08-132, Public Act 09-115). With a few exceptions, such as the Connecticut Business Industry Association and the Connecticut Association of Health Plans, testimonies strongly supported insurance coverage for the treatment and diagnosis of ASDs. The Connecticut State Medical Society supported H.B. 5696, which originally included coverage for applied behavior analysis, occupational therapy, physical therapy, and speech therapy based on "*the need to provide medically necessary treatments to those who need it most, and not excluding anyone because of 'pre-existing conditions.*'"[125] Further support came from the Office of the Health Care Advocate (OHA), parents[126], educators, social workers and members of the advocacy organizations Autism Speaks and Stamford Education4Autism. The OHA considered the bill "*a reasonable attempt to ensure coverage of therapies medically necessary for those with autism*"; while parents and other providers noted that the bill could "*provide relief to working families*" and end insurer policies to "*exclude people with known autism from coverage*."[127]

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[120] Montes, G., Halterman, J.S. Association of childhood autism spectrum disorders and loss of family income. *Pediatrics*. 2008; 121: e821-e826

[121] Kogan, MD., Strickland, B.B., Blumberg, S.J., Sing, G.K., Perrin, J.M., van Dyck, P.C. A national profile of the health care experience and family impact of autism spectrum disorders among children in the United States, 2005-2006. *Pediatrics*. 2008, 122: e1149-1158.

[122] American Occupational Therapy Association Fact Sheet: Occupational Therapy's Role with Autism. 2006. Accessed December 2, 2011 from: http://www.aota.org/Consumers/professionals/WhatisOT/RDP/Facts/38517.aspx.

[123] American Speech-Hearing-Learning Association. Autism: benefits of speech-language pathology services. Accessed September 27, 2011 from: http://www.asha.org/public/speech/disorders/autismSLPbenefits.htm.

[124] American Physical Therapy Association. Treating Kids with Autism. Accessed September 27, 2011 from: http://www.apta.org/AM/Template.cfm?Section=Home&TEMPLATE=/cm/htmldisplay.cfm&CONTENTID=53380.

[125] Insurance and Real Estate Committee. Join Favorable Report H.B.-5696. March 25, 2008. Accessed September 27, 2011 from: http://cga.ct.gov/2008/JFR/H/2008HB-05696-R00INS-JFR.htm.

[126] Knall, S. Autism Speaks. Testimony to the Connecticut General Assembly. Accessed September 27, 2011 from: http://www.cga.ct.gov/KID/Autism/testimony/Shannon percent20Knall percent20 percent20Autism percent20Speaks.pdf.

[127] Insurance and Real Estate Committee. Join Favorable Report H.B. 5696. March 25, 2008. Accessed September 27, 2011 from: http://cga.ct.gov/2008/JFR/H/2008HB-05696-R00INS-JFR.htm.

Testimonies in support of the more comprehensive Senate Bill (S.B.) 301 (P.A. 09-115) included 21 families each testifying as to the "struggle trying to manage their child's illness medically and financially" and the need for insurance coverage.[128] During this same hearing, Matt Katz of the Connecticut Medical Society testified that "*this bill addresses an issue regarding medical necessity. Insurance companies need to provide comprehensive coverage for autism spectrum disorders, and currently they have been unwilling to handle the routine costs of medically necessary treatments claiming that these individuals had "preexisting conditions" or any other exclusion, making this bill a necessity for families dealing with autism*."[129]

Please note that public hearing testimonies in support of diagnosis and treatment of ASD are not necessarily representative of whether the general public or broader health care community supports insurance coverage for all therapies and purposes described in the mandate language.

8. The likelihood of achieving the objectives of meeting a consumer need as evidenced by the experience of other states.

According to the National Conference of State Legislatures (NCSL), 33 states and the District of Columbia have laws related to covering ASDs[130] At least 26 states (Arizona, Arkansas, Colorado, Connecticut, Florida, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Massachusetts, Missouri, Montana, Nevada, New Hampshire, New Jersey, New Mexico, Pennsylvania, South Carolina, Texas, Vermont, Virginia, West Virginia and Wisconsin) specify that insurers must provide coverage for the treatment of autism while the remaining states may require limited coverage for autism under mental health coverage, parity or other laws. The bulk of autism-specific laws have been adopted between 2007 and 2011.[131] Among the states requiring health plans to cover treatment of autism, coverage varies in terms of maximum benefits, age of eligibility and types of services covered.[132] Most states with mandates include coverage for behavioral therapy, many of which apply dollar thresholds to coverage. Many states also use the term "habilitative" to define covered benefits. Habilitative therapies are generally defined as therapies necessary to develop or maintain the functioning of an individual, to the maximum extent practicable, the functioning of an individual whereas rehabilitative approaches focus on restoration of functioning.[133]

9. The relevant findings of state agencies or other appropriate public organizations relating to the social impact of the mandated health benefit.

Thirty states require a fiscal note or an additional review process for any new required health insurance benefit prior to enactment.[134] The CPHHP review included states that have or had an established process for studying mandated health insurance benefits and states identified as having an ASD mandate. At least 19 states plus the District of Columbia have published ASD-related mandated benefit reviews. Reports received in multiple states (Missouri, Nevada, Georgia and Kansas) originated from Autism Speaks; three of which included an independent actuarial report commissioned by Autism Speaks. Overall, state reports

[128] Insurance and Real Estate Committee. Join Favorable Report SB-301. March 10, 2009. Accessed September 27, 2011 from: http://search.cga.state.ct.us/2009/JFR/S/2009SB-00301-R00INS-JFR.htm.

[129] *Ibid.*

[130] National Conference of State Legislatures. Insurance coverage for autism. Accessed September 27, 2011 from: http://www.ncsl.org/?tabid=18246.

[131] *Ibid.*

[132] Kaminski JL. Insurance coverage for autism. December 27, 2006. OLR Research Report. 2006-R-0793. Accessed September 27, 2011 from: http://www.cga.ct.gov/2006/rpt/2006-R-0793.htm.

[133] The 187th General Court of The Commonwealth of Massachusetts. Acts 2010. Chapter 207. An act relative to insurance coverage for autism. Accessed 11/29/2011 from: http://www.malegislature.gov/Laws/SessionLaws/Acts/2010/Chapter207.

[134] National Conference of State Legislatures. Health insurance coverage mandates: Are they too costly? Presentation at the Louisiana Department of Insurance 2009 Annual Health Care Conference. Accessed 5/7/2010 from: http://www.ncsl.org/portals/1/documents/health/MandatesCauchi09.pdf.

reach conflicting conclusions about the quality of evidence on the efficacy of treatments and the potential for shifts in utilization and cost. Several reports anticipate some shifting of costs from the public sector to the private sector.[135] Findings from select reports, including Wisconsin, New Jersey and several New England states (Massachusetts, Maine, and New Hampshire), are highlighted in this section.

Wisconsin: The evaluation conducted for S.B. 003, a Wisconsin proposal to cover diagnosis and treatment of ASDs, reports on the social impact in states with established mandates. This Wisconsin analysis is the only report identified that includes an assessment and discussion of the social and financial implications of existing mandates related to ASD. Estimates are reported for Kentucky, Connecticut, New Jersey, Maryland and Virginia.

- For Kentucky, data compiled by the Office of Insurance suggests the total pmpm cost of their autism treatment mandate in CY 2005 was $0.02. Notably, the Kentucky mandate covers a maximum of $500 per month per child from ages 2 through 21 years of age.
- For Connecticut, Aetna provided claims data related to ASD treatment totaling approximately $4,052 of cost and a pmpm impact of $0.004 associated with autism treatment services among fully insured HMO members ages 2 through 6 in calendar year 2006. Notably, the $0.004 pmpm reported is for a year prior to implementation of P.A. 09-115 in Connecticut.
- For New Jersey, Aetna reported approximately $50,000 of costs and a pmpm impact of $0.007 associated with autism treatment in CY 2006 for their fully insured HMO members ages 2-6.
- For Maryland, an insurer providing coverage for developmental assessment and therapy, evaluation and management, hearing/speech/language assessment and therapy, behavior therapy, psychiatric therapy, physical and occupational therapy and psycho diagnostic assessment and therapy reported paying $27,519 or $0.008 in CY 2006.
- For Virginia, an insurer providing services under the state mandate reported paying $3,269 in 2006 with a pmpm impact of $0.002. However, 2006 precedes existence of an insurance mandate.

The Wisconsin report anticipates increases in children accessing treatment sooner than they would under current law thus reducing the time between diagnosis and treatment, with the potential that positive treatment results may be reached that otherwise may not have been. Although the report anticipates increased access, the group with increased access is not anticipated to be large given other existing safety nets and that only some of those needing the increased access will be enrolled in health plans covered by the mandate. The report also questions if more cases of ASD will be diagnosed and if in turn this will lead to an increase in utilization.[136]

Massachusetts: An evaluation of Massachusetts' House Bill 3809 conducted by the Division of Health Care Finance and Policy (DHCFP) in 2010 used low, middle and high impact scenarios to estimate the potential range for premium impact. The DHCFP anticipated the five year average impact as a 0.24 percent, 0.36 percent or 0.49 percent premium increase respectively per impact scenario. The report concluded that it is "reasonable to expect those who may have foregone would get ABA if covered" thus anticipating an increase in children with ASD receiving diagnosis and treatment, with less interruption of services. The report also suggested that children receiving therapies would "prevent the need for more expensive treatments or services in the future" but would be "unlikely to produce savings in costs to employers, employees and private

[135] Washington State Department of Health. Information Summary and Recommendations. Treatment of Autism Spectrum Disorders. Mandated Benefit Sunrise Review. January 2009.

[136] Social and Financial Impact Report SB 3. September 29, 2009. Correspondence to Wisconsin Senate Majority Leader and Wisconsin Speaker of the Assembly. From the State of Wisconsin Office of the Insurance Commissioner Sean Dilweg.

insurers." The report also noted the information deficit for estimating "how treatments provided by school districts during non-school hours might shift to private insurance."[137]

Maine: An evaluation of a 2009 Maine proposal (LD 1198) estimated that covering diagnosis and treatment for ASDs up to a maximum of $36,000 could impact premiums by 0.5 percent initially and 0.7 percent after development of an adequate supply of ABA providers in the state. The Maine report also noted difficulties in navigating the Katie Beckett waiver program, which allows coverage of some services for ASD, ABA as the most effective treatment, and the belief that use of services under the proposed mandate would reduce future demand for services and the "overwhelming expenses of trial and error therapy" paid for by families of children with ASDs.[138]

New Hampshire: A New Hampshire evaluation of an ASD diagnosis and treatment mandate proposal estimated a premium impact of 0.2 percent to 0.4 percent. The report notes that the premium impact should be noted within the context of larger societal savings that would occur outside of the medical system - in education, social security payments and workplace productivity. The analysis highlights literature as supplying evidence that treatment can be helpful during early childhood and that ABA is found to be favorable in cost-benefit studies. Outside of the impact on cost, the New Hampshire report notes that unlike for ABA, in most cases care for general medical, pharmacy and other services is already required and covered under mental health parity laws. The report also notes that it is "not possible to predict degree to which services under this mandate would displace services under the education system."[139]

New Jersey: The Mandated Health Benefits Advisory Commission 2007 analysis of a New Jersey proposal concluded that the proposed mandate may lead to average family premiums increasing by 0.4 percent or 0.8 percent. The Commission did not anticipate changes to coverage for physical therapy, speech therapy and occupational therapy, given a previously passed mandate requiring these therapies to be covered to the same extent as other conditions. However, the proposed mandate clarified that such therapies should be covered even when the purpose is not to restore previous levels of function. The Commission suggested that coverage of ABA could lead to significant changes since their analysis found that claims did not appear to be routinely reimbursed by commercial carriers. The Commission suggested that ABA utilization would increase to the extent that insurance coverage resulted in improved affordability but that the limited number of qualified providers would mean a lag in uptake of the benefit. [140]

The New Jersey report lists a number of concerns related to the mandate. It notes that commercial carriers and premium payers will bear the cost of the mandate while society as a whole reaps the potential benefits. The authors further question whether some of the services will shift from public programs to commercial services and whether such changes would "harm, rather than enhance the present system" suggesting that changes to the current system may create "disparities in funding and type of treatment."[141]

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[137] DHCFP. Review and evaluation of proposed legislation entitled: an act relative to insurance coverage for autism House Bill 3809. Provided for the Joint Committee on Financial Services. March 2010.

[138] Donna Novak of NovaRest, Inc and Marti Hooper of the Maine Bureau of Insurance. Review and evaluation of LD 1198 An act to reform insurance coverage to include diagnosis for autism spectrum disorders. A report to the Joint Standing Committee on Insurance and Financial Services of the 124th Maine Legislature. December 2009. Corrected January 14, 2010.

[139] Compass Health Analytics, Inc. Actuarial assessment of House Bill 569: An act requiring insurance coverage for diagnosis and treatment of autism spectrum disorders. Prepared for State of New Hampshire Insurance Department. 2009.

[140] Mandated Health Benefits Advisory Commission. A Study of Assembly Bill A-999A report to the New Jersey State Assembly by the Mandated Health Benefits Advisory Commission. January 19, 2007.

[141] Mandated Health Benefits Advisory Commission. A Study of Assembly Bill A-999A report to the New Jersey State Assembly by the Mandated Health Benefits Advisory Commission. January 19, 2007.

Hawaii: Hawaii's Office of the Auditor reviewed S.B. 2532, a bill covering diagnosis and treatment of ASD, up to $75,000 annually for individuals under 21. The report did not recommended enactment of the bill, concluding "the social impacts appear minimal in Hawaii" since benefits are generally available through DOE and DOH programs or partially covered. Surveyed insurers suggested increased demand for treatment and service providers, increased utilization and increased spending on treatment and thus premiums would result.[142]

California: The California Health Benefits Review Program (CHBRP) evaluation of Assembly Bill 171, an ASD treatment-related bill, estimates no measurable changes in benefit coverage or utilization for speech therapy, physical therapy, occupational therapy, psychological care or psychiatric care but anticipates a 764 percent increase (from 1,400 to 12,100) in the number of enrollees who receive intensive behavioral interventions through health insurance, 400 of whom did not receive such therapy prior to the mandate. However, CHBRP was not able to establish the extent to which the 10,300 gaining coverage for behavioral therapy previously received behavioral therapy funded by sources other than insurance such as families, charities, or state agencies. CBHRP suggests that some cost shifting would occur as a result of the mandate and that premium increases would range be about 0.26 percent.[143]

California: The CHBRP evaluation of S.B. 749, a bill covering ASD diagnosis, reported that all carriers had at least some coverage for diagnostic services. The bill required coverage using a protocol specified by California DDS. If implemented, CHBRP anticipated a 10 percent increase in children tested annually for autism; a 23.9 percent increase to the unit cost of diagnosis (excluding physician services) from $1,871 to $2,318, reduction of false negatives by 10 percent, and an increase in early diagnosis-related expenditures followed later by decreased expenditures. The report further notes that the effect of diagnosis on public health is limited by the availability of effective treatments. CHBRP explains that results observed in existing research studies may not have the same impact.[144]

10. The alternatives to meeting the identified need, including but not limited to, other treatments, methods or procedures.

The background section provides an overview of approaches to minimize or manage symptoms and comorbidities related to ASDs. Since the manifestations of ASDs vary in breadth and severity across the diagnosed population, the recommended approach is for treatments to be tailored to the individual's specific needs. The ASD conditions most frequently treated include development of speech or language, the ability to carry out activities of daily living, social skills, motor skills and coordination. Speech, occupational and physical therapy are the respective fields for addressing many common ASD concerns. Behavioral therapy is also a common therapy used to help facilitate skill development while diet modifications or nutrition supplements are recommended by some to address food intolerances. Other potential approaches to treatment include diet modifications, social skills therapy, hippotherapy, touch therapy, sensory integration therapy, developmental/relationship-based therapy, and more. The nature of the services covered under P.A. 09-115 appear to be additive where an individual treatment plan could include speech, occupational, physical and behavioral therapy if a provider prescribed each type of therapy as medically necessary.

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[142] The Auditor. State of Hawaii. Study of the social and financial impacts of mandatory health insurance coverage for the diagnosis and treatment of autism spectrum disorders. Report No. 09-09. July 2009. Accessed September 12, 2011 from: http://hawaii.gov/auditor/Overviews/2009/09-09overview.pdf.

[143] California Health Benefits Review Program (CBHRP). Analysis of Assembly Bill 171: Autism. Report to California State Legislature. 2011; 11-05. Oakland, CA: CHBRP

[144] California Health Benefits Review Program (CBHRP). Analysis of Senate Bill 749: Health Care Coverage: Diagnosis of Autism. Report to California State Legislature. 2010; 05-08. Oakland, CA: CHBRP.

Many mandated-benefit review program reports and public hearing testimonies raise safety net programs, education programs and other social programs as an alternative means to meet the identified need. Alternative funding sources such as the public sector, family members and charities are also mentioned. Within reports and testimonies, the question of who should bear the burden for the cost of treatment is raised along with comments that most of the potential benefits of providing ASD diagnosis and treatment translate into public sector savings rather than private sector savings. This sentiment is echoed by a quote in the Maine report from Anthem, "*Policymakers who want to ensure that families facing the real financial and other challenges posed by autism should develop safety net programs that meet their needs, rather than trying to impose autism-related costs on health insurance*." [145]

11. Whether the benefit is a medical or broader social need and whether it is consistent with the role of health insurance and the concept of managed care.[146]

It is possible to conceptualize treatments described in P.A. 09-115 as meeting a medical or broader social need. Ultimately, whether the mandate is consistent with the concept of health insurance or managed care is defined largely by how a person conceptualizes the role of the health care system. For example, in the Maine report, carrier Harvard Pilgrim, contended, "*Health insurance coverage is primarily designed to cover short-term, acute illnesses, or acute exacerbations of chronic illnesses or conditions*." This notion fits with the traditional purpose of insurance policies as a means of financial security in times of economic uncertainty following unexpected events such as premature death, disease, accident or disability. Conversely, 2009 public hearing testimony made by the Connecticut Medical Society in favor of the mandate enacted as P.A. 09-115 purported, "*This bill addresses an issue regarding medical necessity. Insurance companies need to provide comprehensive coverage for autism spectrum disorders, and currently they have been unwilling to handle the routine costs of medically necessary treatments claiming that these individuals had "preexisting conditions" or any other exclusion."* [147]

The Massachusetts report summarizes, "*Fully-funded health insurers are opposed to providing certain types of coverage for treating ASD because insurers view the treatment as educational and/or experimental, or the responsibility of early intervention (EI) programs and school districts…* "[148] Similarly, the Colorado report explains that treatments cross several areas of expertise, medical, educational and social development. A commitment to "*ensur[ing] there's a bright line between medical costs and costs that are more related to special education*" was also tied to the initial ASD mandate that covered PT, OT and ST for ASDs.[149]

12. The potential social implications of the coverage with respect to the direct or specific creation of a comparable mandated benefit for similar diseases, illnesses, or conditions.

As of December 2011, Connecticut has more than 45 active health benefit mandates that apply to fully insured groups and/or individual health plans. In recent years, multiple health benefit mandates have been amended or passed into law in Connecticut. P.A. 09-115 replaced an ASD-related mandate passed in the

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[145] Donna Novak of NovaRest, Inc and Marti Hooper of the Maine Bureau of Insurance. Review and evaluation of LD 1198 An act to reform insurance coverage to include diagnosis for autism spectrum disorders. A report to the Joint Standing Committee on Insurance and Financial Services of the 124th Maine Legislature. December 2009. Corrected January 14, 2010.

[146] Speechville. Speech-therapy for school aged children. Accessed September 27, 2011 from: http://www.speechville.com/diagnosis-destinations/articulation-disorder/insurance-public-schools.html.

[147] Insurance and Real Estate Committee. Joint Favorable Report S.B.-301. March 10, 2009. Accessed September 27, 2011 from: http://search.cga.state.ct.us/2009/JFR/S/2009SB-00301-R00INS-JFR.htm.

[148] DHCFP. Review and evaluation of proposed legislation entitled: an act relative to insurance coverage for autism House Bill 3809. Provided for the Joint Committee on Financial Services. March 2010.

[149] Kaminski JL. Insurance coverage for autism. July 31, 2008. OLR Research Report. 2008-R-0427. Accessed September 27, 2011 from: http://www.cga.ct.gov/2008/rpt/2008-R-0427.htm.

preceding legislative session and which had required fully insured groups and individual plans to cover speech, physical and occupational therapy for treatment of ASDs "*to the extent such services are a covered benefit for other diseases and conditions under such policy*." Both ASD-related mandates are comparable to other Connecticut mandates that require coverage based on a certain medical condition,[150] a specific type of therapy,[151] or dollar thresholds for coverage for certain therapies or supplies,[152] or coverage for a special education related service, such as Birth to Three.[153] Since passage of 09-115, additional mandates related to ASDs have been introduced, one of which introduces an option to use a "developmental/relationship-based approach" to treatment as a substitute for behavior therapy. There are also potential implications that a comparable mandate could be drafted specific to other neurodevelopmental and other high cost conditions.

13. The impact of the benefit on the availability of other benefits currently offered.

The eligible population is small due to the low population prevalence of ASD. The impact is further limited given that only about one out of four children with ASD are enrolled in a fully insured group plan. Of the eligible children with ASD, many received at least some coverage for PT, OT, ST and counseling services prior to the mandate. It is expected that a very small proportion of children with ASD would increase utilization of PT, OT and ST as a result of the mandate. BT is the area where utilization is anticipated to change the most since BT generally was not covered prior to P.A. 09-115. Since the addition of BT is expected to add only $0.40 (0.1 percent) PMPM and adds coverage of a new type of service provider, a Board Certified Behavior Analyst (BCBA) or Board Certified Assistant Behavior Analyst (BCaBA), it does not seem likely that providing the benefits under P.A. 09-115 would reduce the availability of other benefits.

14. The impact of the benefit as it relates to employers shifting to self-insured plans and the extent to which the benefit is currently being offered by employers with self-insured plans.

Employer decisions to switch insurance plans to self-funded are complex economic decisions involving multiple factors. Mandated benefits, specifically P.A. 09-115 are not expected to play a primary role in such decisions. The impact of the coverage requirement for ASD, as implemented per P.A. 09-115 on January 1, 2010 may play a minimal role, if any, on employers shifting from fully insured to self-funded plans. As estimated by OI, the behavioral therapy component of the mandate will account for approximately 0.1 percent of total premiums in 2012. On average, the employer contributed approximately 77 percent of the mean total premium cost in 2010 and thus would absorb only some of the cost increase.[154] Cost increases may also be buffered by modifying employee contributions to health premiums or other out-of-pocket expenses. This is a response that employers may take in response to rising health care costs in general. However, given the relatively small contribution that behavioral therapy is estimated to make on total premiums and the fact that the employer typically funds only a part of the PMPM, it is not anticipated that this mandate alone will contribute to employers shifting to self-funded plans.

Instead, decisions to switch to self-funded plans are more likely to be driven by the extent of annual rate increase, the extent of employer control over plan design, and whether these concerns would be adequately mitigated through self-funded status. The potential benefit of switching to self-funded comes from the federally legislated Employee Retirement Income Security Act (ERISA). Becoming self-funded translates into such plans being ERISA- exempted from state insurance mandates, Connecticut's 1.75 percent premium tax, and insurer profit margins and risk charges. According to one source, switching to self-funded

[150] Connecticut General Statutes, Title 38a: Insurance, Chapter 700c: Health Insurance, §§ 38a-488a and 38a-514

[151] Connecticut General Statutes, Title 38a: Insurance, Chapter 700c: Health Insurance, §§ 38a-496 and 38a-524

[152] Connecticut General Statutes, Title 38a: Insurance, Chapter 700c: Health Insurance, §§ 38a-490a and 38a-516a

[153] Connecticut General Statutes, Title 38a: Insurance, Chapter 700c: Health Insurance, §§ 38a-490a and 38a-516a

[154] Medical Expenditure Panel Survey. Private-Sector Data Premium, Contribution and Cost Distributions. 2010.

may save some employers 5-8 percent in Connecticut.[155]

Self-funded plans do appear to be more limited in the extent of benefits offered for diagnosis and treatment of ASDs. On the CPHHP survey of ASOs, fewer than 3 percent of lives under self-funded plans had commensurate coverage during 2010. Only 4 percent of lives under self-funded plans during 2009 had some coverage for behavioral therapy whereas coverage for prescription drugs to treat symptoms related to ASDs appeared to be the norm so long as the plan included drug coverage. Most self-funded plans also covered PT, OT and ST. However, self-funded plan coverage for 2009 appeared more restrictive than the language under P.A. 09-115.

15. The impact of making the benefit applicable to the state employee health insurance or health benefits plan.

The state employee health insurance/benefit plans were subject to the diagnosis and screening requirement from the mandate implementation date of January 1, 2010 up until July 1, 2010 when Connecticut transitioned from having fully insured to self-funded health plans. As a self-funded group, the State of Connecticut is exempt from state health insurance mandates under the federal Employee Retirement Income Security Act (ERISA) law. Assuming Connecticut continues to cover the mandated benefits, the social impact of the benefit for the approximately 162,236 covered lives in state employee plans and 16,616 state retirees not enrolled in Medicare[156] is expected to be the same or similar to the social impact for persons covered in non-state employee health insurance plans as discussed throughout Section IV of this report. In terms of financial impact, if the state employee health insurance/benefit plans continue to provide coverage for the required benefit, the OI analysis estimates the total paid medical cost to the state employee health plan will total $852,576 in 2012.

16. The extent to which credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community determines the treatment, service or equipment, supplies or drugs, as applicable, to be safe and effective.

The American Academy of Pediatrics (AAP) clinical report "Management of Children with Autism Spectrum Disorders" summarizes the scientific evidence available for treating children with ASDs.[157] The AAP concludes that "*Educational interventions, including behavioral strategies and habilitative therapies, are the cornerstones of management of ASDs. These interventions address communication, social skills, daily-living skills, play and leisure skills, academic achievement, and maladaptive behavior*s." The same report finds speech and language therapy, ABA-based interventions and functional behavior analysis to be effective therapies for producing functionality gains for children with ASDs. For ABA, the AAP concludes, *"Children who receive early intensive behavioral treatment have been shown to make substantial, sustained gains in IQ, language, academic performance, and adaptive behavior as well as some measures of social behavior, and their outcomes have been significantly better than those of children in control groups."*[158]

On the other hand, the AAP found research to support occupational therapy and sensory integration therapy for treatment of ASDs to be lacking[159] and the American Academy of Child and Adolescent Psychiatry notes

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[155] Bordonaro, G. Tide shifts to self-insurance. Some smaller firms see savings in direct control. Hartford Business Journal Online. 11/14/2011. Accessed December 2, 2011 from: http://www.hartfordbusiness.com/news21400.html

[156] Personal communication. Tracy Dunn, Rae-Ellen Roy, State of Connecticut Comptroller's Office. December 27, 2011.

[157] Myers SM, Johnson CP. Management of children with autism spectrum disorders. Pediatrics. 2007; 120(5): 1162-82.

[158] *Ibid.*

[159] *Ibid.*

that for individuals with autism, facilitative communication is not a scientifically valid technique.[160] Articles from the Cochrane Database of Systematic Reviews concluded that music therapy "may be helpful to improving communication skills in autistic children,"[161] auditory integration therapy findings were mixed,[162] and poor evidence exists for gluten- and casein-free diets. Conclusions from the Cochrane Reports remark on the need for large scale, good quality randomly controlled trials, and the lack of research on auditory integration therapy to warrant treatment decisions.[163]

Although the AAP and other professional associations recognize the diagnosis and treatment of ASDs using the approaches described in P.A. 09-115 as generally effective, multiple systematic reviews in the literature contend that there is a lack of evidence to support the clinical guidelines set for a number of ASD-related therapies, including ABA.[164] Methodological quality, generalizability of learned skills to the natural environment, and limited knowledge regarding efficacy of therapies by child age and ASD subtype and severity are among the aspects criticized. Lang and colleagues' (2010) systematic literature review found that cognitive behavior therapy can be useful for children with Asperger's disorder who have anxiety but not among children with other ASDs. [165]

Similarly, the effectiveness of diagnostic tests for ASD has been criticized despite the emphasis of the APA, the National Research Council and the Maternal and Child Health Bureau on early detection. None of the existing tests has been found to have high sensitivity (the ability to correctly identify a person with the disorder) for detecting ASDs.[166]

V. Financial Impact

1. The extent to which the mandated health benefit may increase or decrease the cost of the treatment, service or equipment, supplies or drugs, as applicable, over the next five years.

Adequacy of available data limits the ability to provide a five year projection for changes in treatment cost. OI projected the PMPM cost increase from 2012 to 2016 for behavior therapy. Over the five year period, the low, medium, and high scenarios suggest a PMPM increase of $0.21, 0.34, and $0.62, with the total behavioral therapy PMPM ranging from $0.56 to $1.07 in 2016. The estimates include a normal PMPM trend of 6 percent to 8 percent and an additional utilization increase of 8 percent to 15 percent.

Generally speaking, the unit cost of PT, OT, and ST may rise over the next five years due to growing demand from early diagnosis initiatives for ASD, the increasing demand for habilitative and rehabilitative services for children and the growing aging population. Anticipated provider shortages to meet the growing

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[160] American Academy of Child & Adolescent Psychiatry. Facilitated Communication. Policy Statement. Reviewed June 2008. Approved by Council, October 20, 1993. Accessed 1/4/2012 from: http://www.aacap.org/cs/root/policy_statements/facilitated_communication

[161] Gold C, Wigram T, Elefant C. Music therapy for autistic spectrum disorder. *Cochrane Database of Systematic Reviews* 2006. Issue 2. Art. No.: CD004381. DOI: 10.1002/14651858.CD004381.pub2.

[162] Sinha, Y., Silove, N., Williams, K., Hayen, A. Auditory integration training and other sound therapies for autism spectrum disorders. *Cochrane Database of Systematic Reviews* 2004, Issue 1. Art. No.: CD003681. DOI: 10.1002/14651858.CD003681.pub2.

[163] Millward C, Ferriter M, Calver SJ, Connell-Jones GG. Gluten- and casein-free diets for autistic spectrum disorder. *Cochrane Database of Systematic Reviews* 2008, Issue 2. Art. No.: CD003498. DOI: 10.1002/14651858.CD003498.pub3.

[164] Al-Qabandi, M., Gorter, JW., Rosenbaum P. Early autism detection: are we ready for routine screening? *Pediatrics*. 2011; 128: 1-8.

[165] Lang R, Regester A, Lauderdale S, Ashbaugh K, Haring A. Treatment of anxiety in autism spectrum disorders using cognitive behavior therapy: a systematic review. *Developmental Neurorehabilitation*. 2010; 13(1): 53-63.

[166] Al-Qabandi, M., Gorter, JW., Rosenbaum P. Early autism detection: are we ready for routine screening? *Pediatrics*. 2011; 128: 1-8.

demand for BT, PT, OT and ST may also lead to increases in the unit cost of services rendered.[167-168] Notably, the availability of BCBA and supervised BCaBA certified providers for behavior therapy varies around the state with a potential for shortages, especially in the northeast and northwest corners of the state. In regions where provider supply is low and BT demand is high, unit costs may increase an additional amount.[169] Over time, it is expected that more individuals will complete BCBA certification, a process that may take one to two years, to become eligible to provide services. Also, licensed psychologists and licensed psychiatrists may begin offering BT, especially ABA to meet a reimbursable consumer demand.

Under fully insured group plans the total amount paid for the diagnosis and treatment of ASDs among children from age 3 to 15 will likely increase over the next five years. The impact of the mandate on the increase in cost depends on the change in unit cost and how utilization of reimbursable services changes following the mandate. For example, BT was generally not covered prior to the mandate. Following the mandate, the cost of this treatment would potentially appear as an added $0.40 cost to fully insured group health plans. Unrelated to the mandate, total cost paid for services is likely to increase along with medical inflation, ASD prevalence and spikes related to early diagnosis initiatives. However, it is important to note that if fewer employers offer coverage to employees for their children, the total amount paid for this mandate would decrease since there would be fewer eligible children using the covered services.

2. The extent to which the mandated health benefit may increase the appropriate or inappropriate use of the treatment, service or equipment, supplies or drugs, as applicable, over the next five years.

Adequacy of available data limits the ability to provide a five year projection for changes in utilization of ASD-related health care. For behavior therapy, OI used 8 percent, 10 percent and 15 percent as potential annual utilization increases beyond the normal trend. The estimates translate into a 36 percent to 81 percent increase in behavior therapy utilization over five years. A general discussion of how utilization may change is provided for the major services covered by the mandate. In general, it is not expected that there will be substantially more children diagnosed and treated for ASDs as a result of the mandate. It is believed that most of the children who would receive care under the mandate would also be provided some BT, PT, OT, and ST through special education. Prior to passage of the mandate, plans with prescription drug coverage, PT, OT, and ST covered these benefits for ASD to the same extent as other conditions, thus it is not expected that P.A. 09-115 will lead to additional children accessing these services. In addition, public hearing testimony suggests that when additional services are desired, family members often paid for these services out-of-pocket. Although the total number of children receiving ASD-related therapies appears unlikely to change much based on the mandate, it seems plausible that the mandate could lead to more extensive use of BT and perhaps PT, OT and ST.

According to carrier data, in the first year of implementing P.A. 09-115, 291 children diagnosed with ASD received behavioral therapy. A minority of these children may have accessed BT through fully insured group plans in the past. Roughly, these children represent about 23 percent of the children in fully insured group plans with ASD who are age 3 to 15. (This is about 5.8 percent of IDEA diagnosed children age 3 to 15.) On average, claims hit closer to 5 to 10 percent of the maximum reimbursable thresholds allowed in the legislation. There are several potential explanations for the lower level of claims: 1) Claims data may

[167] Bureau of Labor and Statistics. Occupational Outlook Handbook 2010. Physical Therapists. Accessed 11/1/2011 from: http://www.bls.gov/oco/ocos080.htm.

[168] Bureau of Labor and Statistics. Occupational Outlook Handbook 2010. Occupational Therapists. Accessed 11/1/2011 from: http://www.bls.gov/oco/ocos078.htm.

[169] Behavior Analyst Certification Board. Certificant Registry. Accessed 11/29/2011 from: http://www.bacb.com/index.php?page=100155&by=state;

not have accurately captured the extent of service under the mandate; 2) Average demand for BT may be substantially lower than the established thresholds; or 3) There may have been administrative barriers, lack of knowledge, challenges with coordination of services such as an inadequate provider supply, or out-of-pocket requirements that restricted the number of therapy hours received.

Over the next five years, it is anticipated that more children with ASD diagnoses will access BT through fully insured health plans. It is also expected that the average number of services over the course of the year will increase. The extent to which this represents an increase in treatment use depends on 1) if the child accessed the therapy through other sources before the mandate, and 2) whether they are accessing more therapy now that the mandate is in place than they did prior to the mandate through alternative funding mechanisms.

Increased use of PT, OT and ST is possible. In general, plans tend to have a maximum number of visits allowed for these therapies. Under the mandate, the number of visits can only be limited when such visits are deemed no longer medically necessary. The extent to which the mandate language opens up access to these therapies depends on whether the mandate is interpreted as requiring coverage for habilitative purposes. Habilitative therapies are commonly denied by carriers as educational, not medically necessary, or not a covered benefit. Importantly, the mandate does not appear clear in this matter. If the mandate does extend to PT, OT and ST for habilitative purposes, it is expected that a subpopulation of children with ASD and enrolled in fully insured group plans would use additional visits.

It is unclear whether the requirement to cover ASD-related diagnostic procedures will lead to increased use of services. It is possible that P.A. 09-115 does not extend coverage for diagnostic procedures beyond what would have been covered prior to enactment. For example, caregivers sometimes bring their child for neuropsychological or other assessments. In some cases, the purpose of the assessment is to funnel information back to the school system to advocate for services under the child's Individual Education Program under IDEA. It is possible that if an assessment is suspected of being for educational purposes, a carrier may not cover the service.

3. The extent to which the mandated health benefit may serve as an alternative for more expensive or less expensive treatment, service or equipment, supplies or drugs, as applicable.

Policy statements from provider associations do not indicate one treatment approach should be substituted for another. Overall, behavioral therapy is anticipated to be more expensive than use of physical therapy, occupational therapy and speech therapy as treatments for ASDs. Behavioral therapy is estimated to cost $0.40 PMPM whereas the 2009 CPHHP report on the requirement for plans to cover PT, OT and ST for the treatment of ASDs found that the medical cost for the three therapies was about $0.03 PMPM. Notably, even though behavioral therapy appears to have a higher cost, it is expected that behavioral therapy will be an additive part of the treatment plan rather than an alternative treatment, and PT, OT and ST would continue to be included in a treatment plan if the care team perceived such treatments as necessary.

4. The methods that will be implemented to manage the utilization and costs of the mandated health benefit.

Benefit plan limitations and review processes are common strategies used to control utilization and costs. In many cases, benefit plans include a maximum allowable benefit for duration of treatment, number of visits or reimbursement thresholds. Plan structure may also control costs and utilization by requiring the covered individual to pay a percent of the service or treatment cost (coinsurance), paying a certain fee per visit (i.e., a set co-pay per visit or treatment paid by the patient), or a deductible that the person must pay out prior to coverage reimbursements (e.g., a $1,000 deductible for emergency care). Pre-service review

explores consistency with medical necessity and benefit plan language by requiring that a treatment or procedure be pre-approved before a member obtains the service. Concurrent and post-service review can be used to identify potential quality of care issues, screen for under or over utilization and post discharge needs. For patients needing care from multiple providers or for conditions requiring ongoing monitoring, case management is often used. Reviews often include coverage determinations using "medically necessary" criteria. Carriers frequently establish medical or administrative policies related to certain health conditions or specific treatments. Some procedures or therapies are explicitly stated as medically necessary while others are defined as "investigational and not medically necessary." [170]

The statutory language of P.A. 09-115 influences how utilization and costs of the mandated health benefit can be managed. The act defines a number of treatments that must be covered, which most carriers' previously labeled as not medically necessary or investigational. The language also stipulates how the insured must be referred for the treatment, how often utilization review may occur for a treatment plan, how long a diagnosis can be maintained without review, the dollar and age thresholds allowed for limiting coverage of behavior therapy, medical necessity as the only rational for limiting number of visits, and parity in out-of-pocket costs as they would exist for other conditions under the same policy. Although there is language restricting how utilization and costs of the mandated health benefit may be managed, there is also language validating the ability for health plans to include management strategies.
P.A. 09-115 stipulates that:

> *"Coverage required under this section may be subject to the other general exclusions and limitations of the group health insurance policy, including, but not limited to, coordination of benefits, participating provider requirements, restrictions on services provided by family or household members and case management provisions, except that any utilization review shall be performed in accordance with subsection (f) of this section"*

Specific language from P.A. 09-115 potentially decreasing flexibility around utilization and cost management requires that issued policies:

> "*Provide coverage for the following treatments, provided such treatments are (1) medically necessary, and (2) identified and ordered by a licensed physician, licensed psychologist or licensed clinical social worker for an insured who is diagnosed with an autism spectrum disorder, in accordance with a treatment plan developed by a licensed physician, licensed psychologist or licensed clinical social worker pursuant to a comprehensive evaluation or reevaluation of the insured*"
>
> "*May review a treatment plan developed…in accordance with its utilization review requirements, not more than once every six months unless such insured's licensed [provider] agrees that a more frequent review is necessary or changes such insured's treatment plan*."
>
> "*Results of a diagnosis shall be valid for a period of not less than twelve months, unless such insured's [provider] determines a shorter period is appropriate or changes the results of such insured's diagnosis*"
>
> *"May limit the coverage for behavioral therapy to a yearly benefit*" with mandate-specified thresholds for specific age groups
>
> "*<u>Not</u> impose (1) any limits on the number of visits an insured may make to an autism services provider pursuant to a treatment plan on any basis other than a lack of medical necessity,"*
>
> *"Not impose "a coinsurance, copayment, deductible or other out-of-pocket expense for such coverage that places a greater financial burden on an insured for access to the diagnosis and treatment of an*

[170] Anthem. Medical Policy: Medical and other non-behavioral health related treatments for pervasive developmental disorders. Current Effective Date: 10/12/2011. Accessed December 2, 2011 from: http://www.anthem.com/medicalpolicies/policies/mp_pw_c128869.htm

autism spectrum disorder than for the diagnosis and treatment of any other medical, surgical or physical health condition under such policy."

The "medically necessary" and "lack of a medical necessity" language may add flexibility to utilization management when it comes to covering certain treatments or limiting visits for treatments, even when they are listed within P.A. 09-115. It is unclear if the common practice of carriers deeming therapy sessions used to maintain or gain skills as educational or not medically necessary would be permitted under this law. Similarly, it is unclear to what extent visits may be limited due to "inadequate progress" or therapy being "custodial in nature." Administrative documents published on the internet, indicate that Aetna and ConnectiCare require pre-certification for ABA. Aetna also has an established medical necessity guide for ABA. An essential element of ABA eligibility is: "*The ABA is not custodial in nature (which Aetna defines as care provided when the member 'has reached the maximum level of physical or mental function and such person is not likely to make further significant improvement' or 'any type of care where the primary purpose of the type of care provided is to attend to the member's daily living activities which do not entail or require the continuing attention of trained medical or paramedical personnel')*." [171] Some carriers also require pre-certification for physical therapy, speech therapy and occupational therapy. [172]

5. The extent to which insurance coverage for the treatment, service or equipment, supplies or drugs, as applicable, may be reasonably expected to increase or decrease the insurance premiums and administrative expenses for policyholders.

Insurance premiums include medical cost and retention costs. Retention costs comprise administrative cost and profit (for for-profit insurers/MCOs) or contribution to surplus (for not-for-profit insurers/MCOs). The OI estimate for the 2012 PMPM cost of behavioral therapy is projected from 2010 utilization of behavioral therapies by children with an ASD under the age of 15. OI provided a low, medium and high PMPM impact scenario with varying assumptions for the normal PMPM trend and utilization increases in addition to the normal trend. OI projected the premium for behavioral therapy in 2012 at $0.41 to $0.53 PMPM. Under the "medium" scenario, utilization of behavioral therapy to treat ASD accounts for, on average, an estimated premium of $0.47 PMPM for fully insured group policyholders in 2012. The average paid medical claims account for $0.40 PMPM while retention accounts for $0.07 PMPM. Based on 2010 Connecticut data from the Medical Expenditure Panel Survey, employers offering health plans contributed an average of 77 percent of the premium, with employees funding the remainder of the premium.[173] Therefore, the employer would pay approximately $0.36 PMPM. This cost estimate does not include any savings from potential medical costs avoided in the future or any potential increases in employee productivity. Available research is inadequate to justify such estimates.

It is expected that utilization of PT, OT and ST for the treatment of ASD will cost $0.03 to $0.04 PMPM. This is approximately the same amount as estimated for the mandate implemented in 2009, which covered these therapies for ASD to the same extent as other illness in the policy. However, it is worth noting that longitudinal data suggests that the PMPM cost did not significantly increase after implementing the PT, OT, ST mandate in 2009.[174] For 2012, coverage of psychiatric/psychological consultative services and pharmaceuticals for the diagnosis and/or treatment of ASDs is not anticipated to have an additional impact

[171] Aetna®. Applied Behavioral Analysis. Medical Necessity Guideline for the Treatment of Autism Spectrum Disorders. 2010 Aetna Health Management, LLC. Accessed December 2, 2011 from: http://www.aetna.com/provider/data/FINAL_APPLIED_BEHAVIORAL_ANALYSIS_QCC_and_CPE_Approved_Provider_Version__TC.pdf

[172] ConnectiCare. ConnectiCare, Inc. & Affiliates Insert Page for Pre-certification and pre-authorization lists update. Accessed December 2, 2011 from: http://www.connecticare.com/globalfiles/preauthlist.pdf

[173] Medical Expenditure Panel Survey. Private-Sector Data Premium, Contribution and Cost Distributions. 2010.

[174] Havens, E. Chapter 6: Autism Spectrum Disorders Therapies. Review and Evaluation of Connecticut General Statutes Chapter 700, §§ 38a-514b and 38a-488 Coverage for Autism Spectrum Disorder Therapies. In: 2010 Mandated Health Insurance Benefits Reviews- Volume II. University of Connecticut Center for Public Health and Health Policy.

on cost. C.G.S.A., §38a-514, implemented in 2000, already requires each group health insurance policy to cover diagnosis and treatment of mental or nervous conditions.

6. The extent to which the treatment, service or equipment, supplies or drugs, as applicable, is more or less expensive than an existing treatment, service or equipment, supplies or drugs, as applicable, that is determined to be equally safe and effective by credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community.

As previously discussed (Financial Impact #3), guidelines for treating ASD tend to advocate for an interdisciplinary team approach that may incorporate a variety of treatments. Furthermore, the National Research Council's recommends to "tailor the treatment approach to the unique features of the child" and to adopt early intensive interventions. This is commonly accepted as the "best approach" for treatment. Comparing costs of specific treatments, ABA is regarded as much more expensive than PT, OT, or ST whereas dietary interventions and medications may be substantially less expensive. However, substitution of one treatment for another is not necessarily appropriate given the heterogeneous nature of symptoms and the range in severity.

7. The impact of insurance coverage for diagnosis and treatment of autism spectrum disorders on the total cost of health care, including potential benefits or savings to insurers and employers resulting from prevention or early detection of disease or illness related to such coverage.

Holding the mandate language and population constant, the OI projected 2012 cost of covering behavioral therapies for the ASD population is $4,385,816 of which $3,727,944 (85 percent) is medical claims covered by the carrier and $657,872 is paid by employees as an out-of-pocket cost. The estimated total cost of health care does not include any potential benefits or savings that may result from functionality improvements resulting from behavioral therapy. Although some savings may be expected, it is difficult to calculate the cost of illnesses or conditions that do not develop and the existing literature does not adequately justify parameters for such an estimate.

Another limitation to the above estimate is that it captures the estimated total health care cost based on the level of BT provided to children in fully insured group plans during 2010. While this method of estimation sets a threshold for the cost of behavioral therapy services under these plans, it does not capture how passing P.A. 09-115 may have increased or decreased health insurance costs. In other words, since there was not adequate data to analyze longitudinally on the cost and utilization of behavioral therapies in the same population before the mandate was implemented, the total health care cost does not adjust out the average level of expenditures spent on behavioral therapy in absence of the mandate.

8. The impact of the mandated health care benefit on the cost of health care for small employers, as defined in section 38a-564 of the general statutes, and for employers other than small employers.

OI estimates on average, the 2012 total premium paid for ASD-related behavioral therapies equals (is less than?) 0.1 percent of the average $400 premium paid for group health insurance plans. Under the average health plan, employer's contribute about 77 percent of the premium.[175] Given that utilization of behavioral therapy is anticipated to account for a small percentage of the total premium, it appears reasonable to expect that the impact of the ASD mandate implemented in 2010 is minimal for employers. Some of the premium

[175] Medical Expenditure Panel Survey. Private-Sector Data Premium, Contribution and Cost Distributions. 2010.

cost may also be offset if the provision of ASD-related care leads to increased work productivity. [176]

Premiums are often higher for employers with fewer employees enrolled in sponsored health plans. For example, in 2010 the average PMPM premium for an employer with >50 employees was $428 compared to $492 for employers with <50 employees, with even larger differences between very large groups (1,000+) and very small groups (<10 or 10-24 employees).[177] While the percentage increase in premium cost may be smaller for the average small employer compared to larger employers, it is expected that many small employers have less influence when negotiating plan terms with carriers because they represent a small portion of the overall market. However, regardless of size, general employer-based strategies for offsetting a rise in health insurance premiums include increasing cost-sharing such as deductibles, coinsurance and premium contributions, reducing the number of non-mandated benefits covered, or no longer offering health insurance plans. To some extent, an employer's ability to change these benefits may be limited by the desire to maintain a competitive benefit plan or by collective bargaining contracts.

9. The impact of the mandated health benefit on cost-shifting between private and public payers of health care coverage and on the overall cost of the health care delivery system in the state.

The overall cost of the health delivery system in the state is understood to include total insurance premiums (medical costs and retention) and cost sharing. The 2012 projection for the overall cost to the health care delivery system for the coverage of ASD-related behavioral therapy for children under 15 enrolled in fully insured group plans is $5,043,689 of which $3,727,944 is attributed to medical claims, $657,872 to cost sharing, and $657,872 to retention. Of the overall spending, an estimated 15 percent is paid out-of-pocket by the family/caregiver of the child with ASD. This amount captures the aggregate amount of behavioral therapy services for the eligible child with an ASD enrolled in fully insured group plans on PMPM basis for 2012.

It is unclear whether P.A. 09-115 will lead to a shift in cost from the public to private sector for health care coverage. To the extent that therapies paid for under private plans are additive to those offered through public funds (i.e.: public education system, DDS, etc.) or were covered prior to the benefit being mandated, a shift in cost between sectors is not occurring. At times, questions have been raised whether school districts would decrease the therapeutic services (PT, OT, ST, BT, etc.) with a mandate in place, especially given pressures to reduce expenditures. There is inadequate evidence to evaluate this claim but it is worth noting that service provision through the education setting is rooted in federal legislation. Additionally, only one in four children with ASD is expected to have coverage under P.A. 09-115 thus a school district seeking to "shift costs" would need to deliberately identify these children and then define their related IEPs in a manner different than other children with ASDs. Schools would also not be able to shift costs to group health insurance plans by billing the plans for services as is done under the Birth-to-Three mandate. P.A. 09-115 protects against such billing, "*Nothing in this section shall be construed to require such group health insurance policy to provide reimbursement for special education and related services provided to an insured pursuant to section 10-76d, unless otherwise required by federal law*."

[176] Filipek, P.A., Accardo, P.J., Ashwal, S. et, al. Practice parameter: screening and diagnosis of autism: report of the Quality Standards Subcommittee of the American Academy of Neurology and the Child Neurology Society. *Neurology* 2000 Aug 22; 55(4): 468-79.

[177] Medical Expenditure Panel Survey. Private-Sector Data Premium, Contribution and Cost Distributions. 2010.

Chapter 2

Alternate Therapy for Autism Spectrum Disorders

A Report to the Insurance and Real Estate Subcommittee
of the Connecticut General Assembly

Analysis of Senate Bill 974
2011 Regular Session

"An act concerning group health insurance for an alternative therapy in the treatment of autism spectrum disorders."

Prepared by:

Erin Havens, MPA, MPH

University of Connecticut
Center for Public Health and Health Policy

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I. Overview

On August 26, 2011, the Chairs of the Insurance and Real Estate Committee of the Connecticut General Assembly (the Committee) directed the Connecticut Insurance Department to review Senate Bill (S.B. 974), "An Act Concerning Group Health Insurance for an Alternative Therapy in the Treatment of Autism Spectrum Disorders." This report follows the requirements stipulated under Public Act (P.A.) 09-179, "An Act Concerning Reviews of Health Insurance Benefits Mandated in this State." Reviews of required health insurance benefits are a collaborative effort of the Connecticut Insurance Department and the University of Connecticut Center for Public Health and Health Policy (CPHHP).

This report evaluates the financial and social impact of S.B. 974, a bill raised during the 2011 legislative session. A full copy of S.B. 974 is located in Appendix IV. S.B. 974 proposed changing C.G.S.A. §38a-514b, the existing mandate enacted under P.A. 09-115, which requires fully insured group health policies to cover diagnosis and treatment of autism spectrum disorders to include an alternative treatment option for covered benefits. Under S.B. 974, "*subsection (d)"* requires the option for covered benefits that was established under P.A. 09-115 and "*subsection (e)*" introduces the alternative option. Both options list seven possible types of treatment, labeled A-G, shown in Table 2.1. Across options, prescription drugs, direct psychiatric/psychological or consultative services, physical therapy (PT), speech and language pathology services (ST), and occupational therapy (OT) are covered benefits. Only one treatment category differs: Subsection (d) offers behavioral therapy (BT) to children under fifteen whereas subsection (e) introduces developmental/relationship-based therapy (DRBT) for children under fifteen. The new benefit under S.B. 974 is coverage of developmental/relationship-based therapy. The other therapies listed are currently covered benefits due to implementation of P.A. 09-115 in January 2010.

Table 2.1. Senate Bill 974: Proposed Treatment Options Under Fully Insured Group Health Plans for Autism Spectrum Disorders.

	Subsection (d): Option for Covered Benefits. Current Language (P.A. 09-115)	**Subsection (e): Alternative Option for Covered Benefits. Proposed Language(S.B. 974)**
(A)	Behavioral Therapy*	Developmental/Relationship-Based Therapy*
(B)	Prescription drugs	Prescription drugs
(C)	Direct psychiatric or consultative services	Direct psychiatric or consultative services
(D)	Direct psychological or consultative services	Direct psychological or consultative services
(E)	Physical therapy	Physical therapy
(F)	Speech and language pathology services	Speech and language pathology services
(G)	Occupational therapy	Occupational therapy
*Available only to children <15.		

The maximum yearly benefit and allowed duration of benefit thresholds for BT and DRBT differ as proposed in S.B. 974. Table 2.2 shows the maximum yearly benefit per child and the maximum lifetime cost of receiving BT and the proposed annual and lifetime maximums for DRBT as a therapy option.

Table 2.2: Maximum Yearly Benefit Per Child for Behavioral Therapy or Developmental/ Relationship-Based Therapy to Treat Autism Spectrum Disorders

Behavioral Therapy		Developmental/Relationship-Based Therapy					
Age		Age	Year 1	Year 2	Year 3	Year 4	Year 5
0-3	$50,000	0-15	$10,000	$8,000	$6,000	$4,000	$4,000
4-8	$50,000						
9-12	$35,000						
13<15	$25,000						
Maximum Cost*	=$515,000*	> =$32,000					

Table adapted from OI report, available in Appendix III.

*Excludes therapy cost for children eligible for Birth-to-Three since therapies are covered under C.G.S.A. § 38a-516a.

Policies may limit BT coverage to a yearly benefit of: $50,000 for children ages 0-8, $35,000 for children ages 9-12 and $25,000 for children from 13<15. Coverage for DRBT "*shall not exceed five years' duration*" and policies may limit the maximum yearly benefit to $10,000 in the first year, $8,000 the second year, $6,000 the third year, and $4,000 in the fourth and fifth year. For illustration purposes, the OI report describes the theoretical maximum cost of BT services for all eligible years beginning at age 3 as $515,000 whereas the maximum allowed amount for five covered years for DRBT is substantially lower at $32,000. In actuality, it is not expected that children will receive the maximum amount of BT allowed over a 13-year period.

The treatments must be "*medically necessary, and identified and ordered by a licensed physician, licensed psychologist or licensed clinical social worker for an insured who is diagnosed with an autism spectrum disorder, in accordance with a treatment plan developed by a licensed physician, licensed psychologist or licensed clinical social worker pursuant to a comprehensive evaluation or reevaluation of the insured.*" To obtain coverage, S.B. 974 directs that "*prior to commencing a treatment plan*" the insured, in consultation with a qualified provider, shall elect one of three coverage options:

1. Subsection (d) which includes BT only
2. Subsection (e) which includes DRBT only, or
3. Subsection (f) which includes both BT and DRBT "*for the first year and one option for subsequent years.*" In the first year, total coverage for both treatments shall not exceed the maximum annual limits set for behavioral therapy.

Language Considerations

If the insured elects the third option under subsection (f) with both BT and DRBT in the first year, the insured must, "*prior to commencing the second year of the treatment plan and in consultation with a licensed physician, licensed psychologist or licensed clinical social worker, elect either the option for covered benefits set forth in (1) subsection (d) of this section, or (2) subsection (e) of this section. The insured shall make such election only once and in accordance with this subsection.*" The applicability of S.B. 974 to children with existing ASD diagnoses and existing ASD treatment plans is unclear. Interpretations of when or if an existing claimant could opt into the three coverage options under S.B. 974 varied across reviewers reading the proposed language. S.B. 974 requires the decision to opt into BT, DRBT or both to be made "p*rior to commencing a treatment plan.*" (S.B. 974, Line #77-85). This may be read two possible ways:

1. Children with ASDs who have a treatment plan in place prior to the effective date of the proposed

mandate would be precluded from the electing the optional benefit under this language; or

2. Children with ASDs who have a treatment plan in place prior to the effective date of the proposed mandate may make the elections set forth in S.B. 974 at any time their treatment plans are changed. Under this interpretation, there is a question as to how many times a new treatment plan implementation might trigger the elections set forth in S.B. 974.

The intended definition of treatment plan as used in S.B. 974 is unclear. This has substantial implications since "*in the second year of the treatment plan*" the insured must elect either BT or DRBT and "*the insured shall make such election only once*." (Lines 147-152). Treatment plans are discussed in terms of "*years of the treatment plan*" which may imply that a child is considered to have one treatment plan, regardless of what treatments are defined within that plan, or whether those treatment plans are changed over time.

Evaluation

To evaluate this mandate, in October 2011, the CPHHP distributed and received responses to a survey requesting policy documents (e.g., utilization review processes, parameters for defining medical necessity, etc.) and data for the proportion of members with policy exclusions, the extent of member coverage, treatments requested and approved, and claims related to diagnosis and treatment of ASDs, as specified by the mandate. Respondents included five insurers and managed care organizations (carriers) domiciled in Connecticut that cover approximately 911,000 covered lives enrolled in fully insured group and individual health insurance plans in Connecticut. Including self-funded plans, respondents cover about 77 percent (2.3 million lives) of the Connecticut population under age 65.

The CID also contracted with the actuarial firm OptumInsight (OI) to conduct a fiscal analysis of claims data for the proposed mandate. The OI analysis estimates the per member per month (PMPM) cost for fully insured group plans. The estimates are based on the potential cost increase for adding DRBT as an alternative to behavioral therapy for the treatment of ASDs. The existing components of C.G.S.A. §38a-514b are reviewed in Chapter 1 on P.A. 09-115.

Current coverage

Employer-based health plans, including fully insured and self-funded groups, do not provide coverage for the treatment of autism spectrum disorders using "developmental/relationship-based" therapies (DRBT). Although the CPHHP survey found that plans do not consider DRBT a medically necessary treatment or "evidence-based" approach, there is some evidence to suggest that DRBT may be covered so long as the session in which it is delivered does not explicitly list the approach as DRBT. For example, a licensed psychologist or licensed psychiatrist may bill for a dyadic session to work with a child and parent. Within the billable session, the therapist may deliver care using a developmental/relationship-based approach such as "Floortime" or "social stories."

Premium impact

Group plans: The projected 2012 medical cost for ASD related DRBT claims is estimated to be $0.08 per member per month (PMPM) on average. The total premium impact when including medical cost, administrative fees and profit/loss or surplus is projected to be $0.09 to $0.10 PMPM, which is less than 0.02 percent of the estimated total premium for group plans.

Individual policies: There is no anticipated change in PMPM for individual policies if S.B. 974 were implemented since the scope of coverage does not extend to individual policies.

This report is intended to be read in conjunction with the General Overview to this volume, the analysis of

P.A. 09-115 in Chapter 1 and the OptumInsight Actuarial Report, which is included as Appendix III.

II. Background

The proposed legislation, S.B. 974, introduces developmental/relationship-based therapy (DRBT) into C.G.S.A. §38a-514b as an alternative therapy option to behavior therapy (BT) for the treatment of autism spectrum disorders (ASDs) among children under the age of fifteen. Existing and proposed legislation defines these therapies as follows:

> Behavioral therapy as defined by P.A. 09-115 "*means any interactive behavioral therapies derived from evidence-based research, including, but not limited to, applied behavior analysis, cognitive behavioral therapy, or other therapies supported by empirical evidence of the effective treatment of individuals diagnosed with an autism spectrum disorder…*"
>
> Developmental/relationship-based therapy "*means a therapy for individuals diagnosed with an autism spectrum disorder, that …uses the parent-child or caregiver-child relationship as the means to remediate core deficits of autism spectrum disorders, including, but not limited to, lack of (i) interpersonal focal attention, (ii) social communication, (iii) empathy, (iv) emotional regulation, (v) self-awareness), (vi) flexible thinking, and (vii) adaptability to change;*" uses qualified consultants "*to systematically train parents or caregivers to plan interactions, interact and communicate with such children;"* and *"includes a curriculum of developmentally staged objectives that target core deficit areas of autism spectrum disorders.*"

Behavioral Therapy

The historical roots of behavioral therapy trace back to psychologist B.F. Skinner's 1938 book, "The Behavior of Organisms" which presents the theory of 'operant conditioning' based on animal studies. Operant conditioning assumes that the promise or possibility of reward or punishment for a given behavior changes the likelihood of behavior when the same or similar environmental stimulus presents in the future. Behaviorism is a theory of learning premised on all behaviors being acquired through interactions with positive or negative stimuli from the environment, known as conditioning. Behaviorism focuses on observable, describable, measurable behaviors rather than underlying psychological reasons for behavior. Ogden Lindsley, a former student and colleague of Skinner, is credited with coining the term '*behavior therapy*' to describe the use of operant conditioning theory as a therapeutic approach for behavior change among humans. In 1965, Lindsley began training educators to integrate behavior science into educational methods. He developed and introduced a charting method, the "celeration chart" to capture behavior change as acceleration or deceleration in individuals over time.[178]

Behavior management, behavior modification, and behavior analysis are terms commonly used when discussing behavior therapy (BT).[179] For many patients, a functional behavior assessment is used to track antecedents, behaviors and consequences (the ABCs) related to the desirable or undesirable behavior(s) of interest. Behavior modification involves identifying the consistent circumstances preceding ('A') and following ('C') the targeted behavior and adapting 'As' and 'Cs' to facilitate appropriate behaviors and decreasing inappropriate behaviors. Manipulation of antecedents and consequences to effect behavior is called 'shaping.' In some cases, patients are taught to substitute an appropriate behavior for an

[178] Binder, C. Ogden R. Lindsley. Association for Behavior Analysis International® Newsletter. 2005; 28(1). Accessed December 2, 2011 from: http://www.abainternational.org/aba/newsletter/vol281/ogdenlindsley.asp.

[179] National Institute of Child Health & Human Development. Autism Spectrum Disorders (ASDs). Accessed December 2, 2011 from: http://www.nichd.nih.gov/health/topics/asd.cfm.

inappropriate behavior.[180, 181] For *positive behavior support*, a style of behavior management often used in schools, functional behavior assessment is used to identify the causal factors of challenging behaviors such as aggression towards others, self-injury, tantrums or disruptive actions so procedures may be developed and applied consistently by the team of people working with a child.[182]

Cognitive Behavioral Therapy (CBT), a form of psychotherapy developed by Aaron Beck in the early 1960s, involves the therapist and patient examining and modifying the specific patterns of beliefs and behavior held by the patient to produce lasting emotional and behavioral change.[183] CBT approaches also include rational emotional behavior therapy, rational behavior therapy, rational living therapy, dialectical behavior therapy, problem-solving therapy, acceptance and commitment therapy, exposure therapy, cognitive processing therapy, cognitive behavioral analysis system of psychotherapy, behavioral activation, cognitive behavior medication and others. [184] CBT is based on the cognitive theory of psychopathology where the "*cognitive model describes how people's perceptions of, or spontaneous thoughts about situations influence their emotional, behavioral (and often physiological) reactions. Individuals' perceptions are often distorted and dysfunctional when they are distressed…[Individuals] can learn to identify and evaluate their automatic thoughts*'."[185]

According to the National Association of Cognitive Behavioral Therapists (NACBT), the therapeutic process aims to help patients recognize the point where thoughts go awry and teaches them to replace dysfunctional cognitive processes with a more reasonable or adaptive one. The therapy is goal-oriented and time-limited, with a typical course lasting from 12-16 hour-long sessions with a structured agenda for each session and homework assignments between sessions.[186] Initially used by Beck for treatment of depression, CBT has been evaluated as a successful approach for multiple mental health disorders and medical conditions in both adult and children population.[187]

Applied behavior analysis (ABA), a widely accepted therapeutic approach for treating children with ASDs, traces back to research conducted by O. Ivar Lovaas in the 1960s. ABA is used to teach children how to interact with others, play with toys, and improve their verbal and nonverbal skills. ABA is also used to eliminate problem behaviors such as self-injury or repetitive, self-stimulatory behaviors such as twirling, finger flicking, and rocking. Lovaas' is considered by many as the first researcher to show that behavior of "autistic children" could be modified with intensive teaching during early childhood, including learning of social skills, verbal behaviors and language. Commonly referred to as the '*Lovaas approach*' or 'Early Intensive Behavior Intervention' (EIBI), the therapy taught young children with autism new skills by breaking those skills into manageable small parts or steps (i.e., trials), requesting the child perform the task, requiring repetition of the small step to ensure mastery, incorporating punishment and rewards, and progressing from simple to more complex tasks over time.[188] The Lovaas approach became popularized following Lovaas' 1987 publication "*Behavioral Treatment and Normal Educational and Intellectual*

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[180] O'Leary, K.D., O'Leary, S.G. Classroom management: The successful use of behavior modification (2nd ed.). New York: Pergamon Press Inc. 1977.

[181] Zirpoli, T.J., Mellow, K.J. Behavior management: Applications for teachers and parents. New York: MacMilan: 1993.

[182] Case-Smith, J., Arbesman, M. Evidence-based review of interventions for autism used in or of relevance to occupational therapy. *American Journal of Occupational Therapy,* 62, 416-429.

[183] Beck, J.S., Beck, A.T. Cognitive Behavior Therapy: Basics and Beyond. Second Edition.(c)2011. The Guilford Press: New York, NY

[184] *Ibid.*

[185] Beck Institute for Cognitive Behavior Therapy. The history of cognitive behavior therapy. Accessed December 2, 2011 from: http://www.beckinstitute.org/what-is-cognitive-behavioral-therapy/

[186] National Association of Cognitive Behavioral Therapists. What is CBT? Accessed December 2, 2011 from: http://www.nacbt.org/whatiscbt.htm.

[187] Beck, J.S., Beck, A.T. Cognitive Behavior Therapy: Basics and Beyond. Second Edition.(c)2011. The Guilford Press: New York, NY

[188] Autism Speaks. What is Autism? Treatment. Applied Behavior Analysis. Available December 2, 2011 from: http://www.autismspeaks.org/what-autism/treatment/applied-behavior-analysis-aba.

Functioning in Young Autistic Children," a related article and subsequent book in the early 1990s.

Discrete trial training (DTT) is often considered synonymous with the Lovaas approach. DTT uses clearly defined interactions between a trainer and a subject using a typical pattern of the trainer presenting a stimulus such as a request, task or behavior to imitate, the subject's response and the trainer delivering a consequence (i.e., praise, access to a desired object, removal or a desired object, overcorrection, or ignoring).[189] In ABA, breaking down complex tasks into smaller units that can be 'shaped' more easily is known as chaining or reverse chaining. Within ABA, verbal or physical prompts or clues are also used to increase the likelihood of the child producing the desired behavior. As the child's responses trend in the desired direction, prompts are systematically decreased or 'faded.'

Traditional ABA versus Contemporary ABA

'Traditional ABA' such as the Lovaas' approach and DTT are typically highly-structured, adult-directed, regimented programs that emphasize correct responses and compliance. In 2011, the delivery of ABA to children with ASDs varies substantially across practices with a range of intervention strategies, intensity and duration of programs, methods to document progress, philosophical approach and extent of supportive research. Notably, over time there has been a trend away from regimented, discrete trials and towards a more flexible, natural approach that incorporates natural routines and activities while emphasizing social initiation and spontaneity during daily routines and activities in social settings. Programs and practitioners vary in how they apply shaping, chaining, prompting and fading, and generalization. Some behaviorists approach ABA emphasizing generalization of skills where skills are not considered fully learned until the child can successfully perform the behavior regardless of setting, conditions, prompts or the order of tasks.

'Contemporary ABA' approaches often aim to cultivate the child's motivation to relate socially and they may work to identify and attend to the underlying 'need' that a given undesirable behavior is a response to as a means to help redirect the child's behavior. One example, *incidental teaching*, restructures the environment to interest and motivate the child to participate in an activity that provides the opportunity to teach a specific task or skill. These teachable moments are planned so the child initiates the learning opportunity.[190] Another example, pivotal response therapy (PRT), introduced by Koegel and Koegel in the 1970s, focuses on pivotal areas of development such as motivation, response to multiple cues, self-management and social initiations rather than individual behaviors. One of the goals is to move the child through a "*more typical developmental trajectory*" with more social initiations and toy play and less social avoidance. PRT sessions are child-directed with the underlying expectation that participating in a desired activity makes the child more "*open and positive to the messages being taught.*" Sessions, typically for 25 hours per week, contain "*clear and uninterrupted instructions or opportunities,*" the therapist will "*reinforce or repeat the verbal cue if the child does not respond*", and "*if the child chooses the object from prompting or instructions, and that object is used*," the child receives natural reinforcers or praise.[191]

A third type of contemporary ABA is 'verbal behavior, (VB), based on Skinner's 1957 book about why we say, write and think what we do. This approach keeps "*principles of behavior in the forefront while looking at teaching as more of a fluid process predicated on the desires of the child.*" VB differs from the Lovaas approach by moving away from imperative language and introducing 'pairing' as a key part of the therapy process.

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[189] Coplan, J. Making sense of Autistic Spectrum Disorders. 03. Behaviorism, Part 3: O. Ivar Lovaas and ABA. Psychology Today. 2010 Sept. Accessed 12/20/11 from: http://www.psychologytoday.com/blog/making-sense-autistic-spectrum-disorders/201009/023-behaviorism-part-3-o-ivar-lovaas-and-aba

[190] Case-Smith, J., Arbesman, M. Evidence-based review of interventions for autism used in or of relevance to occupational therapy. American *Journal of Occupational Therapy*, 62, 416-429.

[191] Pivotal Response Treatment® For Autism. A comprehensive and Empirically Supported Treatment for Autism. Accessed 9/10/2011 from: www.koegelautism.com

Pairing involves playing with the child as a reinforcer. While pairing, the adult does not elicit or prompt behaviors.[192]

Developmental/Relationship-Based Approaches: Developmental/relationship-based approaches to treatment of ASDs (DRBT) as defined in S.B. 974, have three main components: 1) use of the parent-child or caregiver-child relationship, 2) training of parents or caregivers to "*plan interactions, interact and communicate*" with their child, and 3) use of a "*curriculum with developmentally staged objectives that target core deficit areas of autism spectrum disorders.*" A broad variety of interventions, especially in clinical practices, are designed using a developmental and/or relationship-based framework.[193] One review article described how developmental and relationship-oriented goals may be approached: "*Therapists model interactions that create problem-solving scenarios, encourage the child's sustained play, and support his or her responses. Parents are encouraged to increase their attentiveness to their child, improve their sensitivity to the child's communication attempts, and increase their positive responsiveness*."[194]

A number of trademarked programs have also been established using these types of approaches. Descriptions of DRBT provided in public hearing testimony for S.B. 974 referenced two such approaches: RDI® and DIR®/Floortime™. Research conducted for this report identified several other programs that may meet the legislative definition given in S.B. 974. One approach, The P.L.A.Y. Project, integrates the framework used for DIR®/Floortime. Several other approaches, such as The Son Rise Program[195] and SCERTS®[196] meet one or more of the components outlined in the S.B. 974 definition. However, it is unclear how external reviewers would verify whether these approaches meet all three criteria under S.B. 974.

A brief summary of the RDI®, DIR®/Floortime™ and The P.L.A.Y Project is provided as background.

The **R**elationship **D**evelopment **I**ntervention (RDI®) is a social-relationship development program designed by Steven Gutstein, Ph.D. to "*enable parents to teach 'dynamic intelligence skills' to their children" and redevelop the "guided participation relationship.*" As described by Gutstein, "*In typical development, dynamic intelligence is built through thousands of hours of a special type of adult-child collaboration referred to by developmental psychologists as the 'guided participation relationship'….an intuitive, universal process originating during the first year of life. However, in children with an ASD, guided participation either never develops or is disrupted early in the child's development.*" Dynamic intelligence skills include joint attention, sharing enjoyment with others, social collaboration, emotional awareness, real-world problem solving, social referencing, perspective taking, and use of declarative communication.[197, 198] RDI® is designed to be an investment into families, training caregivers to become "guides" in the guided participation relationship.

The RDI® Family Consultation Program, started in 2001, involves the creation of an individual plan that focuses first on reducing bio-psychosocial obstacles that prevent the guided participation relationship between caregiver-child and then provides caregivers with tools for "*successful parent-child guiding engagements to occur.*" "Parent Readiness" and the "Guided Participation Program" are two types of training used in RDI®. "*Essential elements of the [parent readiness] program include providing a meaningful*

[192] Play Connections Autism Intervention Center. ABA/VB vs. RDI. Accessed 10/25/2011 from: www.playconnections.com/abavb_vs_rdi

[193] Case-Smith, J., Arbesman, M. Evidence-based review of interventions for autism used in or of relevance to occupational therapy. *American Journal of Occupational Therapy*, 62, 416-429.

[194] *Ibid*.

[195] Autism Treatment Center of America. Hope for Every Child-The Son-Rise Program. Accessed 10/25/2011 from: http://www.autismtreatmentcenter.org/

[196] The SCERTS® Model. Welcome to the SCERTS® Model Website. Accessed 10/25/2011 from: http://www.scerts.com/

[197] RDIconnect Inc. Accessed 10/20/2011 from: http://www.rdiconnect.com/pages/home.aspx

[198] Gutstein, S. Empowering families through relationship development intervention: an important part of the biopsychosocial management of autism spectrum disorders. *Annals of Clinical Psychiatry*. 2009; 21(3): 174-182.

quality of life for each family member, learning to set and maintain appropriate limits, maintaining a healthy marriage, and finding time to slow down routine daily activities."[199] The next stage, guided participation, has more than 40 objectives such as learning how to alter communication style. RDI® consultants train the caregiver(s) to focus on the process of interaction rather than the outcome and how daily activities can be modified into reachable cognitive challenges at the "edge" of their child's level of competence.[200] Through this training, parents also learn to integrate activities provided by their RDI® consultant into everyday life, how to document and analyze progress, and how to use the RDI® "operating system" for online charting, educational tools, a virtual community and ongoing communication with their consultant between sessions. The online system allows parents to upload videos of their efforts and receive consultant feedback.

The **D**evelopmental, **I**ndividual difference, **R**elationship-based (**DIR®**) Model focuses on building "*healthy foundations for social, emotional, and intellectual capacities*" and emphasizes the role of parents. Developed by Stanley Greenspan, M.D., and Serena Weider, Ph.D., DIR® offers a theoretical multidisciplinary framework for approaching the treatment of children with developmental issues including, but not limited to, ASDs.[201] The model provides guidance for a clinician, educator or parent to conduct a comprehensive assessment to identify the developmental strengths and challenges of the given child and then to design a tailored intervention program that builds on strengths while addressing challenges. Programs aim to help children with communication disorders improve social reciprocity and functional/pragmatic communication. The intervention programs account for the child's natural emotions and interests, relationships, and individual differences focusing on the child's skills in all developmental areas, including social-emotional functioning, communication, thinking and learning, motor skills, body awareness and attention.

Floortime™ is a key intervention used under the DIR® model with a recommended six to ten 20-minute sessions per day. During a session, the therapist, teacher or parent follows the lead of the child during spontaneous play helping the child to move through six developmental milestones. The approach encourages reciprocal interactions and the linking of behavior with intention rather than external rewards such as those given during many behavioral therapy programs. Through child-directed play, often on the floor, the goal is to help the child achieve "*spontaneous interactive behaviors that are purposeful and intentional*" rather than directing the child with step-by-step instructions to complete specific tasks.[202]

The **P**lay and **L**anguage for **A**utistic **Y**oungsters (**P.L.A.Y.**) Project, created by Rick Solomon, M.D., incorporates the DIR®/ Floortime™ approach into a "low-cost" approach for children from 18 months to 6 years old. The intervention uses P.L.A.Y. trained consultants to teach parents techniques that are "*effective, fun, and useful in day-to-day interactions with their child with autism*" and 3-hour long home visits every four to six weeks to provide "*intensive, one-on-one, play-based services*" for the child.[203] The P.L.A.Y. project offers trainings to individuals and agencies, with the option of an agency or consultant certification. It is important to note that implementation may vary widely across providers and settings. Furthermore, although P.L.A.Y. applies the DIR® theoretical framework, certification by the P.L.A.Y. project does not require completion of the DIR®/Floortime™ certification.

The average annual cost of Solomon's pilot P.L.A.Y Project Home Consultation Program (PPHC) which

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[199] *Ibid.*

[200] Gutstein S, Burgess A, Montfort K. Evaluation of the relationship development intervention program. *Autism*. 2007; 11(5):397-411.

[201] Interdisciplinary Council on Developmental and Learning Disorders. DIR®/Floortime Model. Accessed 10/20/2011 from: http://www.icdl.com/dirFloortime/overview/index.shtml

[202] Interdisciplinary Council on Developmental and Learning Disorders. DIR®/Floortime Model. Accessed 10/20/2011 from: http://www.icdl.com/dirFloortime/overview/index.shtml

[203] The PLAY Project®. Play and Language for Autistic Youngsters. Accessed 10/20/2011 from: http://www.playproject.org

included 10 home visits from a P.L.A.Y. consultant cost $2,500.[204] The PPHC provided participants with 1 month of training and supervision in DIR® theory and practice, monthly home-visits from a consultant, a review of parent-recorded videotapes of parent-child interactions, written project objectives, a detailed training manual for parents, and a one-day parent workshop.[205] Participating parents were presented with a seven-step skill sequence:

1. Principles of play-based intervention and how to strategically apply principles to a child's preferred way of relating, sensory motor preferences and deficits, and current levels of functional development;
2. Assessment of child's unique profile using the learned principles;
3. Examples of activities likely to be engaging for the child;
4. How to read the child's intentions in order to increase reciprocal interaction;
5. Specific techniques on how to follow child's lead via parent modeling of consultants doing a skill sequence;
6. How to incorporate video assessment as an immediate feedback tool to see how they are relating to child; and,
7. How to refine curriculum, methods and techniques as child progresses through the functional development hierarchy.

Provider Certification and Licensure

Provider certification and licensure requirements for behavioral therapy and DRBT differ under S.B. 974. S.B. 974 allows behavioral therapy to be "*provided or supervised by (i) a behavior analyst who is certified by the Behavior Analyst Certification Board, (ii) a licensed physician, or (iii) a licensed psychologist." Unlike BT, a licensed physician or licensed psychologist is not a listed option for delivering DRBT. DRBT "uses persons… certified as consultants in such therapy.*" A number of certificates that may be DRBT-relevant are available. However, S.B. 974 does not offer definitive language to determine which ones would be considered qualifying certificates. This differs from BT where the Behavior Analyst Certification Board, is listed as the certifying body for behavior analysts. Notably, certification requirements show wide variation in required educational background, duration of training, supervised fieldwork and certificate requirements across the types of DRBT certificates and also between the board certified behavioral analyst and DRBT certificates.

- **Board Certified Behavior Analyst (BCBA):** The individual must have a master's degree in behavior analysis or a related degree, 255 hours of graduate level coursework covering specific topic areas at a higher education institution, 1,500 hours of supervised fieldwork (75 with direct supervision) and successful completion of a certification exam.
- **RDI® consultant:** The individual must have a bachelor's degree, read The RDI® Book, attend an introductory workshop and 4-day beginner, intermediate and advanced-level seminars, and complete supervised fieldwork with two families. The program lasts about 18 months.
- **DIR®/Floortime™ consultant:** The individual must be a licensed/certified professional from education; speech, occupational or physical therapy; clinical social work; nursing, pediatrics; child, developmental or clinical psychiatry or related field. The certificate is issued under the professional license held by the individual. The program requires an introductory workshop, seminars at the beginner, intermediate and advanced level lasting 3 full-days each, supervised fieldwork, and successful case presentations at the seminars. The program takes approximately 18 months to

[204] Solomon R, Necheles J, Ferch C, Bruckman D. Pilot study of a parent training program for young children with autism. The PLAY Project Home Consultation program. Autism. 2007; 11(3):205-224.

[205] *Ibid.*

complete but the extent of fieldwork required is unclear.

- **The P.L.A.Y. Project consultant:** The individual must attend a 4-day intensive training followed by video supervision and fieldwork with at least 10 cases over 12 months.

Provider Supply in Connecticut

As of December 2011, the Behavior Analyst Certification Board lists 197 individuals with BCBAs in Connecticut. The RDI®, DIR®/Floortime™ and The P.L.A.Y. Project programs list a combined total of eight individuals with certification. Of the DRBT consultants in the state, six are in southwestern Connecticut (Fairfield, Stamford, North Haven and Norwalk), one RDI® consultant is in Avon and a DIR®/Floortime™ consultant is in Old Saybrook. This suggests that Connecticut may lack sufficient "qualified" providers for DRBT methods.

III. Methods

CPHHP staff gathered published articles and other information related to medical, social, economic, and financial aspects of the required benefit for diagnosis and treatment of ASDs. Databases oriented towards health, education, economics and psychology professions, including PubMed, PsycInfo, UptoDate, DynaMed, Cochrane database, ECONLit via EBSCOhost, and ERIC via EBSCOhost were queried for related articles. All searches were set to identify articles with autism or autistic in the title/abstract fields. The initial search for articles on diagnosis and treatment of ASDs was limited to articles published in the last 10 years, systematic reviews, meta analysis, randomized controlled trials, and clinical trials. Title/abstract searches incorporated a combination of autism or autistic with each of the following words: therap*, parent*, family, father, mother, DIR, RDI, applied behavior* analysis, TEACCH, floortime, floor time, Lovaas, UCLA, Denver, SCERTS, relationship-based, counsel*, psychi*, therapy, occupational, diagnosis, diagnostic and test. The * expands the search to include related word endings (e.g., therapist, therapists, therapy, therapies, therapeutic). To explore cost, utilization and effectiveness, the autism wild card in combination with utilization, usage, use, insurance, insure, cost, access, and health service was used as title/abstract search terms.

Staff gathered additional information through telephone and e-mail inquiries to appropriate state, federal, municipal, and non-profit entities and from internet sources such as the Centers for Medicare and Medicaid (CMS) website, other states' websites, and non-profit and community-based organization websites. Google was also used to search web sites of carriers, state government (e.g., www.ct.gov), and professional organizations for policies or proposals related to the diagnosis and treatment of ASDs.

CPHHP staff also consulted with administrative staff from the Connecticut Birth to Three System and the Division on Autism Spectrum Disorders within the Department of Developmental Services (DDS), the Connecticut Department of Education Bureau of Special Education, and the Department of Social Services regarding the prevalence of, availability and use of therapies by children diagnosed with an autism spectrum disorder. The CPHHP staff also consulted as needed with clinical faculty from the University of Connecticut's School of Medicine on matters pertaining to medical standards of care, traditional, current and emerging practices, and evidence-based medicine related to the benefit.

With the assistance of the Connecticut Insurance Department (CID), CPHHP requested and received 2009 and 2010 coverage, plan enrollment and claims data from five insurance companies and managed care organizations (MCOs), referred to as "carriers," domiciled in Connecticut. Five carriers provided coverage and claims data for their fully insured group plans and five provided coverage and enrollment data for self-funded groups for which they provide administrative services only. Responding carriers account for

approximately 90 percent of covered lives under fully insured group plans and self-funded plans.

CPHHP and the CID contracted with the actuarial firm OptumInsight (OI) to provide actuarial and economic analyses of the mandated benefit. OI analyzed 2010 data received from Connecticut domiciled health plan carriers and OI's in-house national and Connecticut-specific claims data from 2009 and 2010 to assess utilization and cost of services provided for the treatment of ASDs. The full OI report is available in Appendix III.

IV. Social Impact

1. The extent to which developmental/relationship-based approaches to treatment for ASDs are utilized by a significant portion of the population.

Children with ASDs comprise an estimated 0.17 to 0.27 percent of the overall population under age 65 in Connecticut. Within the Connecticut population of children ages 3 to 15, an estimated 0.9 percent are on the autism spectrum.[206] Children receiving medical treatment for ASD represent an even smaller portion of the Connecticut population. The OI analysis of medical claims for children with ASD related diagnosis codes in the first three positions found a medical utilization rate of 0.2 percent.

The literature search conducted for this study did not identify any national or Connecticut data on use of developmental/relationship-based approaches to treatment. The search identified two articles describing the prevalence of service utilization for behavioral, developmental/relationship-based, or integrative intervention approaches to treatment in a North Carolina sample. The articles reported two-thirds of families in the sample used a behavioral, developmental-relationship-based or integrative intervention and treatment approach for their child with an ASD. Over half of the families reported use of the TEACCH model, the predominant model used in North Carolina, which was the location of the study. The TEACCH model combines clinical services, parent training, parent support groups, social play, recreation groups, and individual counseling. 17 percent reported receiving applied behavior analysis and 7 percent reported Lovaas' behavior-based approach (discrete trials). 10 percent reported "floor time" and 8 percent reported a different developmental-relationship based approach. Notably, within the sample, 21 percent of families used two or more approaches, and 30 percent of families of the youngest children (aged 4 and under) used more than one approach, compared to 11 percent of families of the oldest children (aged 9-11).[207, 208] Reported participation in play therapy ranged from 16 percent for children four and younger, and between 6 percent and 7 percent for children ages 5-11. 15 percent of parents with children between the ages of 9-11 reported participating in parent training compared to 12 percent of parents of children ages 5 to 8, and 7 percent of parents of children ages 4 and under. [209]

2. The extent to which developmental/relationship-based approaches to treatment for ASDs, is available to the population, including, but not limited to, coverage under the following state agencies and public programs, including, but not limited to, coverage under Medicare, or through public programs administered by charities, public schools, the Department of Public Health, municipal health departments or health districts or the Department of Social Services.

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[206] Data Accountability Center. Individuals with Disabilities Education Act (IDEA) Data. Accessed 10/5/2011 from: https://www.ideadata.org/default.asp.

[207] Thomas, K.C., Morrissey, J.P., McLaurin C. Use of autism-related services by families and children. *Journal of Autism and Developmental Disorders*. 2007; 37: 818-829.

[208] Thomas, K.C., Ellis, A.R., McLaurin, C., Daniels, J., Morrissey, J.P. Access to care for autism-related services. *Journal of Autism and Developmental Disorders*. 2007; 37:1902-1912.

[209] *Ibid.*

No specific resources were identified that suggest uniform provision of developmental/relationship-based therapy (DRBT) through state agencies or public programs, including public schools. However, conversations with DRBT providers conducted for this review suggest that in some cases, children do access DRBT through DDS or the school system. Under DDS, it appears that while DRBT may be covered to some extent, this therapeutic approach tends to be offered based on caregiver request than agency initiated. Also, although a handful of school systems appear to contract for Floortime™, a DRBT approach, this is not the norm and it is unclear whether the parent-training component is incorporated into school-system models.

3. The extent to which insurance coverage is already available for developmental/relationship-based approaches to treatment for ASDs.

Carrier responses to the CPHHP survey indicate that developmental/relationship-based therapies (DRBT) are not a covered therapy. One carrier commented that, "*This change [S.B. 974] would impact all plans and customers because [we] consider DRBT experimental and investigational and [DRBT] is not standardly included as a covered benefit.*" The lack of DRBT as a covered benefit is also reflected in another carrier's comment, "*DRBT is a method of therapy with no associated CPT or procedure coding.*"

Although DRBT is not a covered service, interviews with carriers and DRBT providers suggest that if such services are billed for through an approved provider (i.e., a properly licensed psychologist, psychiatrist, occupational therapist, speech therapist, etc.) using an existing CPT or procedure coding, carriers usually cover the treatment. However, a CPHHP follow-up conversation with one carrier indicated that if a recognized form of DRBT such as "Floortime" were indicated in session notes or related paperwork, coverage would be denied. While it appears that there is the potential to access insurance coverage for DRBT despite contrary carrier policy, not all DRBT providers hold a license recognized by insurance carriers nor are they comfortable delivering services under the "supervision" of a provider with a recognized license not trained in DRBT methods.

4. If the coverage is not generally available, the extent to which such lack of coverage results in persons being unable to obtain necessary health care treatment.

As explained in the report on P.A. 09-115 the mandate for coverage of diagnosis and treatment related to ASDs, opinions vary dramatically across stakeholders regarding the definition of "necessary health care treatment." Caregivers often pursue a myriad of treatment options, all of which they likely consider a necessary avenue to potentially improve the symptoms experienced by their child. Under the current mandate, C.G.S.A. §38a-514b, those enrolled in fully insured group plans have coverage for behavioral therapy, counseling, physical therapy, speech therapy, and occupational therapy. These therapies can be included as part of a treatment plan for a child with ASD. However, behavioral therapy, especially applied behavior analysis, is not appropriate for all children with ASD, given the heterogeneity of symptoms, comorbidities and condition severity. The delivery and therapeutic goals of behavioral therapies can differ dramatically from developmental/relationship-based therapy (DRBT) approaches, especially as DRBT is defined under S.B. 974. If a family or caregiver of a child with ASD wishes to pursue DRBT, lack of a mandate may translate into difficulty accessing the therapy in circumstances where the DRBT provider is not an approved, licensed provider under the child's health plan who can submit claims using carrier-accepted billing codes.

5. If the coverage is not generally available, the extent to which such a lack of coverage results in unreasonable financial hardships on those persons needing treatment.

The frequency of visits provided under developmental/relationship-based approaches varies based on the

DRBT method used and the treatment needs of the child and family. The financial burden may vary based on the DRBT method and if the provider holds additional health care or educator qualifications. For this report, CPHHP discussed how services are provided with several providers in Connecticut. In some cases, providers do offer sliding fee scales for their services if insurers cannot be billed for the session(s). Below are two potential cost scenarios for different developmental/relationship-based therapeutic approaches.

- *Example A*: The initial year of DIR®/Floortime™ often involves weekly visits for approximately one hour. Assuming a fee of $150 per visit and weekly visits over 50 weeks, the annual cost could potentially reach $7,500. In any subsequent year(s), the expectation is that the frequency of visits decreases as the family learns how to apply what they learn during sessions at home. For families attending sessions twice per month, the annual cost would be $3,800.

- *Example B*: The following example was created using information from Autism Family Services, L.L.C., a RDI® Program in Connecticut. During the initial six months of the program a family usually starts with 1-2 hours of training per week and in subsequent months the hours decrease to 2-4 per month. At a fee of $80 to $100, the first year would cost between $3,040 and $7,600. Any subsequent 12-month period(s) with 2-4 visits per month would cost between $1,920 to $4,800.

This amount would be a considerable financial burden to most families. For example, if paying the cost out-of-pocket, a family with the 2010 median income in Connecticut's poorest county would be paying up to 13.3 percent of their annual income in the initial year and approximately 6.7 percent of the family income in subsequent years.[210]

6. The level of public demand and the level of demand from providers for developmental/ relationship-based approaches to treatment for ASDs.

Based on public hearing testimony for S.B. 974, there appears to be some demand from caregivers of children with ASD for treatment of ASDs using developmental/relationship-based approaches. Testimonies in support of the bill were submitted by the Autism Society of Connecticut (ASCONN) and seven parents of children with an ASD diagnosis who benefited from DIR/Floortime or RDI, two developmental/ relationship-based approaches to treatment. In addition, the American Academy of Pediatrics (AAP) clinical report "Management of Children with Autism Spectrum Disorders" describes developmental models and relationship-focused models as approaches used for treating children with ASDs.[211]

7. The level of public demand and the level of demand from providers for insurance coverage for developmental/relationship-based approaches to treatment for ASDs

Public hearing testimonies in favor of S.B. 974 were submitted by the Autism Society of Connecticut (ASCONN), seven parents of children with ASD, and a few providers of DRBT. However, a subset of providers, Board Certified Behavior Analysts (BCBAs), opposed insurance coverage for developmental/ relationship-based approaches. No other provider groups testified for or against S.B. 974.

Please note that public hearing testimonies in support of developmental/relationship-based approaches to treatment of ASD are not necessarily representative of whether the general public or broader health care community supports insurance coverage for all therapies and purposes described in the mandate language.

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[210] http://www.census.gov/cgi-bin/saipe/saipe.cgi

[211] Myers SM, Johnson CP. 2007. Management of children with autism spectrum disorders. *Pediatrics* 120(5): 1162-82.

8. The likelihood of achieving the objectives of meeting a consumer need as evidenced by the experience of other states.

According to the National Conference of State Legislatures (NCSL), 33 states and the District of Columbia "have laws related to autism and insurance coverage."[212] At least 26 states (Arizona, Arkansas, Colorado, Connecticut, Florida, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Massachusetts, Missouri, Montana, Nevada, New Hampshire, New Jersey, New Mexico, Pennsylvania, South Carolina, Texas, Vermont, Virginia, West Virginia and Wisconsin) specify that insurers must provide coverage for the treatment of autism while the remaining states may require limited coverage for autism under mental health coverage, parity or other laws. The bulk of autism-specific laws have been adopted between 2007 and 2011.[213] Among the states requiring health plans to cover treatment of autism, coverage varies in terms of maximum benefits, age of eligibility and types of services covered.[214] No mandates were identified specific to covering developmental/relationship-based approaches to treatment. However, many state mandates require coverage for habilitative therapies. Habilitative therapies are generally defined as therapies necessary to develop or maintain the functioning of an individual, to the maximum extent practicable, the functioning of an individual.[215] There is some potential that DRBT may be covered as a habilitative therapy.

9. The relevant findings of state agencies or other appropriate public organizations relating to the social impact of the mandated health benefit.

Thirty states require a fiscal note or an additional review process for any new required health insurance benefit prior to enactment.[216] The CPHHP review included states that have or had an established process for studying mandated health insurance benefits and states identified as having an ASD mandate. At least 19 states plus the District of Columbia have published ASD-related mandated benefit reviews but none of the mandates reviewed involve offering a developmental/relationship-based approach to therapy as a substitute for behavioral therapy. One report, commissioned by Autism Speaks from consulting firm Oliver Wyman, reviews a proposal from the District of Columbia. The proposal would have extended coverage of treatment to include RDI and developmental approaches as well as ABA and other habilitative care up to an annual maximum of $55,000 for individuals under age 21. A premium increase of 0.23 to 0.55 percent was anticipated along with some cost recovery through reductions in future education and medical expenditures.[217] This estimate is higher than what is reported for the Connecticut estimate since the utilization and consumption levels assumed are higher and the estimate extends beyond DRBT to include other components of the proposal.

10. The alternatives to meeting the identified need, including but not limited to, other treatments, methods or procedures.

Policy statements from provider associations appear to support a team approach where different treatments are integrated as needed to address the medical and social needs of an individual diagnosed with an ASD. Statements do not indicate one treatment approach should be substituted for another. In the 2001 report

[212] National Conference of State Legislatures. Insurance coverage for autism. Accessed September 27, 2011 from: http://www.ncsl.org/?tabid=18246.

[213] *Ibid*.

[214] Kaminski JL. Insurance coverage for autism. OLR Research Report. 2006-R-0793. December 27, 2006. Accessed September 27, 2011 from: http://www.cga.ct.gov/2006/rpt/2006-R-0793.htm.

[215] The 187th General Court of The Commonwealth of Massachusetts. Acts 2010. Chapter 207. An act relative to insurance coverage f or autism. Accessed 11/29/2011 from: http://www.malegislature.gov/Laws/SessionLaws/Acts/2010/Chapter207.

[216] National Conference of State Legislatures. Health insurance coverage mandates: Are they too costly? Presentation at the Louisiana Department of Insurance 2009 Annual Health Care Conference. 2009. Accessed 5/7/2010 from: http://www.ncsl.org/portals/1/documents/health/MandatesCauchi09.pdf.

[217] Lambright, M. Actuarial cost estimate: District of Columbia Council. Health insurance coverage for children with autism act of 2009. Oliver Wyman Actuarial Consulting, Inc. 2010 June.

issued by the National Research Council of the National Academy of Sciences, the best approach is to "*tailor the treatment approach to the unique features of the child*" and adopt early intensive interventions. S.B. 974 opens up the option of DRBT services in lieu of behavioral therapy. According to public hearing testimony and many existing DRBT programs, this option is important because for some children the existing covered option, behavioral therapy, may not be appropriate or effective whereas DRBT could be helpful. For further discussion about alternative treatments for ASDs, please refer to the background section of the CPHHP analysis of P.A. 09-115 in Chapter 1.

11. Whether the benefit is a medical or broader social need and whether it is consistent with the role of health insurance and the concept of managed care.

It is possible to conceptualize treatments described under S.B. 974, including developmental/relationship-based approaches to treatment of ASDs as meeting a medical or a broader social need. Ultimately, whether the mandate is consistent with the concept of health insurance or managed care is defined largely by how a person conceptualizes the role of the health care system. This debate is described further in the CPHHP review of P.A. 09-115 in Chapter 1.

12. The potential social implications of the coverage with respect to the direct or specific creation of a comparable mandated benefit for similar diseases, illnesses, or conditions.

Enacting S.B. 974 may have potential implications for the creation of comparable mandates specific to other neurodevelopmental conditions or in the extension of existing mandates to include additional therapeutic approaches. In recent years, multiple health benefit mandates have been passed into law in Connecticut, including two related to the treatment of ASD. Both ASD-related mandates are comparable to other Connecticut mandates that require coverage based on a certain medical condition, a specific type of therapy, set dollar thresholds to coverage for certain therapies or supplies, or cover a special education related service, such as Birth to Three.

13. The impact of the benefit on the availability of other benefits currently offered.

The eligible population is small due to the low population prevalence of ASD. The impact is further limited given that only about one out of four children with ASD are enrolled in a fully insured group plan. S.B. 974 adds the option of developmental/relationship-based approaches to treatment in lieu of behavioral therapy. Prior to entering the second year of a treatment plan, a family must select either the behavioral or developmental approach to therapy. However, a reduction in benefits, other than behavioral therapy, is not anticipated under S.B. 974 due to the relatively low medical cost of $0.08 on a PMPM basis. It is unlikely that use of PT, OT, ST, psychological and psychiatric treatments and medications would change with the addition of the DRBT alternative to BT.

14. The impact of the benefit as it relates to employers shifting to self-insured plans and the extent to which the benefit is currently being offered by employers with self-insured plans.

S.B. 974 as proposed would play a minimal role, if any, on employers shifting from fully insured to self-funded plans. As estimated by OI, the option of substituting developmental/relationship-based approaches to treatment of ASDs would increase premiums by approximately 0.02 percent of total premiums in 2012. For employer-based coverage, on average the employer contributed approximately 77 percent of the mean total premium cost in 2010.[218] It is also important to note that rather than switching to self-funded, changing employee contributions to health premiums or other out-of-pocket expenses is an alternative reaction employers may take when faced with rising health care costs. However, given the relatively small contribution S.B. 974 would make on total premiums and the fact that the employer typically does not fund

[218] Medical Expenditure Panel Survey. Private-Sector Data Premium, Contribution and Cost Distributions. 2010.

the entirety of the premium, it is not anticipated that this mandate alone would contribute to employers shifting to self-funded plans.

On the other hand, it is worth mentioning that self-funded plans do appear to be more limited in the extent of benefits offered for diagnosis and treatment of ASDs. On the CPHHP survey of ASOs, fewer than 3 percent of lives under self-funded plans had coverage commensurate with P.A. 09-115 during 2010, only 4 percent of lives under self-funded plans during 2009 had some coverage for behavioral therapy and no plans covered developmental/relationship-based approaches to treating ASDs.

15. The impact of making the benefit applicable to the state employee health insurance or health benefits plan.

The state employee health insurance/benefit plans were subject to the diagnosis and screening requirement under P.A. 09-115 as of the implementation date of January 1, 2010 up until July 1, 2010 when Connecticut transitioned from being fully insured to self-funded health plans. As a self-funded group, the State of Connecticut is exempt from state health insurance mandates under the federal Employee Retirement Income Security Act (ERISA) law. Assuming that the State plans continue to comply with state mandated benefits and that Connecticut adopts S.B. 974, the social impact of the benefit for the approximately 162,326 covered lives in state employee plans and 16,616 state retirees not enrolled in Medicare[219] is expected to be the same or similar to the social impact for persons covered in non-state employee health insurance plans as discussed throughout Section IV of this report. In terms of financial impact, if the state employee health insurance/benefit plans extends ASD coverage to include the developmental/relationship-based approach as an alternative treatment, the OI report estimates the total paid medical cost to the state employee health plan at $170,515 in 2012 in addition to the cost of behavioral therapy, which the state currently covers. The combined paid medical cost of behavioral therapy and the proposed alternative projected for 2012 is $1,023,091.

16. The extent to which credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community determines the treatment, service or equipment, supplies or drugs, as applicable, to be safe and effective.

The scientific evidence for developmental/relationship-based approaches to therapy is generally considered by the medical community to be limited despite positive findings. The American Academy of Pediatrics (AAP) report, "*Management of Children with Autism Spectrum Disorders*" summarizes developmental and relationship-focused intervention models as potential treatments for ASDs.[220] The AAP refers to the body of scientific evidence for using a developmental approach as follows:

> "*Several studies have demonstrated improvements in cognitive, motor, play and social skills beyond what would be expected on the basis of initial developmental rates in children who are treated according to the Denver model, but controlled trials are lacking.*"

For relationship-focused approaches, the AAP report finds,

> **DIR/Floortime**: "*Published evidence of the efficacy of the DIR model is limited to an unblended review of case records (with significant methodologic flaws, including inadequate documentation of the intervention, comparison to a suboptimal control group, and lack of documentation of treatment integrity and how outcomes were assessed by informal procedures) and a descriptive follow-up study of a small subset (8 percent) of the original group of patients.*"

[219] Personal communication. Tracy Dunn, Rae-Ellen Roy, State of Connecticut Comptroller's Office. December 27, 2011.

[220] Myers SM, Johnson CP. 2007. Management of children with autism spectrum disorders. *Pediatrics* 120(5): 1162-82.

RDI: "*Some reviewers have praised the face validity of this model (RDI), which targets the core impairment in social reciprocity. However, the evidence of efficacy of RDI is anecdotal; published empirical scientific research is lacking at this time.*"

Responsive Teaching (RT): "*One study reported beneficial effects of RT on young children with ASDs or other developmental disabilities. Although a control group was lacking and the potential role of concurrent educational services was unclear, the improvements were beyond what the authors expected from maturational factors alone.*"

Case-Smith and Arbesman (2008) reviewed ASD-related interventions with potential relevance to occupational therapy and concluded that all identified studies on developmental approaches found positive effects across multiple developmental domains. Despite positive findings, the evidence of effectiveness was considered weak because of study design issues such as lack of an adequate control group, short-term study designs or lack of a representative sample.[221] Consistent comments were also made in a Cochrane Systematic Review of parent-mediated interventions (e.g., Parent Child Interaction Therapy) that identified only two small studies. The studies provided some evidence of benefit to participating children and parents but concluded that large-scale, randomly controlled trials with both short- and long-term outcome information would be needed to evaluate which children would benefit from this approach.[222]

V. Financial Impact

1. The extent to which the mandated health benefit may increase or decrease the cost of the treatment, service or equipment, supplies or drugs, as applicable, over the next five years.

Adequacy of available data limits the ability to provide a five year projection for changes in treatment cost. Under fully insured group plans the total amount paid for developmental/relationship-based approaches to treating ASDs (DRBT) among children from age 3 to 15 will likely increase over the next five years if S.B. 974 is enacted. The impact of the mandate on the increase in cost depends on the change in unit cost and how utilization of reimbursable services changes following the mandate. OI projects that adding the DRBT option to the ASD mandate would add $0.08 PMPM in paid medical cost to fully insured group health plans in 2012. It is important to note that for the initial year with an ASD treatment plan, children can receive both DRBT and behavioral therapy up to the mandated age-determined threshold for care.

Over a five-year time span, it is possible that a cost increase or decrease could occur. The impact on cost will depend on: 1) how many children with ASD opt into DRBT who would not have selected behavioral therapy, 2) how many children switch from behavioral therapy to DRBT, 3) the average annual cost of treatment per child receiving behavioral therapy, 4) the average annual cost of treatment per child receiving DRBT, 5) the average age children begin a treatment plan, and 6) the average number of years a child continues a behavioral therapy or DRBT treatment plan.

Unrelated to the mandate, total cost paid for services is likely to increase along with medical inflation, ASD prevalence and spikes related to early diagnosis initiatives. However, it is important to note that if fewer employers offer coverage to employees for their children, the total PMPM amount paid for this mandate would decrease since there would be fewer eligible children using the covered services.

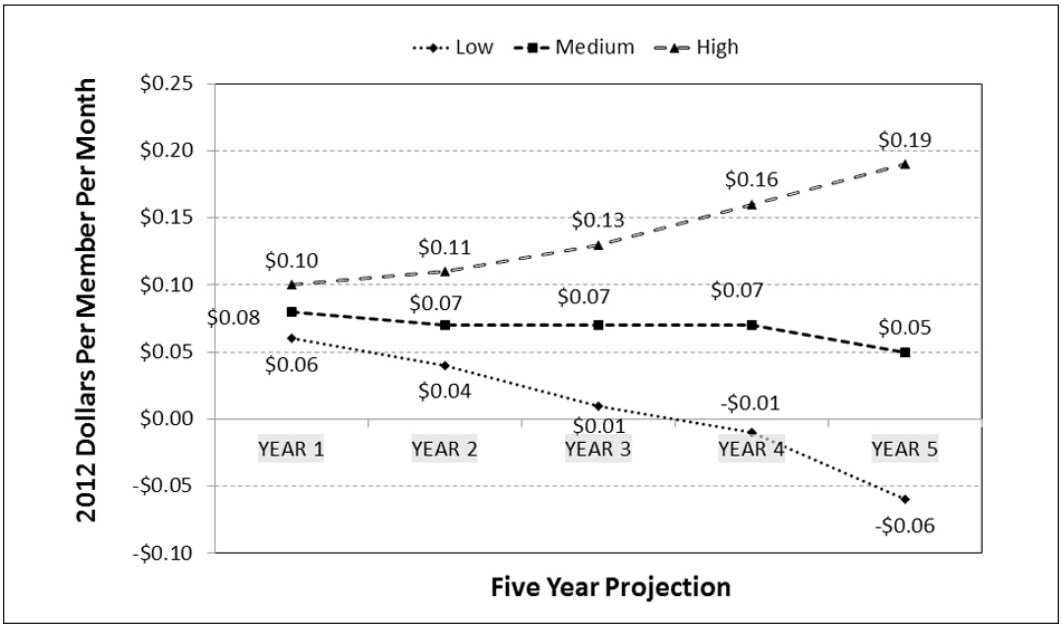
The OI actuarial report projected PMPM cost from 2012 to 2016 for the developmental/relationship-based

[221] Case-Smith, J., Arbesman M. Evidence-based review of interventions for autism used in or of relevance to occupational therapy. The *American Journal of Occupational Therapy*. 2008; 62(4): 416-429.

[222] Diggle, TTJ., McConachie HHR. Parent-mediated early intervention for young children with autism spectrum disorder. *Cochrane Database of Systematic Reviews* 2002, Issue 2. Art. No.: CD003496. DOEI: 10.1002/1461858.CD003496.

therapy requirement. Figure 2.1, below, combines OI data on P.A. 09-115 and S.B. 974 to illustrate the potential change in cost of coverage over a five year period for both behavioral therapy and developmental/ relationship-based approaches as described in S.B. 974. The estimates include a normal PMPM trend of 6 percent to 8 percent and an additional utilization increase of 8 percent to 15 percent.

Figure 2.1. Projected Change in PMPM Cost for Behavioral Therapy and Developmental/ Relationship-Based Therapy over Five Years (2012-2016).



2. The extent to which the mandated health benefit may increase the appropriate or inappropriate use of the treatment, service or equipment, supplies or drugs, as applicable, over the next five years.

Adequacy of available data limits the ability to provide a five-year projection for changes in utilization of ASD-related health care. Depending on the stakeholder group, DRBT may or may not be considered an appropriate treatment.

Over the next five years, it is anticipated that more children with ASD diagnoses will access DRBT through fully insured group health plans. It is also expected that the average number of services over the course of the five-year period will increase as awareness of coverage spreads and more qualified providers become available. The extent to which this represents an increase in using DRBT depends on 1) if the child accessed the therapy through other sources before the mandate, and 2) whether the family is accessing more hours of DRBT with the mandate in place than they did previously through alternative funding mechanisms.[223] The OI five year cost projections assume a normal PMPM trend of 6 percent to 8 percent and an additional utilization increase of 8 percent to 15 percent for use of DRBT.

3. The extent to which the mandated health benefit may serve as an alternative for more expensive or less expensive treatment, service or equipment, supplies or drugs, as applicable.

Policy statements from provider associations do not indicate one treatment approach should be substituted

[223] Notably, even accounting for prevalence trending upwards at an increasing rate, the potential for additional spikes in prevalence from early diagnosis initiatives, and BT uptake rising to 50 percent, the total number of children receiving BT under the mandate would likely be fewer than 700.

for another. Overall, DRBT is expected to be less expensive than behavioral therapy and behavioral therapy is anticipated to be more expensive than use of physical therapy, occupational therapy and speech therapy as treatments for ASDs. On an annual basis, DRBT is projected to cost $0.08 PMPM in 2012, behavioral therapy is projected to cost $0.40 PMPM and the paid medical cost of coverage for PT, OT and ST for the treatment of ASDs is estimated at about $0.03 PMPM. Under S.B. 974, either behavioral therapy or DRBT would be added to a treatment plan that may include PT, OT and ST. Based on maximum allowable thresholds proposed under S.B. 974, DRBT appears to be a less expensive treatment than behavioral therapy. However, claims data on behavioral therapy suggests that average utilization falls substantially lower than the maximum thresholds. Without utilization data on DRBT, it is not possible to compare the average costs of these therapies to one another. On the other hand, it is not clear that those who would pursue DRBT under S.B. 974 would use behavioral therapy if they could not access DRBT. It is also unclear to what extent families would consider behavioral therapy and DRBT as having equivalent value for their child.

4. The methods that will be implemented to manage the utilization and costs of the mandated health benefit.

Benefit plan limitations and review processes are common strategies used to control utilization and costs. In many cases, benefit plans include a maximum allowable benefit for duration of treatment, number of visits or reimbursement thresholds. Plan structure may also control costs and utilization by requiring the covered individual to pay a percent of the service or treatment cost (coinsurance), paying a certain fee per visit (i.e., a set co-pay per visit or treatment paid by the patient), or a deductible that the person must pay out prior to coverage reimbursements (e.g., a $1,000 deductible for emergency care). Pre-service review explores consistency with medical necessity and benefit plan language by requiring that a treatment or procedure be pre-approved before a member obtains the service. Concurrent and post-service review can be used to identify potential quality of care issues, screen for under or over utilization and post discharge needs. For patients needing care from multiple providers or for conditions requiring ongoing monitoring, case management is often used. Reviews often include coverage determinations using "medically necessary" criteria. Carriers frequently establish medical or administrative policies related to certain health conditions or specific treatments. Some procedures or therapies are explicitly stated as medically necessary while others are defined as "investigational and not medically necessary." [224]

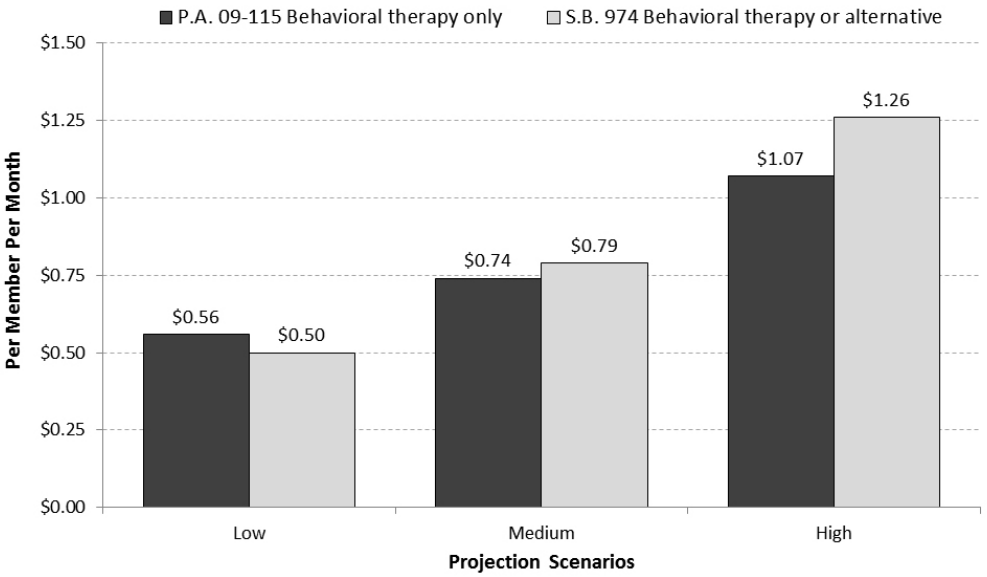
The statutory language of S.B. 974 influences how utilization and costs of the mandated health benefit can be managed. The act defines a number of treatments, which most carriers' previously dismissed as not medically necessary or investigational, that must be covered; how the insured must be referred for the treatment, how often utilization review may occur for a treatment plan, how long a diagnosis can be maintained without review, the dollar and age thresholds allowed for limiting coverage of behavior therapy and DRBT approaches, medical necessity as the only rationale for limiting number of visits, and parity in out-of-pocket costs as they would exist for other conditions under the same policy. Although there is language restricting how utilization and costs of the mandated health benefit may be managed, there is also language validating the ability for health plans to include management strategies. With the exception of coverage of the new DRBT option, the management methods described in the CPHHP review of P.A. 09-115 would still hold.

5. The extent to which insurance coverage for the treatment, service or equipment, supplies or drugs, as applicable, may be reasonably expected to increase or decrease the insurance premiums and administrative expenses for policyholders.

[224] Anthem. Medical Policy: Medical and other non-behavioral health related treatments for pervasive developmental disorders. Current Effective Date: 10/12/2011. Accessed December 2, 2011 from: http://www.anthem.com/medicalpolicies/policies/mp_pw_c128869.htm

The OI report projects the cost of adding the alternative, developmental/relationship-based therapy as described under S.B. 974. For details on the projection methods please refer to the OI report available under Appendix III. Assuming 2012 implementation, the cost of the new alternative is estimated as $0.09 to $0.10 PMPM of the premium for fully insured group policyholders in the first year. Within this premium, $0.08 is attributable to paid medical claims and $0.01-$0.02 covers administrative costs, profits or surplus, and risk. Based on the low, medium and high cost scenarios in the OI report, the combined cost of BT and DRBT in the initial implementation year could range from $0.41 PMPM to $0.55 PMPM, with DRBT contributing 17-22 percent of the cost. In subsequent years, some of the cost of DRBT is expected to be offset by decreased utilization of BT. Figure 2.2 shows the three OI scenarios projecting cost for 2016. After five years, the projected cost of having the DRBT alternative ranges from a decrease of $0.06 PMPM to an increase of $0.19 over the projected cost of offering behavioral therapy only, as under P.A. 09-115. Under the low scenario, the cost of increased utilization of DRBT is offset by decreased utilization of BT resulting in a lower overall projected for PMPM for DRBT and BT combined than would exist with BT alone.

Figure 2.2. Projected Change in PMPM Cost for Behavioral Therapy and Developmental/ Relationship-Based Therapy over Five Years (2012-2016).



Based on 2010 Connecticut data from the Medical Expenditure Panel Survey, it is expected that the average employer covers 77 percent of the premium cost and the employee covers the remainder of the premium.[225] This cost estimate does not include any savings from potential medical costs avoided in the future, any potential increases in employee productivity or potential savings from treatment shifts from behavioral therapy to developmental approaches. Available research is inadequate to justify such estimates.

6. The extent to which the treatment, service or equipment, supplies or drugs, as applicable, is more or less expensive than an existing treatment, service or equipment, supplies or drugs, as applicable, that is determined to be equally safe and effective by credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community.

S.B. 974 allows for behavioral therapy or DRBT to be added to a treatment plan that may include PT,

[225] Medical Expenditure Panel Survey. Private-Sector Data Premium, Contribution and Cost Distributions. 2010.

OT and ST. Inadequate research exists to compare the safety and effectiveness of DRBT and behavioral therapy. Furthermore, substitution of one treatment for another is not necessarily appropriate given the heterogeneous nature of symptoms and the range in severity. From a caregiver perspective, it is not clear that those who would pursue DRBT under S.B. 974 would use behavioral therapy if they could not access DRBT, nor is it clear that families would perceive behavioral therapy and DRBT as having equivalent value for treating their child.

7. The impact of insurance coverage for developmental/relationship-based approaches to treatment for ASDs on the total cost of health care, including potential benefits or savings to insurers and employers resulting from prevention or early detection of disease or illness related to such coverage.

The projected 2012 cost of the alternative approach to treating ASD is $877, 163 of which $745,589 (85 percent) is medical claims covered by the carrier and $131,574 (15 percent) is paid by the insured as an out-of-pocket cost. The estimated total cost of health care does not include any potential benefits or savings that may result from functionality improvements that may occur as a result of behavioral therapy.[226] Although some savings may be expected, it is difficult to calculate the cost of illnesses or conditions that do not develop and the existing literature does not adequately justify parameters for such an estimate.

8. The impact of the mandated health care benefit on the cost of health care for small employers, as defined in section 38a-564 of the general statutes, and for employers other than small employers.

The OI report projects the average 2012 premium paid for adding the alternative therapy option proposed under S.B. 974 may increase by 0.02 percent for fully insured group health plans. 2010 data suggests that for employer-based health plans, the average employer contributes 77 percent of the premium.[227] Given that the "alternative therapy" option accounts for less than 0.02 percent of the total premium, it appears reasonable to expect that the impact of implementing S.B. 974 would be minimal for employers, regardless of whether the employer is large or small. Please refer to the CPHHP analysis of P.A. 09-115 for additional discussion about the impact of increases in premium cost on employers.

9. The impact of the mandated health benefit on cost-shifting between private and public payers of health care coverage and on the overall cost of the health care delivery system in the state.

The overall cost of the health delivery system in the state is understood to include total insurance premiums (medical costs and retention) and cost sharing. The projected 2012 cost to the health care delivery system for covering developmental/relationship-based approaches to treatment as a substitute for behavior therapy in the treatment of ASDs is $1,008,738 of which $877,163 is attributed to medical claims, $131,574 to cost sharing, and $131,157 to retention. Of the overall spending, an estimated 15 percent is paid out-of-pocket by the family/caregiver of the child with ASD. Covering both behavioral therapy and the alternative approach in the first year of implementation the overall cost is projected at $6,052,427. It is anticipated that the potential for cost shifting under S.B. 974 would be consistent with the response given in the CPHHP analysis of P.A. 09-115 in Chapter 1. Please refer to the CPHHP analysis of P.A. 09-115 for additional discussion on this topic.

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[226] American Academy of Child & Adolescent Psychiatry. Facilitated Communication. Policy Statement. Reviewed June 2008. Approved by Council, October 20, 1993. Accessed 1/4/2012 from: http://www.aacap.org/cs/root/policy_statements/facilitated_communication

[227] Medical Expenditure Panel Survey. Private-Sector Data Premium, Contribution and Cost Distributions. 2010.

Chapter 3

Application of Autism Spectrum Disorders to Certificate Holders

A Report to the Insurance and Real Estate Subcommittee
of the Connecticut General Assembly

Analysis of Senate Bill 978
2011 Regular Session

"An act expanding group health insurance coverage for the treatment of autism spectrum disorders to certificate holders in this state."

Prepared by:

Erin Havens, MPA, MPH

University of Connecticut
Center for Public Health and Health Policy

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I. Overview

On August 26, 2011, the Chairs of the Insurance and Real Estate Committee of the Connecticut General Assembly (the Committee) directed the Connecticut Insurance Department (CID)to review Senate Bill (S.B.) 978 from the 2011 Regular Session, "An Act Expanding Group Health Insurance Coverage For The Treatment Of Autism Spectrum Disorders to Certificate Holders In This State." This report follows the requirements stipulated under Public Act (P.A.) 09-179, An Act Concerning Reviews of Health Insurance Benefits Mandated in this State. Reviews of required health insurance benefits are a collaborative effort of Connecticut Insurance Department and the University of Connecticut Center for Public Health and Health Policy (CPHHP).

This report evaluates the financial and social impact of S.B. 978, a bill raised during the 2011 legislative session. A full copy of S.B. 978 is located in Appendix IV. S.B. 978 proposed changing the existing statute C.G.S.A. §38a-514b to: "*each group health insurance policy or certificate … delivered, issued for delivery, renewed, amended or continued in this state shall provide coverage for the diagnosis and treatment of autism spectrum disorders."* The language "certificate" extends coverage for diagnosis and treatment of autism spectrum disorders (ASD) to Connecticut residents insured by out-of-state group health insurance policies. The following excerpt from C.G.S.A., §38a-514b summarizes the coverage that would be required for certificates if S.B. 978 were enacted.

(c) Such policy shall provide coverage for the following treatments, provided such treatments are (1) medically necessary, and (2) identified and ordered by a licensed physician, licensed psychologist or licensed clinical social worker for an insured who is diagnosed with an autism spectrum disorder, in accordance with a treatment plan developed by a licensed physician, licensed psychologist or licensed clinical social worker pursuant to a comprehensive evaluation or reevaluation of the insured:

(A) Behavioral therapy;

(B) Prescription drugs, to the extent prescription drugs are a covered benefit for other diseases and conditions under such policy, prescribed by a licensed physician, licensed physician assistant or advanced practice registered nurse for the treatment of symptoms and comorbidities of autism spectrum disorders;

(C) Direct psychiatric or consultative services provided by a licensed psychiatrist;

(D) Direct psychological or consultative services provided by a licensed psychologist;

(E) Physical therapy provided by a licensed physical therapist;

(F) Speech and language pathology services provided by a licensed speech and language pathologist; and

(G) Occupational therapy provided by a licensed occupational therapist.

(d) Such policy may limit the coverage for behavioral therapy to a yearly benefit of fifty thousand dollars for a child who is less than nine years of age, thirty-five thousand dollars for a child who is at least nine years of age and less than thirteen years of age and twenty-five thousand dollars for a child who is at least thirteen years of age and less than fifteen years of age.

(e) Such policy shall not impose (1) any limits on the number of visits an insured may make to an autism services provider pursuant to a treatment plan on any basis other than a lack of medical necessity, or (2) a coinsurance, copayment, deductible or other out-of-pocket expense for such coverage that places a greater financial burden on an insured for access to the diagnosis and treatment of an autism spectrum disorder than for the diagnosis and

treatment of any other medical, surgical or physical health condition under such policy…"

To evaluate this mandate, in October 2011, the CPHHP distributed and received responses to a survey requesting policy documents (e.g., utilization review processes, parameters for defining medical necessity, etc.) and data for the proportion of members with policy exclusions, the extent of member coverage, treatments requested and approved, and claims related to diagnosis and treatment of ASDs, as specified by the mandate. Respondents included five insurers and managed care organizations (carriers) domiciled in Connecticut that cover approximately 911,000 covered lives enrolled in fully insured group and individual health insurance plans in Connecticut. Including self-funded plans, respondents cover about 77 percent (2.3 million lives) of the Connecticut population under age 65.

The CID also contracted with the actuarial firm OptumInsight (OI) to conduct a fiscal analysis for the mandate. The OI analysis estimates the 2012 per member per month (PMPM) cost for extending the behavior therapy treatment for ASDs to certificate holders. Cost estimates were projected using the PMPM cost derived from 2010 Connecticut data on behavior therapy utilization and costs for fully insured group plans. The cost estimate builds in room for growth in utilization rates and ASD prevalence among Connecticut certificate holders in 2012.

Current coverage

Approximately 25 percent of Connecticut residents are enrolled in fully insured group health plans and receive coverage under C.G.S.A., §38a-514b. An estimated 0-2 percent of the Connecticut population is insured under out-of-state group insurance contracts. It is uncertain to what extent the certificates cover diagnosis and treatment of ASDs. However, some states, including those abutting Connecticut have ASD mandates similar to or exceeding the requirements under C.G.S.A., §38a-514b. This suggests that if S.B. 978 were enacted as written, some Connecticut residents insured under out-of-state group insurance contracts would experience a reduction in benefits while others would experience an increase in coverage for diagnosis and treatment of ASD. S.B. 978 does not apply to Connecticut residents insured under individual health policies.

Self-funded plans

For the 46 percent of Connecticut residents covered by self-funded plans, less than 1 percent of self-funded groups, covering fewer than 3 percent of lives under self-funded plans had coverage at the level described under §38a-514b during 2010.

Premium impact

The OI report estimates $0.05 per member per month (PMPM) or less as the 2012 premium for covering behavioral therapy as a treatment for ASD under out-of-state group plans for certificate holders in Connecticut. The cost of this mandate is not paid by Connecticut insurers. S.B. 978 is not expected to impact the cost of premiums charged for policies under Connecticut domiciled insurers or managed care organizations (MCOs).

Group plans: There is no anticipated change in premiums for Connecticut-issued group policies as a result of S.B. 978 since the scope of coverage does not extend new coverage requirements to Connecticut-issued group plans.

Individual policies: There is no anticipated change in premiums for individual policies as a result of S.B. 978 since the scope of coverage does not extend to individual policies.

This report is intended to be read in conjunction with the General Overview to this volume, the review of

P.A. 09-115 under Chapter 1, and the OptumInsight actuarial report which is included as Appendix III.

II. Background

Group health insurance certificates are issued for delivery in Connecticut when an out-of-state employer provides group health insurance coverage to an employee who is a Connecticut resident. A certificate may be issued if an employer with offices in multiple states purchases one blanket group health insurance policy from outside of Connecticut to cover all employees. Certificates may also be issued when an employer with a primary place of business outside of Connecticut employs Connecticut residents and covers them under a group health insurance policy.[228] The National Association of Insurance Commissioners (NAIC) defines the primary or principal place of business for an employer as the place "where an employer has its headquarters or significant place of business and where persons with decision-making authority are employed."[229]

In accordance with C.G.S.A., §38a-531, any health insurance policy issued outside of Connecticut to an employer whose principal place of business is out-of-state is required to comply with Connecticut insurance regulations if 51 percent or more of the covered employees are employed in Connecticut. Conversely, Connecticut insurance regulations, including health insurance mandates, do not apply to policies issued outside of Connecticut if fewer than 51 percent of covered employees are employed in Connecticut. To date, health benefit insurance mandates passed in Connecticut have not been written to apply to certificates. Therefore, some of the Connecticut residents enrolled in out-of-state employer-based health insurance policies do not benefit from health benefit mandates enacted in Connecticut.

Senate Bill (S.B.) 978 from the 2011 legislative session proposed extending coverage for diagnosis and treatment of autism spectrum disorders (ASD) beyond Connecticut-issued group health insurance policies to all certificate holders in Connecticut. If enacted, this would be the first health benefit mandate in the state to apply to certificates issued under out-of-state health insurance policies.

III. Methods

CPHHP staff gathered published articles and other information related to medical, social, economic, and financial aspects of the required benefit for diagnosis and treatment of ASDs. Databases oriented towards health, education, economics and psychology professions, including PubMed, PsycInfo, UptoDate, DynaMed, Cochrane database, ECONLit via EBSCOhost, and ERIC via EBSCOhost were queried for related articles. The primary search was set to identify articles with autism or autistic in the title/abstract fields. The search for articles on diagnosis and treatment of ASDs was limited to articles published in the last 10 years, systematic reviews, meta analysis, randomized controlled trials, and clinical trials. Title/abstract searches incorporated a combination of autism or autistic with each of the following words: applied behavior* analysis, Lovaas, UCLA, Denver, counsel*, psychi*, therapy, occupational, diagnosis, diagnostic and test. The * expands the search to include related word endings (e.g., therapist, therapists, therapy, therapies, therapeutic). To explore cost, utilization and effectiveness, the autism wild card in combination with utilization, usage, use, insurance, insure, cost, access, and health service were used as title/abstract search terms. A search for "extraterritorial insurance mandate" was also conducted.

Staff gathered additional information through telephone and e-mail inquiries to appropriate state, federal, municipal, and non-profit entities and from internet sources such as the Centers for Medicare and Medicaid (CMS) website, other states' websites, and non-profit and community-based organization websites.

[228] National Association of Insurance Commissioners. State Jurisdictional and Extraterritorial Issues White Paper: *States' Treatment of Regulatory Jurisdiction Over Single-Employer Group Health Insurance.* Adopted by the Health Insurance and Managed Care (B) Committee on 3/17/09.

[229] *Ibid.*

Google was also used to search web sites of carriers, state government (e.g., www.ct.gov), and professional organizations for policies or proposals related to the diagnosis and treatment of ASDs.

CPHHP staff also consulted with administrative staff from the Connecticut Birth to Three System and the Division on Autism Spectrum Disorders within the Department of Developmental Services (DDS), the Connecticut Department of Education Bureau of Special Education, and the Department of Social Services regarding the prevalence of, availability and use of therapies by children diagnosed with an autism spectrum disorder. The CPHHP staff also consulted as needed with clinical faculty from the University of Connecticut's School of Medicine on matters pertaining to medical standards of care, traditional, current and emerging practices, and evidence-based medicine related to the benefit.

With the assistance of the Connecticut Insurance Department (CID), CPHHP requested and received 2009 and 2010 coverage, plan enrollment and claims data from five insurance companies and managed care organizations (MCOs), referred to as "carriers," domiciled in Connecticut. Five carriers provided coverage and claims data for their fully insured group plans and five provided coverage and enrollment data for self-funded groups for which they provide administrative services only. Responding carriers account for approximately 90 percent of covered lives under fully insured group plans and self-funded plans in Connecticut.

CPHHP and the CID contracted with the actuarial firm OptumInsight (OI) to provide actuarial and economic analyses of the mandated benefit. OI analyzed 2010 data received from Connecticut domiciled health plan carriers and OI's in-house national and Connecticut-specific claims data from 2009 and 2010 to assess utilization and cost of services provided for the treatment of ASDs. The full OI report is available in Appendix III.

IV. Social Impact

1. The extent to which treatments for ASDs are utilized by a significant portion of the population.

Children with ASDs, who are the primary consumers of treatments for ASDs, comprise an estimated 0.17 to 0.27 percent of the overall population under age 65 in Connecticut and 0.9 percent of the child population ages 3 to 15.[230] Those children receiving medical treatment represent an even smaller portion of the Connecticut population. The OI analysis of medical claims for children with ASD-related diagnosis codes in the first three positions found a utilization rate of 0.2 percent of children for ASD-related medical care. Based on reported claims data from Connecticut carriers, the treated prevalence for behavioral therapy in the fully insured group population ranged from less than 0.01 percent to 0.1 percent in 2010. Based on projections using carrier, special education and census data, roughly 18 percent of children with ASD who are under fifteen years old and enrolled in a fully insured group plan received behavioral therapy in 2010. This finding of a much lower treated prevalence rate is not unique to the Connecticut carrier data. Similar patterns have been found using data from Medicaid, the nationally representative Medical Expenditure Panel Survey (MEPS), private insurer Kaiser Permanente and special education reporting systems. It could be suggested that 0.17 percent to 0.27 percent of the estimated 0-2 percent of Connecticut residents covered by certificates would be children with an ASD covered by S.B. 978.

For additional discussion on treatment utilization refer to the CPHHP analysis of P.A. 09-115, located in Chapter 1of this volume.

2. The extent to which the diagnosis and treatment of ASDs, is available to the population,

[230] Data Accountability Center. Individuals with Disabilities Education Act (IDEA) Data. Accessed 10/5/2011 from: https://www.ideadata.org/default.asp.

including, but not limited to, coverage under the following state agencies and public programs, including, but not limited to, coverage under Medicare, or through public programs administered by charities, public schools, the Department of Public Health, municipal health departments or health districts or the Department of Social Services.

The Department of Public Health (DPH): The federally funded Title V Children with Special Health Care Needs (CSHCN) Program is administered by DPH through grants to regional CSHCN centers with the goal of providing care coordination, support and payment for certain goods and services. One of the nine Maternal and Child Health priorities for 2011-2015 is to "Enhance early identification [ages 0-3] of developmental delays, including autism."

Medicare: No resources identified.

The Department of Social Services (DSS): In 2009-2010, approximately 22.1 percent of Connecticut children were enrolled in the Connecticut's state insurance program, Healthcare for UninSured Kids and Youth (HUSKY) program, which is administered by DSS. [231] The program includes three plans: HUSKY A, HUSKY B, and HUSKY Plus.[232] HUSKY A provides Medicaid-covered benefits with no premium or cost sharing for eligible children (<19 years old) and their low-income families, with incomes under 185 percent of the federal poverty level (FPL). HUSKY B, a sliding fee plan is offered to uninsured children living in families with incomes above 185 percent FPL. The program is funded in part by the federal State Children's Health Insurance Program (SCHIP). Under HUSKY B, three income levels are used to determine the level of premium per covered child and co-payment requirements. HUSKY Plus covers additional health care services at no cost for children with special health care needs.[233]

Medicaid covers a broad spectrum of treatments including physical therapy (PT), occupational therapy (OT), and speech therapy (ST) "to correct or ameliorate physical or mental illnesses and conditions" as part of the Early Periodic Screening, Diagnosis and Treatment (EPSDT) program.[234] HUSKY and Medicaid cover "*medically necessary ST, OT and PT for clients…If a physician deems the therapy as necessary and provides a written order for it, it can be billed to Medicaid.*"[235] Developmental screening, which includes autism screening, is also covered as part of a pediatric well-care visit. Conversely, applied behavior analysis is routinely denied under Medicaid using the rationale that it is a "habilitative" rather than "rehabilitative" therapy. It is unclear whether the "habilitative" rationale for denying applied behavior (ABA) therapy would be extended to PT, OT or ST if reviewed under medical necessity.[236]

The Department of Developmental Services (DDS): In 2010, DDS provided services under the Medicaid Home and Community-Based Services waivers to 1,475 individuals with co-occurring diagnoses of intellectual disability and an ASD. Services are allocated based upon an individual level of need assessment and available appropriations. DDS also provided services to an additional 60 individuals with an ASD and no intellectual disability through an Autism Pilot Program focused on transitional services for adults (21 or

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[231] The Kaiser Commission on Medicaid and the Uninsured. Supplemental data tables. In: The Uninsured A primer. Key facts about Americans without health insurance. Kaiser Family Foundation. October 2011. p.36-37. Accessed December 2, 2011 from: http://kff.org/uninsured/upload/7451-07.pdf

[232] State of Connecticut. HUSKY Health Care for Children. Accessed September 27, 2011: http://www.huskyhealth.com/hh/site/default.asp.

[233] *Ibid.*

[234] FamiliesUSA. November 2003. Continuing services for Children under Medicaid, IDEA. Accessed September 27, 2011 at: http://www.familiesusa.org/issues/medicaid/making-it-work-for-consumers/covering-services-children.html.

[235] Personal Communication. Nina Holmes, DSS Medical Policy Unit. June 16, 2010.

[236] Correspondence OHCA and DSS Commissioner.

older).[237]

The DDS Division of Autism Services, initiated in 2007 (P.A. 07-73), coordinates three Autism Waiver Programs for children age three and above, children eight and above, and adults.[238] The Division is also responsible for coordinating state agencies with functions related to ASD and researching, designing and implementing appropriate and necessary services and programs for residents with ASD and no intellectual disability.[239] Individual service plans under the Autism Program can include varying levels of support in the form of residential habilitation, personal supports, respite, clinical behavioral supports, supported employment, job coaching, community transition services, life skills coaching, community transition services or short term crisis stabilization to remain in their own home, family home or other community home."[240] Over the next three years, the slots (137 to 191) for the Autism Program will be filled with children with an ASD diagnosis but no intellectual disability who receive services under the Department of Children and Families (DCF) Voluntary Services,[241] Department of Mental Health and Addiction Services or DDS.[242] It does not appear that DDS generates additional coverage for therapies described under P.A. 09-115. Such therapies appear to be covered to the extent that the individual is eligible for therapy under Medicaid.

The ***Birth to Three Program***, administered by DDS, oversees delivery of services consistent with Part C of the Individuals with Disabilities Act (IDEA) which requires meeting the educational needs of children age 0 to 3 who "*develop differently, or at a slower rate than most other children.*" [243] Each child referred to Birth to Three receives an ASD screening, is assessed using the education criteria for classification of ASD under IDEA and a DSM IV diagnosis may be given. If a child has an ASD diagnosis and developmental delay, the child may be eligible for occupational therapy, speech/language therapy, physical therapy or applied behavior analysis if the specific therapy is determined as a means to facilitate educational progress. For each participating child, the intervention team includes staff with expertise in areas such as "*speech pathology, occupational therapy, early childhood education, special education, or psychology.*"[244] During FY 2011, 751 children were enrolled in one of the ASD-specific Birth to Three programs and 775 children had an ASD diagnosis listed on their Individual Family Service Plan (IFSP). Of children with an IFSP-listed ASD diagnosis, 84 percent (648) received speech therapy, 60 percent (463) received occupational therapy, 47 percent (364) received behavioral therapy from a Board Certified Behavior Analyst, or a Board Certified Assistant Behavior Analyst and 10 percent (75) received physical therapy. 8 percent (61) had a psychologist or professional counselor and 13 percent (98) had a social worker.[245]

Public Programs Administered by Public Schools

Part B of the Individuals with Disabilities Act (IDEA) requires the provision of a free and appropriate education to children ages 3 to 21 who experience learning difficulties related to a disability. School districts

[237] Testimony of the Department of Developmental Services to the Select Committee on Children Informational Forum on Autism February 4, 2010. Accessed December 2, 2011 from: http://www.cga.ct.gov/KID/Autism/testimony/Peter percent20H. percent20O'Meara, percent20Commissioner percent20DDS.pdf

[238] Connecticut Department of Developmental Services. Autism Medicaid Waivers. Accessed December 2, 2011 from: http://www.ct.gov/dds/cwp/view.asp?a=2730&Q=476378

[239] Connecticut General Assembly. Office of Legislative Research. 2009. H.B. 5696. Accessed September 27, 2011 from: http://cga.ct.gov/2008/BA/2008HB-05696-R000187-BA.htm.

[240] http://www.ct.gov/dds/cwp/view.asp?a=2730&Q=476378

[241] Voluntary Services may be requested by a family for a child with behavioral health issues who is not in custody of the Department. The program may make services such as casework, community referrals and treatment, they would not otherwise be accessible. Accessed November 8, 2011 from: http://www.ct.gov/dcf/cwp/view.asp?a=2558&q=314906.

[242] Personal communication. Siobhan Morgan, interim director. DDS Division of Autism Services. correspondence 10/19/2011.

[243] Connecticut Birth-to-three Program. Accessed 11/23/2011 from: http://www.birth23.org/index.html

[244] *Ibid.*

[245] Personal communication. Linda Goodman, Director. DDS Birth To Three System. 11/23/2011; 12/1/2011.

must provide eligible children with special education preschool and K-12 education with modifications as needed. A high percentage of children with ASD receive therapeutic services while at school. PT, OT, ST, behavioral therapy and parent counseling/training may be among the services rendered. However, services provided in this context are oriented towards education-based goals as part of an individualized education plan (IEP) and may not comprehensively cover the broader spectrum of needs a child may have. The Connecticut Department of Education "Guidelines for Identification and Education of Children and Youth with Autism" describes potential services and eligibility criteria for determining learning objectives for the child, the number of service-hours per week, whether an extended school year program will be implemented, and the types of services that will be provided.[246]

The curriculum goals for children with ASD include "*maximizing success in school settings; developing independent functioning in home, vocational and community settings; increasing the ability to make informed choices, becoming their own advocates and controlling their environment in effort to improve overall quality of life.*" [247] IEPs should balance the development of functional skills (e.g., tying shoes or using the bathroom) and general education curricular components (e.g., math, science, etc). An IEP may also address common autism deficits such as social-emotional reciprocity, communication skills, attending skills, cognitive processing, observational learning and severe problem behaviors. The curriculum should be based on "*formal and informal assessments that identify student strengths, preferences, motivational characteristics, skill deficits, and behavior issues.*" [248]

Public Programs Administered by Health Departments, Charities

Several Connecticut-based charities offer grants for ASD therapies. The amounts of the grants and the types of services allowed vary. The number of children that can be served through these programs and the specific criteria for eligibility under these programs are unclear.

Active Duty Military

According to the Department of Defense, "*autistic children age three years and older often receive speech, physical, and occupational therapy provided by public or Department of Defense Educational Activity (DoDEA) schools to the extent that they are considered educationally necessary. Additional speech, physical, or occupational therapy may be provided by the TRICARE basic program when additional therapy is considered to be medically necessary.*"[249] Applied behavior analysis (ABA) is not covered under the basic TRICARE plan. Active duty members may be eligible to access financial assistance for "*an integrated set of services*" and supplies through the TRICARE Extended Care Health Option (ECHO). For individuals with a pervasive developmental disability, "*the program allots $36,000 for diagnosis-related services*," which "*must be prior authorized for a six month authorization period.*" [250] Applied behavior analysis is a covered service. However, families may face challenges securing qualified providers. [251] To address this concern, the Enhanced Access to Autism Services Demonstration Project launched in 2008 (extended to March 2012), allows reimbursement for "educational interventions such as Applied Behavior Analysis (ABA) delivered by paraprofessional providers"

[246] Guidelines for identification and education of children and youth with autism. Connecticut State Department of Education. July 2005. Accessed December 2, 2011 from: http://www.sde.ct.gov/sde/lib/sde/PDF/DEPS/Special/Guidelines_Autism.pdf

[247] *Ibid.*

[248] *Ibid.*

[249] Department of Defense. Report and Plan on Services to Military Dependent Children with Autism. July 2007. Accessed September 27, 2011 from: http://www.bacb.com/Downloadfiles/707_DoD_TRICARE_rpt.pdf.

[250] HealthNet® Federal Services/TRICARE®. Health Net Federal Services—TRICARE® Extended Health Option Program Applied Behavioral Analysis. Accessed 11/27/2011 from: https://www.hnfs.com/content/dam/hnfs/tn/common/pdf/HF0511x024 percent20Autism_Demo_Billing.pdf

[251] TRICARE®. New Autism Demonstration Expands Opportunities for ABA Providers. Welcome to the Media Center. News Releases. April 15, 2008; No. 08-30. Accessed 12/27/2011 from: http://www.tricare.mil/pressroom/news.aspx?fid=386

using a BCBA supervised tutor model rather than limiting service providers to BCBAs. Efforts are currently underway to make the BCBA-tutor model part of the permanent benefit structure under ECHO.[252]

3. The extent to which insurance coverage is already available for treatment and coverage of ASDs among certificate holders.

It is uncertain to what extent the out-of-state certificates held by an estimated 0-2 percent of the Connecticut population include coverage for diagnosis and treatment of ASDs. However, many states, including those abutting Connecticut have ASD mandates similar to C.G.S.A., §38a-514b. This suggests that some certificates held by Connecticut residents do include coverage for diagnosis and treatment of ASD comparable to §§ 38a-514b.

For additional discussion on availability of coverage for diagnosis and treatment of ASD among Connecticut-issued fully insured group plans, individual policies, and self-funded groups refer to the analysis of P.A. 09-115, located in Chapter 1.

4. If the coverage is not generally available, the extent to which such lack of coverage results in persons being unable to obtain necessary health care treatment.

Opinions vary dramatically across stakeholders regarding the definition of "necessary health care treatment." Caregivers often pursue a myriad of treatment options, all of which they likely consider a necessary avenue to potentially improve the symptoms experienced by their child. Some view these treatments (Defeat Autism Now doctors, biomedical approaches, cranial massages, music therapy, special diets, etc.) as experimental, unproven fads. Other stakeholders view the nature of the treatment(s) to be educational rather than behavioral. A lack of insurance coverage for a given treatment may in turn limit the ability to obtain and afford treatment at the level desired. At the public hearings in 2008 for House Bill 5696 and in 2009 for Senate Bill 301 numerous individuals testified as to the severe financial hardships endured to fund treatment(s) for children with ASDs.

Notably, many children with ASD access therapeutic services under the "free and appropriate education" standards specified under the Individuals with Disabilities Education Act (IDEA) and Section 504 of the Rehabilitation Act of 1973. If receiving services through school, the services must be offered in pursuit of educational goals specified in a child's Individualized Education Program (IEP). For Birth to Three, services are prescribed to meet the developmental goals of the child specified in the Individualized Family Services Plan (IFSP). Public hearing testimonies submitted in recent years to the Connecticut General Assembly report dramatic variation across towns in the extent and scope of services available through the public education system.[253]

A majority of children with ASD access some therapeutic services through the education system.[254-255] However, research and ASD-related advocacy organizations well document that caregivers of children with ASD often perceive their child's need for therapy as not being met. An analysis of the 2005-2006 National Survey of Children's Health shows approximately 31 percent of children with special health care needs

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[252] U.S. Air Force. TRICARE autism demonstration proving positive. The official web site of the U.S. Air Force. 2/8/2011. Accessed 12/27/2011 from: http://www.af.mil/news/story.asp?id=123243341

[253] Substitute for S.B. No. 30: An act concerning health insurance coverage for autism spectrum disorders. Testimonies submitted for the Insurance and Real Estate Committee Public Hearing on 2/25/2009. Accessed 11/10/2011 from: http://cga.ct.gov/asp/menu/CommDocTmyBillAllComm.asp?bill=SB-00301&doc_year=2009.

[254] Benedict RE. Disparities in use of and unmet need for therapeutic and supportive services among school-age children with functional limitations: a comparison across settings. *Health Services Research.* 2006 Feb; 41(1):103-124.

[255] Thomas, K.C., Morrissey, J.P., McLaurin C. Use of autism-related services by families and children. *Journal of Autism and Developmental Disorders*. 2007; 37: 818-829.

(CSHCN) with an ASD had unmet needs for specific health care services, 14 percent delayed or forewent care, and 31 percent faced difficulties receiving referrals. CSHCN with ASD (31 percent) were significantly more likely to have unmet needs for specific health care services than CSHCN without emotional, developmental, or behavioral problems (25.4 percent), and other CSHCN (12 percent). CSHCN with ASD (14 percent) were also significantly more likely to have delayed or foregone care and/or to have had difficulty receiving referrals (31 percent), compared to CSHCN with other conditions (7 percent foregone care and 18 percent referral difficulty).[256]

5. If the coverage is not generally available, the extent to which such a lack of coverage results in unreasonable financial hardships on those persons needing treatment.

This response presents the Connecticut-specific data available. However, the quality and scope of Connecticut data is limited. For additional discussion on the potential for financial hardship, refer to the analysis of P.A. 09-115, located in Chapter 1.

Connecticut-specific Data

The 2010 census-based estimate of median household income for Connecticut's poorest county, Windham was $56,564.[257] Based on the claims data submitted for the CPHHP survey, the average allowed cost across responding carriers for behavioral therapy represents 4.9 percent of the median household income with a range of 0.8 percent ($455) to 15.6 percent ($8,841). The weighted average out-of-pocket cost represents 0.7 percent to 1.3 percent of the median household income in Windham County. Comparatively, the average allowed cost for BT was 10.2 percent ($5,773) of the median household income. It is important to note that the weighted claims data does not necessarily provide an accurate profile for the cost of behavioral therapy services. It also does not capture additional services, such as psychiatric counseling or PT, OT, or ST that a family may use. However, the average allowed cost and range in cost provides some insight into how the potential for financial hardship may occur for families funding behavioral therapy without insurance coverage. Similarly, the out-of-pocket costs present the potential range in financial burden for families covered by the mandate.

Costs assumed by the Birth to Three Program in Connecticut also illustrate the potential for high expenditures and financial burden for ASD-related treatment. In the Birth to Three Program, a child with ASD receives an average of 40 hours (about 10 hours per week) of service each month. The average annual cost paid for 40 hours of services (which may include PT, OT, ST, behavioral therapy, counseling, etc.) is about $25,302, at an average of $52 per hour. For children receiving 80 hours per month (17-20 hrs/wk) the average cost is $58,956.[258] Regardless of income, an expenditure of $29,000-59,000 would present a clear financial hardship.

6. The level of public demand and the level of demand from providers for treatment and diagnosis of ASDs.

Demand for services, as shown through public hearing testimony, primarily highlights the perceived benefit of and desire for the types of treatments described in C.G.S.A., §38a-514b. National surveys also reflect a high level of demand for services among ASD families.[259] The national professional organizations for speech,

[256] Kogan, MD., Strickland, B.B., Blumberg, S.J., Sing, G.K., Perrin, J.M., van Dyck, P.C. A national profile of the health care experience and family impact of autism spectrum disorders among children in the United States, 2005-2006. *Pediatrics.* 2008, 122: e1149-1158.

[257] U.S. Census Bureau. Small Area Income and Poverty Estimates. Estimates for Connecticut Counties, 2010. Median household income, in dollars, 2010. Accessed 11/1/2011 from http://www.census.gov.

[258] Personal communication. Linda Goodman, Director. DDS Birth To Three System. 12/1/2011.

[259] Kogan, MD., Strickland, B.B., Blumberg, S.J., Sing, G.K., Perrin, J.M., van Dyck, P.C. A national profile of the health care experience and family impact of autism spectrum disorders among children in the United States, 2005-2006. *Pediatrics*. 2008, 122: e1149-1158.

physical and occupational therapy all note the role of their respective profession in the treatment of ASDs.[260, 261,262] The American Academy of Pediatrics supports use of these physical, speech and behavioral therapies in the treatment of ASDs.

7. The level of public demand and the level of demand from providers for insurance coverage for treatment and diagnosis of ASDs.

Provider and public demand specific to insurance coverage among certificate holders for diagnosis and treatment of ASD is limited to testimony from the Connecticut Office of the Health Care Advocate (OHA). This testimony views S.B. 978 as "*an appropriate solution to the oversight that excluded certificate holders from the original bill.*" Conversely, a statement of Anthem Blue Cross and Blue Shield expresses concern about extending coverage beyond the policy holder to the certificate holder. Anthem's testimony emphasized that, "*This is unprecedented in Connecticut insurance law.*" Although public hearing testimony for S.B. 978 is limited, testimonies during the 2008 and 2009 legislative session reflect demand for insurance coverage of diagnosis and treatment of ASD in general.[263,264] For additional discussion on public and provider demand for the benefits under C.G.S.A., §38a-514b refer to the analysis of P.A. 09-115, located in Chapter 1.

8. The likelihood of achieving the objectives of meeting a consumer need as evidenced by the experience of other states.

The CPHHP analysis of P.A. 09-115, located in Chapter 1, describes the availability of mandated health benefits related to ASD in other states. The 33 states with benefit mandates requiring coverage for ASD reflect a nationwide trend to meet a perceived consumer need.[265] At least 25 states require insurers to include coverage for the treatment of ASDs, including applied behavior analysis. The remaining states may require limited coverage for autism under mental health coverage, parity or other laws, or may mandate coverage for the state employee health plan only.

Across states, mandate requirements vary in terms of maximum benefits, age of eligibility and types of services covered.[266] The likelihood of S.B. 978 meeting a consumer need depends in part on the extent of coverage that exists in the state from which the policy is issued. S.B. 978 will be most likely to meet a consumer need for certificate holders who are enrolled in a health plan from a state without an insurance mandate that covers applied behavior analysis (ABA) as a treatment for ASD. The CPHHP review identified 22 states plus the District of Columbia that do not have mandates requiring group health plans to cover ABA for the treatment of ASD. ABA is considered a highly desired treatment that is often not covered in the absence of an insurance mandate. The states without mandates are listed in Table 3.1, below. One additional state, Nevada, has a mandate requiring that plans "offer" coverage at thresholds similar to those required in Connecticut.

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[260] American Occupational Therapy Association Fact Sheet: Occupational Therapy's Role with Autism. 2006. Accessed December 2, 2011 from: http://www.aota.org/Consumers/professionals/WhatisOT/RDP/Facts/38517.aspx.

[261] American Speech-Hearing-Learning Association. Autism: benefits of speech-language pathology services. Accessed September 27, 2011 from: http://www.asha.org/public/speech/disorders/autismSLPbenefits.htm.

[262] American Physical Therapy Association. Treating Kids with Autism. Accessed September 27, 2011 from: http://www.apta.org/AM/Template.cfm?Section=Home&TEMPLATE=/cm/htmldisplay.cfm&CONTENTID=53380.

[263] Insurance and Real Estate Committee. Join Favorable Report HB-5696. March 25, 2008. Accessed September 27, 2011 from: http://cga.ct.gov/2008/JFR/H/2008HB-05696-R00INS-JFR.htm.

[264] *Ibid.*

[265] National Conference of State Legislatures. Insurance coverage for autism. Accessed September 27, 2011 from: http://www.ncsl.org/?tabid=18246.

[266] Kaminski JL. Insurance coverage for autism. December 27, 2006. OLR Research Report. 2006-R-0793. Accessed September 27, 2011 from: http://www.cga.ct.gov/2006/rpt/2006-R-0793.htm.

Table 3.1. No State Mandate for Insurance Coverage of Applied Behavior Analysis as a Treatment for Autism Spectrum Disorders (ASD).

Alabama	Kansas**	Mississippi	Tennessee*
Alaska	Idaho	Nebraska	Utah
Delaware	Iowa**	North Dakota	Washington
District of Columbia*	Maryland*	Oklahoma*	Wyoming
Georgia	Michigan	Oregon*	
Hawaii	Minnesota	South Dakota	

* These states/districts have an ASD related mandate but it does not require coverage of applied behavior analysis.
** These two states have mandates covering applied behavior analysis but coverage is limited to state employee health plans.

The impact of S.B. 978 on certificates for plans from states with ASD-related mandates may be limited. This depends largely on the exact benefits covered, age thresholds for eligibility, and the maximum spending limit, if any. In some cases, individuals with ASD may experience a decrease in coverage under S.B. 978. For example, at least 17 states have a maximum age threshold higher than Connecticut. This would mean that children fifteen years of age or older might lose coverage for ABA or behavioral therapy. A loss of coverage under S.B. 978 may also occur for the children in the 14 states with language either requiring coverage or prohibiting denial of coverage for habilitative therapy. (Habilitative approaches can be used to maintain skills or develop new skills, rather than being limited to restoring or rehabilitating). Since Connecticut's mandate does not include language requiring coverage or prohibiting denial of coverage on this basis, there is some potential that therapies such as physical, occupational or speech therapy may be restricted more under Connecticut's law. Conversely, under S.B. 978 some individuals in states with ASD mandates may gain coverage. The Connecticut threshold for maximum reimbursement for behavioral therapy for children up to age 12 is generally higher than the maximum set in other states, especially states with lifetime maximums (Florida, Louisiana, and New Mexico).

It is also worth noting that the New York, Rhode Island and Massachusetts, the states adjacent to Connecticut, have enacted mandates for covering the diagnosis and treatment of ASD. The discussion below notes differences between each state mandate and the coverage requirements in Connecticut.

New York's recently passed mandate is regarded by the advocacy organization, Autism Speaks, as the most generous in the United States. Beyond Connecticut's requirements, New York covers social workers, assistive communication devices, and habilitative therapies. There are no age limits to coverage and ABA is covered up to $45,000 annually plus adjustments for inflation using the medical component of the consumer price index. Although the annual threshold is somewhat lower than that set in Connecticut for children under the age of nine, as a package, the New York mandate provides more generous benefits throughout childhood and adulthood than in Connecticut.

Rhode Island requires the same type of therapies as covered in Connecticut. Applied behavior analysis is covered up to $32,000 per year. This is less than the Connecticut threshold required for children under the age of twelve ($50,000 if under age 9; $35,000 if age 9 up to 12) and higher than the threshold for children from the age of 12 up to 15 ($25,000). In addition, Rhode Island includes language guaranteeing coverage of habilitative therapies, and prohibiting visit limits to autism services providers. Rhode Island also mandates covering any other treatment deemed medically necessary by a qualified provider. This includes treatments considered best practices or evidence-based. However, coverage under this mandate is limited to children up to the age of 15. Theoretically, this restricts coverage more than Connecticut where the age limit applies only to behavioral therapy.

Massachusetts covers the same therapies as in Connecticut. In addition, the Massachusetts mandate includes social workers as covered providers and expressly covers habilitative therapies. Differing from Connecticut, Massachusetts does not set a maximum amount carriers must meet for covering diagnosis and treatment of ASD but does stipulate policies may not limit visits. This language difference may translate into the Massachusetts mandate providing a lower level of benefit to those covered than would exist under S.B. 978. In addition, Massachusetts' mandate is silent with respect to age. Compared to Connecticut, it is unclear whether S.B. 978 would translate into greater access to coverage across age groups or more restricted access to coverage.

9. The relevant findings of state agencies or other appropriate public organizations relating to the social impact of the mandated health benefit.

Thirty states require a fiscal note or an additional review process for any new required health insurance benefit prior to enactment.[267] The CPHHP review included states that have or had an established process for studying mandated health insurance benefits and states identified as having an ASD mandate. At least 19 states plus the District of Columbia have published ASD-related mandated benefit reviews. None of the reports discussed extending coverage for diagnosis and treatment of ASDs to certificate holders. Reports in multiple states (Missouri, Nevada, Georgia and Kansas) originated from Autism Speaks; three of which included an independent actuarial report commissioned by Autism Speaks. Overall, state reports reach conflicting conclusions about the quality of evidence on the efficacy of treatments and the potential for shifts in utilization and cost. Several reports anticipate some shifting of costs from the public sector to the private sector. [268] For additional discussion on findings from select reports, refer to the CPHHP review of P.A. 09-115 located in Chapter 1.

10. The alternatives to meeting the identified need, including but not limited to, other treatments, methods or procedures.

An alternative to extending C.G.S.A., §38a-514b uniformly to certificate holders could be to allow for equivalent or more generous state mandates to take precedence. Other alternatives strategies for accessing treatment mentioned in mandated-benefit review program reports and public hearing testimonies are safety net programs, education programs, other social programs and alternative funding sources (i.e., public sector, family members and charities). These alternatives have the advantage of being available to all residents, not just to those covered by fully insured group health plans.

Within reports and testimonies the question of who should bear the burden for the cost of treatment is raised along with comments that most of the potential benefits of providing ASD diagnosis and treatment translate into public sector savings rather than private sector savings. This sentiment is echoed by a quote in the Maine report from Anthem, "*Policymakers who want to ensure that families facing the real financial and other challenges posed by autism should develop safety net programs that meet their needs, rather than trying to impose autism-related costs on health insurance.*" [269]

For additional discussion on approaches to minimizing and managing symptoms and comorbidities related to ASD, refer to the CPHHP review of P.A. 09-115 located in Chapter 1.

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[267] National Conference of State Legislatures. Health insurance coverage mandates: Are they too costly? Presentation at the Louisiana Department of Insurance 2009 Annual Health Care Conference. Accessed 5/7/2010 from: http://www.ncsl.org/portals/1/documents/health/MandatesCauchi09.pdf.

[268] Washington State Department of Health. Information Summary and Recommendations. Treatment of Autism Spectrum Disorders. Mandated Benefit Sunrise Review. January 2009.

[269] Donna Novak of NovaRest, Inc and Marti Hooper of the Maine Bureau of Insurance. Review and evaluation of LD 1198 An act to reform insurance coverage to include diagnosis for autism spectrum disorders. A report to the Joint Standing Committee on Insurance and Financial Services of the 124th Maine Legislature. December 2009. Corrected January 14, 2010.

11. Whether the benefit is a medical or broader social need and whether it is consistent with the role of health insurance and the concept of managed care.[270]

It is possible to conceptualize treatments described in C.G.S.A., §38a-514b as meeting a medical or broader social need. Ultimately, whether the mandate is consistent with the concept of health insurance or managed care is defined largely by how a person conceptualizes the role of the health care system. For example, in the Maine report, carrier Harvard Pilgrim, contended, "*Health insurance coverage is primarily designed to cover short-term, acute illnesses, or acute exacerbations of chronic illnesses or conditions.*" This notion fits with the traditional purpose of insurance policies as a means of financial security in times of economic uncertainty following unexpected events such as premature death, disease, accident or disability. Conversely, 2009 public hearing testimony made by the Connecticut Medical Society in favor of the mandate enacted as P.A. 09-115 purported, "*This bill addresses an issue regarding medical necessity. Insurance companies need to provide comprehensive coverage for autism spectrum disorders, and currently they have been unwilling to handle the routine costs of medically necessary treatments claiming that these individuals had 'preexisting conditions' or any other exclusion."* [271]

The Massachusetts report summarizes, "*Fully-funded health insurers are opposed to providing certain types of coverage for treating ASD because insurers view the treatment as educational and/or experimental, or the responsibility of early intervention (EI) programs and school districts.*"[272] Similarly, the Colorado report explains that treatments cross several areas of expertise, medical, educational and social development. A commitment to "*ensur[ing] there's a bright line between medical costs and costs that are more related to special education*" was also tied to the initial ASD mandate that covered PT, OT and ST for ASDs to the extent that the services were covered for other medical conditions.[273]

12. The potential social implications of the coverage with respect to the direct or specific creation of a comparable mandated benefit for similar diseases, illnesses, or conditions.

As of December 2011, Connecticut has more than 45 active health benefit mandates that apply to fully insured groups and/or individual health plans. These existing mandates do not apply to certificates. Passage of S.B. 978 would be the first extension of a mandated health benefit to certificate holders. Amendments to include certificates may follow for other mandated health benefits.

13. The impact of the benefit on the availability of other benefits currently offered.

Extending coverage for diagnosis and treatment of ASD to certificate holders may reduce the availability of other benefits. However, the impact on other benefits is tied to whether the "home" state has an existing ASD mandate with more generous benefits than those offered through S.B. 978. It appears reasonable to assume that the change in premium related to S.B. 978 would not be a driving factor on the availability of other benefits. Out-of-state or multistate employers offering fully insured group coverage to workers in Connecticut are already required to provide these benefits if 51 percent or more employees reside in Connecticut.[274] S.B. 978 would only represent a new benefit with potential for adding cost if less than 51 percent of the workforce works in Connecticut. Among these employers with "fewer than 51 percent," the

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[270] Speechville. Speech-therapy for school aged children. Accessed September 27, 2011 from: http://www.speechville.com/diagnosis-destinations/articulation-disorder/insurance-public-schools.html.

[271] Insurance and Real Estate Committee. Joint Favorable Report SB-301. March 10, 2009. Accessed September 27, 2011 from: http://search.cga.state.ct.us/2009/JFR/S/2009SB-00301-R00INS-JFR.htm.

[272] DHCFP. Review and evaluation of proposed legislation entitled: an act relative to insurance coverage for autism House Bill 3809. Provided for the Joint Committee on Financial Services. March 2010.

[273] Kaminski JL. Insurance coverage for autism. July 31, 2008. OLR Research Report. 2008-R-0427. Accessed September 27, 2011 from: http://www.cga.ct.gov/2008/rpt/2008-R-0427.htm.

[274] C.G.S.A., §§ 38a-531. Mandatory coverage of employees of certain employers.

impact of S.B. 978 on cost is limited to the difference between coverage under S.B. 978 and ASD insurance mandates that exist in the state of issuance of the group policy. The OI report estimates a premium increase of 0.01 percent. Within the broader cost of health insurance, such an increase is not expected to influence the benefits offered by the employer.

For additional discussion on the potential impact of covering diagnosis and treatment of ASD on other benefits offered refer to the analysis of P.A. 09-115, located in Chapter 1.

14. The impact of the benefit as it relates to employers shifting to self-insured plans and the extent to which the benefit is currently being offered by employers with self-insured plans.

Employer decisions to switch insurance plans to self-funded are complex economic decisions involving multiple factors. Mandated benefits, specifically S.B. 978, are not expected to play a primary role in such decisions. Instead, decisions to switch to self-funded plans are more likely to be driven by the extent of annual rate increase, the extent of employer control over plan design, and whether these concerns would be adequately mitigated through self-funded status. The potential benefit of switching to self-funded status comes from the federally legislated Employee Retirement Income Security Act (ERISA). Becoming self-funded translates into such plans being ERISA-exempted from state insurance mandates, state premium tax, and insurer profit margins and risk charges.

It is worth considering that even though a mandate such as S.B. 978 is estimated to marginally increase premiums (0.01 percent), a substantial burden on employers and insurers seems plausible if multiple states passed extraterritorial health insurance mandates. A recent white paper by the National Association of Insurance Commissioners arose from an employer's switch to self-funded status after being confronted with competing extraterritorial health insurance mandates.[275]

Self-funded plans do appear more limited in the extent of benefits offered for diagnosis and treatment of ASDs. On the CPHHP survey, fewer than 3 percent of lives under self-funded plans had commensurate coverage during 2010. Only 4 percent of lives under self-funded plans during 2009 had some coverage for behavioral therapy whereas coverage for prescription drugs to treat symptoms related to ASDs appeared to be the norm so long as the plan included drug coverage. Most self-funded plans also covered PT, OT and ST. However, self-funded plan coverage for 2009 appeared more restrictive than the language under C.G.S.A., §38a-514b.

15. The impact of making the benefit applicable to the state employee health insurance or health benefits plan.

The state employee health insurance plan covers diagnosis and treatment of ASDs consistent with C.G.S.A., §38a-514b. Since Connecticut residents who are employed by the state would not be covered by out-of-state certificates, the extension of coverage to certificate holders under S.B. 978 would not apply to the state health benefit plan.

16. The extent to which credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community determines the treatment, service or equipment, supplies or drugs, as applicable, to be safe and effective.

The American Academy of Pediatrics (AAP) clinical report "Management of Children with Autism Spectrum Disorders" summarizes the scientific evidence available for treating children with ASDs.[276] The

[275] National Association of Insurance Commissioners. State Jurisdictional and Extraterritorial Issues White Paper: *States' Treatment of Regulatory Jurisdiction Over Single-Employer Group Health Insurance.* Adopted by the Health Insurance and Managed Care (B) Committee on 3/17/09.

[276] Myers SM, Johnson CP. Management of children with autism spectrum disorders. *Pediatrics.* 2007; 120(5): 1162-82.

AAP concludes that "*Educational interventions, including behavioral strategies and habilitative therapies, are the cornerstones of management of ASDs. These interventions address communication, social skills, daily-living skills, play and leisure skills, academic achievement, and maladaptive behaviors.*" The same report finds speech and language therapy, ABA-based interventions and functional behavior analysis to be effective therapies for producing functionality gains for children with ASDs. For ABA, the AAP concludes, "*Children who receive early intensive behavioral treatment have been shown to make substantial, sustained gains in IQ, language, academic performance, and adaptive behavior as well as some measures of social behavior, and their outcomes have been significantly better than those of children in control groups.*" [277]

On the other hand, the AAP found research to support occupational therapy and sensory integration therapy for treatment of ASDs to be lacking[278] and the American Academy of Child and Adolescent Psychiatry notes that for individuals with autism, facilitative communication is not a scientifically valid technique.[279] Articles from the Cochrane Database of Systematic Reviews concluded that music therapy "*may be helpful to improving communication skills in autistic children,*"[280] auditory integration therapy findings were mixed,[281] and poor evidence exists for gluten- and casein-free diets. Conclusions from the study remark on the need for large scale, good quality randomly controlled trials and the lack of research on AIT to warrant treatment decisions.[282]

Although the AAP and other professional associations recognize the diagnosis and treatment of ASDs using the approaches described in C.G.S.A., §38a-514b as generally effective, multiple systematic reviews in the literature contend that there is a lack of evidence to support the clinical guidelines set for a number of ASD-related therapies, including ABA.[283] Methodological quality, generalizability of learned skills to the natural environment, and limited knowledge regarding efficacy of therapies by child age and ASD subtype and severity are among the aspects criticized. Lang and colleagues' (2010) systematic literature review found that cognitive behavior therapy can be useful for children with Asperger's disorder who have anxiety but not among children with other ASDs. [284]

Similarly, the effectiveness of diagnostic tests for ASD has been criticized despite the emphasis of the APA, the National Research Council and the Maternal and Child Health Bureau on early detection. Specifically, none of the existing tests has been found to have high sensitivity (the ability to correctly identify a person with the disorder) for detecting ASDs.[285]

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[277] *Ibid.*

[278] *Ibid.*

[279] American Academy of Child & Adolescent Psychiatry. Facilitated Communication. Policy Statement. Reviewed June 2008. Approved by Council, October 20, 1993. Accessed 1/4/2012 from: http://www.aacap.org/cs/root/policy_statements/facilitated_communication

[280] Gold C, Wigram T, Elefant C. Music therapy for autistic spectrum disorder. *Cochrane Database of Systematic Reviews* 2006. Issue 2. Art. No.: CD004381. DOI: 10.1002/14651858.CD004381.pub2.

[281] Sinha, Y., Silove, N., Williams, K., Hayen, A. Auditory integration training and other sound therapies for autism spectrum disorders. *Cochrane Database of Systematic Reviews* 2004, Issue 1. Art. No.: CD003681. DOI: 10.1002/14651858.CD003681.pub2.

[282] Millward C, Ferriter M, Calver SJ, Connell-Jones GG. Gluten- and casein-free diets for autistic spectrum disorder. *Cochrane Database of Systematic Reviews* 2008, Issue 2. Art. No.: CD003498. DOI: 10.1002/14651858.CD003498.pub3.

[283] Al-Qabandi, M., Gorter, JW., Rosenbaum P. Early autism detection: are we ready for routine screening? *Pediatrics.* 2011; 128: 1-8.

[284] Lang R, Regester A, Lauderdale S, Ashbaugh K, Haring A. Treatment of anxiety in autism spectrum disorders using cognitive behavior therapy: a systematic review. *Developmental Neurorehabilitation.* 2010; 13(1): 53-63.

[285] Al-Qabandi, M., Gorter, JW., Rosenbaum P. Early autism detection: are we ready for routine screening? *Pediatrics.* 2011; 128: 1-8.

V. Financial Impact

1. The extent to which the mandated health benefit may increase or decrease the cost of the treatment, service or equipment, supplies or drugs, as applicable, over the next five years.

Adequacy of available data limits the ability to provide a five year projection for changes in treatment cost. OI projected the PMPM cost increase from 2012 to 2016 for certificate holders to be covered under C.G.S.A., §38a-514b. Over the five year period, the low, medium, and high scenarios suggest a PMPM increase of $0.02, $0.03, and $0.06, with the total behavioral therapy PMPM ranging from $0.06 to $0.11 in 2016.

The CPHHP analysis of P.A. 09-115 highlights factors that may influence cost over the next five years for the treatments covered under C.G.S.A., §38a-514b. For this discussion, please refer to Chapter 1.

2. The extent to which the mandated health benefit may increase the appropriate or inappropriate use of the treatment, service or equipment, supplies or drugs, as applicable, over the next five years.

Certificate holders under out-of-state policies comprise an estimated 0-2 percent of Connecticut residents. Adequacy of available data limits the ability to provide a five year projection for changes in utilization of ASD-related health care. If ASD prevalence among children is approximately the same among certificate holders as it is for the general population in the state, it could be suggested that less than 0.3 percent of certificate holders would be eligible for services under S.B. 978. It is reasonable to assume that some certificate holders are enrolled in plans that are required by other states to cover diagnosis and treatment for ASD in a manner similar to that mandated in Connecticut. To the extent that a certificate holder is enrolled in a more generous plan, there may be a reduction in treatment received if coverage is set to Connecticut thresholds. Conversely, certificate holders enrolled in less generous plans and opting for care, may increase use of treatment.

The CPHHP analysis of P.A. 09-115 discusses many of the factors that may influence the use of treatments covered under C.G.S.A., §38a-514b over the next five years. Please refer to Chapter 1 for this information.

3. The extent to which the mandated health benefit may serve as an alternative for more expensive or less expensive treatment, service or equipment, supplies or drugs, as applicable.

Policy statements from provider associations do not indicate one treatment approach should be substituted for another. Overall, behavioral therapy is anticipated to be more expensive than use of physical therapy (PT), occupational therapy (OT), and speech therapy (ST) as treatments for ASDs. Notably, behavioral therapy under C.G.S.A., §38a-514b will be an additive part of the treatment plan rather than an alternative treatment, and PT, OT and ST would continue to be included in a treatment plan if the care team perceived such treatments as necessary. However, extending C.G.S.A., §38a-514b to certificate holders may serve as a more or less expensive alternative to coverage already provided to certificate holders. This is because many states already mandate coverage similar to, and sometimes in excess of C.G.S.A., §38a-514b.

4. The methods that will be implemented to manage the utilization and costs of the mandated health benefit.

Benefit plan limitations and review processes are common strategies used to control utilization and costs. In many cases, benefit plans include a maximum allowable benefit for duration of treatment, number of visits or reimbursement thresholds. Plan structure may also control costs and utilization by requiring the covered individual to pay a percent of the service or treatment cost (coinsurance), paying a certain fee per

visit (i.e., a set co-pay per visit or treatment paid by the patient), or a deductible that the person must pay out prior to coverage reimbursements (e.g., a $1,000 deductible for emergency care). Pre-service review explores consistency with medical necessity and benefit plan language by requiring that a treatment or procedure be pre-approved before a member obtains the service. Concurrent and post-service review can be used to identify potential quality of care issues, screen for under- or over- utilization and post-discharge needs. For patients needing care from multiple providers or for conditions requiring ongoing monitoring, case management is often used. Reviews often include coverage determinations using "medically necessary" criteria. Carriers frequently establish medical or administrative policies related to certain health conditions or specific treatments. Some procedures or therapies are explicitly stated as medically necessary while others are defined as "investigational and not medically necessary."[286]

The statutory language of C.G.S.A., §38a-514b influences how utilization and costs of the mandated health benefit can be managed. The act defines a number of treatments that must be covered, which most carriers' previously labeled as not medically necessary or investigational. The language also stipulates how the insured must be referred for the treatment, how often utilization review may occur for a treatment plan, how long a diagnosis can be maintained without review, the dollar and age thresholds allowed for limiting coverage of behavior therapy, medical necessity as the only rationale for limiting number of visits, and parity in out-of-pocket costs as they would exist for other conditions under the same policy. Although there is language restricting how utilization and costs of the mandated health benefit may be managed, there is also language validating the ability for health plans to include management strategies.

C.G.S.A., §38a-514b stipulates that:

> *"Coverage required under this section may be subject to the other general exclusions and limitations of the group health insurance policy, including, but not limited to, coordination of benefits, participating provider requirements, restrictions on services provided by family or household members and case management provisions, except that any utilization review shall be performed in accordance with subsection (f) of this section"*

Specific language from C.G.S.A., §38a-514b potentially decreasing flexibility around utilization and cost management requires that issued policies:

> *"Provide coverage for the following treatments, provided such treatments are (1) medically necessary, and (2) identified and ordered by a licensed physician, licensed psychologist or licensed clinical social worker for an insured who is diagnosed with an autism spectrum disorder, in accordance with a treatment plan developed by a licensed physician, licensed psychologist or licensed clinical social worker pursuant to a comprehensive evaluation or reevaluation of the insured,"*
>
> *"May review a treatment plan developed…in accordance with its utilization review requirements, not more than once every six months unless such insured's licensed [provider] agrees that a more frequent review is necessary or changes such insured's treatment plan."*
>
> *"Results of a diagnosis shall be valid for a period of not less than twelve months, unless such insured's [provider] determines a shorter period is appropriate or changes the results of such insured's diagnosis,"*
>
> *"May limit the coverage for behavioral therapy to a yearly benefit" with mandate-specified maximums for specific age groups.*

[286] Anthem. Medical Policy: Medical and other non-behavioral health related treatments for pervasive developmental disorders. Current Effective Date: 10/12/2011. Accessed December 2, 2011 from: http://www.anthem.com/medicalpolicies/policies/mp_pw_c128869.htm

"Not impose (1) any limits on the number of visits an insured may make to an autism services provider pursuant to a treatment plan on any basis other than a lack of medical necessity,"

"Not impose "a coinsurance, copayment, deductible or other out-of-pocket expense for such coverage that places a greater financial burden on an insured for access to the diagnosis and treatment of an autism spectrum disorder than for the diagnosis and treatment of any other medical, surgical or physical health condition under such policy."

The "medically necessary" and "lack of a medical necessity" language may add flexibility to utilization management when it comes to covering certain treatments or limiting visits for treatments, even when they are listed within C.G.S.A., §38a-514b. It is unclear if the common practice of carriers deeming therapy sessions used to maintain or gain skills as educational or not medically necessary would be permitted under this law. Similarly, it is unclear to what extent visits may be limited due to "inadequate progress" or therapy being "custodial in nature." Administrative documents published on the internet, indicate that Aetna and Connecticare require precertification for ABA. Aetna also has an established medical necessity guide for ABA. An essential element of eligible ABA is: "*The ABA is not custodial in nature (which Aetna defines as care provided when the member 'has reached the maximum level of physical or mental function and such person is not likely to make further significant improvement' or 'any type of care where the primary purpose of the type of care provided is to attend to the member's daily living activities which do not entail or require the continuing attention of trained medical or paramedical personnel').*" [287] Some carriers also require precertification for physical therapy, speech therapy and occupational therapy. [288]

5. The extent to which insurance coverage for the treatment, service or equipment, supplies or drugs, as applicable, may be reasonably expected to increase or decrease the insurance premiums and administrative expenses for policyholders.

There is no anticipated change in premiums for in-state group health insurance policies and individual health plans as a result of S.B. 978 since the scope of coverage does not extend new coverage to these plans. The cost of this mandate is not paid by Connecticut carriers nor does it increase the cost of premiums through Connecticut insurers or MCOs. The OI estimate for the 2012 PMPM medical cost of covering behavioral therapy for certificate holders to out-of-state group plans is expected to be $0.04 PMPM or less. The total premium is estimated to be $0.05 PMPM, of which $0.01 is attributed to retention which includes profit or surplus, risk charges, and administrative fees.

This estimated premium impact is less than the estimated $0.48 PMPM premium impact for in-state group policies under C.G.S.A., §38a-514b. The pooled cost for certificate holders applies only to Connecticut employees but is spread across all covered employees, including members outside of Connecticut. S.B. 978 applies only when the out-of-state employer has fewer than 51 percent of their employees working in Connecticut. (20 percent was used as the assumption for the percent of members in Connecticut). The cost estimates do not include any savings from potential medical costs avoided in the future or any potential increases in employee productivity. Available research is inadequate to justify such estimates.

6. The extent to which the treatment, service or equipment, supplies or drugs, as applicable, is more or less expensive than an existing treatment, service or equipment, supplies or drugs, as applicable, that is determined to be equally safe and effective by credible scientific evidence

[287] Aetna®. Applied Behavioral Analysis. Medical Necessity Guideline for the Treatment of Autism Spectrum Disorders. 2010 Aetna Health Management, LLC. Accessed December 2, 2011 from: http://www.aetna.com/provider/data/FINAL_APPLIED_BEHAVIORAL_ANALYSIS_QCC_and_CPE_Approved_Provider_Version__TC.pdf

[288] Connecticare. Connecticare, Inc. & Affiliates Insert Page for Pre-certification and pre-authorization lists update. Accessed December 2, 2011 from: http://www.connecticare.com/globalfiles/preauthlist.pdf

published in peer-reviewed medical literature generally recognized by the relevant medical community.

Extending Connecticut's mandated coverage for diagnosis and treatment of ASD to out-of-state certificate holders may serve as a more or less expensive alternative to coverage already provided to such certificate holders. The cost will vary depending on the state where the employer group health policy is issued. If the group health policy is issued in a state with higher cost maximum than the Connecticut mandate contains, applying S.B. 978 to the certificate holders could result in lower costs to employers and lesser benefits for employees living in Connecticut. Conversely, in states with lesser benefit maximums, applying S.B. 978 to out-of-state certificate holders in Connecticut could result in higher costs to employers and greater benefits to employees.

Please refer to the analysis of P.A. 09-115 in Chapter 1 for a discussion on approaches to treatment of ASD.

7. The impact of insurance coverage for diagnosis and treatment of autism spectrum disorders for certificate holders on the total cost of health care, including potential benefits or savings to insurers and employers resulting from prevention or early detection of disease or illness related to such coverage.

Holding the mandate language and population constant, the OI projected 2012 cost of extending C.G.S.A., §38a-514b to certificate holders, specifically the benefit for behavioral therapy, is $438,582 of which $372,794 (85 percent) is medical claims covered by the carrier and $65,788 is paid by employees as an out-of-pocket cost. The estimated total cost of health care does not include any potential benefits or savings that may result from functionality improvements resulting from behavioral therapy or other covered treatments for ASD. Although some savings may be expected, it is difficult to calculate the cost of illnesses or conditions that do not develop and the existing literature does not adequately justify parameters for such an estimate.

8. The impact of the mandated health care benefit on the cost of health care for small employers, as defined in section 38a-564 of the general statutes, and for employers other than small employers.

The OI projected premium for extending coverage of treatment of ASD using behavioral therapy to out-of-state certificate holders is 0.01 percent of the average $400 premium in 2012. Given that ASD coverage for certificate holders is anticipated to account for a small percentage of the total premium, it appears reasonable to expect the impact to be minimal for employers, regardless of size. Some of the premium cost may also be offset if the provision of ASD-related care leads to increased work productivity. [289]

9. The impact of the mandated health benefit on cost-shifting between private and public payers of health care coverage and on the overall cost of the health care delivery system in the state.

The overall cost of S.B. 978 to the health delivery system in the state is understood to include total insurance premiums (medical costs and retention) and cost sharing. The OI report projects the overall cost to Connecticut's health care delivery system in 2012 for extending C.G.S.A., §38a-514b to certificate holders, specifically the benefit for behavioral therapy, as $504,369. Of the overall cost, $372,794 is attributed to medical claims, $65,788 to cost sharing, and $65,787 to retention. Beyond the amount for cost-sharing (15 percent) which is paid out-of-pocket by the families for care, it is uncertain how much of the premium will represent a cost to the health care delivery system in Connecticut. This depends on whether premiums paid outside of Connecticut are considered part of the overall cost of health care delivery in the state. Contribution to overall cost also depends on whether the benefits covered under S.B. 978 would have been

[289] Filipek, P.A., Accardo, P.J., Ashwal, S. et, al. Practice parameter: screening and diagnosis of autism: report of the Quality Standards Subcommittee of the American Academy of Neurology and the Child Neurology Society. *Neurology* 2000 Aug 22; 55(4): 468-79.

covered under out-of-state mandates in the absence of such a measure.

It is unclear whether S.B. 978 will lead to a shift in cost from the public to private sector for health care coverage. To the extent that therapies paid for under private plans are additive to those offered through public funds (i.e.: public education system, DDS, etc.) or are already covered for certificate holders, a shift in cost between sectors will not occur. For further discussion about the potential for cost-shifting related to mandating coverage for the diagnosis and treatment of ASD, please refer to the analysis of P.A. 09-115 located in Chapter 1.

Chapter 4

Treatment of Prostate Cancer

Review and Evaluation of
Connecticut Public Act No. 11-225, Section 2

Prepared by:

Brian L. Benson, MPP

Mary U. Eberle, JD

University of Connecticut
Center for Public Health and Health Policy

Kathryn Parr

University of Connecticut

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I. Overview

In August 2011, the Chairs of the Insurance and Real Estate Committee of the Connecticut General Assembly (the Committee) directed the Connecticut Insurance Department to review several existing and proposed health benefits either required by Connecticut law to be included in group and/or individual health insurance policies or that would be required should the proposed legislation be enacted. The reviews are conducted following the requirements stipulated under Public Act 09-179. Reviews of required health insurance benefits are a result of collaborative efforts between the Connecticut Insurance Department (CID) and the University of Connecticut Center for Public Health and Health Policy (CPHHP).

The Committee requested a review of Connecticut Public Act (P.A.) 11-225 in a letter to the Commissioner of the Insurance Department dated August 26, 2011. P.A. 11-225 is composed of three Sections. Section 1 and 2 of P.A. 11-225 add prostate cancer treatment to the existing mandate for prostate cancer screening (C.G.S.A., §38a-492g and §38a-518g; effective on January 1, 2000) for individual and group health insurance policies, respectively, which are issued, delivered, renewed, amended or continued in Connecticut. For a full review of the social and financial impact of Connecticut's prostate cancer screening required benefit, please see *Connecticut Mandated Health Insurance Benefits Reviews, 2010, Volume I.*[290] Section 3 of P.A. 11-225 is related to the establishment of payment rates for certain health services or medical procedures. As such, Section 3 of P.A. 11-225 is not a required health benefit as defined in Public Act 09-179 and is therefore incompatible for review under the framework described in P.A. 09-179. The following report reviews the social and financial impact of Sections 1 and 2 of P.A. 11-225.

Connecticut Public Act 11-225, Sections 1 and 2, state that, effective January 1, 2012, certain types of group or individual health insurance policies,

> *"…delivered, issued for delivery, renewed, amended or continued in this state shall provide coverage for:*
>
> *(2) The treatment of prostate cancer, provided such treatment is medically necessary and in accordance with guidelines established by the National Comprehensive Cancer Network, the American CancerSociety or the American Society of Clinical Oncology."*

To evaluate this mandate, in October 2011, the CPHHP distributed and received responses to a survey requesting policy documents (e.g., utilization review processes, parameters for defining medical necessity, etc.) and data for the proportion of members with policy exclusions, the extent of member coverage, treatments requested and approved, and claims related to screening and treatment of prostate cancer, as specified by the mandate. Respondents included five insurers and managed care organizations (carriers) domiciled in Connecticut that cover approximately 911,000 lives enrolled in fully insured group and individual health insurance plans in Connecticut. Including self-funded plans, responding carriers cover about 77 percent (2.3 million lives) of the Connecticut population under age 65.

Current coverage

Connecticut statutes require coverage for treatment of tumors and leukemia in general (C.G.S.A., §38a-542 and § 38a-504), effective as amended since 1990. It is expected that prostate cancer treatment falls under this statute; however, it is not explicitly stated, nor did the review and evaluation of the treatment of tumors and leukemia delineate the social and financial impact of prostate cancer treatment individually. Survey responses from carriers also indicate that coverage for prostate cancer treatment is routinely included in fully insured group plans and individual health insurance policies in Connecticut.

[290] University of Connecticut. 2011. Connecticut mandated health insurance benefits reviews; 2010; Volume I. Accessed October 19, 2011 from: http://www.ct.gov/cid/cwp/view.asp?a=1254&q=447304.

Self-funded plans

Carrier responses to the 2011 CPHHP Survey suggest that benefits offered under self-funded plans are at least equivalent to those specified under P.A. 11-225.

Premium impact and cost sharing

The mandate is not expected to impact premiums or cost sharing. Although P.A. 11-225 adds language for the treatment of prostate cancer to the previously established prostate cancer screening mandate, the treatment of prostate cancer already falls under the more general coverage requirements set by the tumors and leukemia mandate (C.G.S.A., § 38a-542 and § 38a-504).

This report is intended to be read in conjunction with the General Overview and the OptumInsight Actuarial Report which is included as Appendix III.

II. Background

Incidence, Mortality, and Prevalence

Other than skin cancer, prostate cancer is the most frequently diagnosed cancer among men and the second leading cause of cancer death in men in the United States.[291] It is a cancer that forms in tissues of the prostate gland, which is part of the male reproductive system. Some prostate cancers are aggressive and life-threatening. Others grow very slowly and may never produce symptoms or become life-threatening before a man dies from other causes.

Prostate cancer generally occurs in men over 50 years of age and its incidence increases with age. During 2004-2008, median age at diagnosis was 67 years of age.[292] The National Cancer Institute estimates that 240,890 new cases will be diagnosed nationally in 2011.[293] During 2000-2008, prostate cancer incidence decreased by 1.9 percent annually.[294]

Table 4.1. Percent of Incidence of Prostate Cancer by Age and Percent of Deaths from Prostate Cancer by Age[295]

Age range	Incidence (percent)	Death (percent)
Under 20	0	0
20-34	0	0
35-44	0.6	0.1
45-54	9.1	1.4
55-64	30.7	7.5
65-74	35.3	19.9
75-84	19.9	40.3
85+	4.4	30.8

[291] American Cancer Society. 2011. Accessed November 22, 2011 from: http://www.cancer.org/Cancer/ProstateCancer/DetailedGuide/prostate-cancer-key-statistics.

[292] U.S. National Institutes of Health, National Cancer Institute. 2011. Surveillance Epidemiology and End Results. SEER Stat Fact Sheets: Prostate. Accessed October 19, 2011 from: http://seer.cancer.gov/statfacts/html/prost.html.

[293] U.S. National Institutes of Health, National Cancer Institute. 2011. Prostate Cancer. Accessed September 6, 2011 from: http://www.cancer.gov/cancertopics/types/prostate.

[294] U.S. National Institutes of Health, National Cancer Institute. 2011. Surveillance Epidemiology and End Results. SEER Stat Fact Sheets: Prostate. Accessed October 19, 2011 from: http://seer.cancer.gov/statfacts/html/prost.html.

[295] *Ibid.*

Table 4.2. Prostate Cancer Incidence Rates by Race, U.S.[296]

Race/Ethnicity	Male
All Races	156.0 per 100,000 men
White	149.5 per 100,000 men
Black	233.8 per 100,000 men
Asian/Pacific Islander	88.3 per 100,000 men
American Indian/Alaska Native	75.3 per 100,000 men
Hispanic	107.4 per 100,000 men

In 2011, an estimated 33,720 deaths will occur as a result of prostate cancer.[297] The lifetime risk of death due to prostate cancer for all males is 2.79 percent.[298] During 2003-2007, the age-adjusted death rate was 24.7 per 100,000 men per year in the U.S.[299] Black men have the highest death rate and Asian/Pacific Islanders have the lowest death rate among racial/ethnic groups.

Table 4.3. Prostate Cancer Death Rates by Race, U.S.[300]

Race/Ethnicity	Death rate
All Races	24.7 per 100,000 men
White	22.8 per 100,000 men
Black	54.2 per 100,000 men
Asian/Pacific Islander	10.6 per 100,000 men
American Indian/Alaska Native	20.0 per 100,000 men
Hispanic	18.8 per 100,000 men

Connecticut has a slightly higher annual incidence rate (162.1) than the U.S. as a whole (152.7).[301] As is the case in the U.S. as a whole, black men in Connecticut have a higher incidence of prostate cancer and a higher death rate than other racial/ethnic groups; however, while mortality is still higher than for other racial/ethnic groups, prostate cancer mortality rates for black men in Connecticut dropped from approximately 75 per 100,000 in 1997 to 38 per 100,000 in 2007.[302] During the five-year period of 2003-2007, prostate cancer mortality decreased 2.5 percent annually in Connecticut.[303]

Prevalence

As of January 1, 2008 there were approximately 2,355,464 men alive in the United States who had a history

[296] U.S. National Institutes of Health, National Cancer Institute. 2011. Surveillance Epidemiology and End Results. SEER Stat Fact Sheets: Prostate. Accessed October 19, 2011 from: http://seer.cancer.gov/statfacts/html/prost.html.

[297] U.S. National Institutes of Health, National Cancer Institute. 2011. Prostate Cancer. Accessed September 6, 2011 from: http://www.cancer.gov/cancertopics/types/prostate.

[298] American Cancer Society. 2010. Lifetime risk of developing or dying from cancer. Accessed October 19, 2011 from: http://www.cancer.org/Cancer/CancerBasics/lifetime-probability-of-developing-or-dying-from-cancer.

[299] U.S. National Institutes of Health, National Cancer Institute. 2011. Surveillance Epidemiology and End Results. SEER Stat Fact Sheets: Prostate. Accessed October 19, 2011 from: http://seer.cancer.gov/statfacts/html/prost.html.

[300] *Ibid.*

[301] National Cancer Institute. 2011. State Cancer Profiles. Connecticut; prostate. Accessed October 19, 2011 from: http://statecancerprofiles.cancer.gov/cgi-bin/quickprofiles/profile.pl?09&066.

[302] *Ibid.*

[303] National Cancer Institute. 2011. State Cancer Profiles. Connecticut; prostate. Accessed October 19, 2011 from: http://statecancerprofiles.cancer.gov/cgi-bin/quickprofiles/profile.pl?09&066.

of cancer of the prostate.[304] This includes any person alive on January 1, 2008 who had been diagnosed with cancer of the prostate at any point prior to January 1, 2008 and includes persons with active disease and those who are cured of their disease. A recent estimate of the prevalence of prostate cancer in Connecticut was not found. One study using the Connecticut Tumor Registry data from 1940-1993 reported prostate cancer prevalence proportion estimates per 100,000 men.

Table 4.4. Age Group and Race/Ethnicity Specific Prevalence Proportion Estimates per 100,000 Men, Connecticut, on January 1, 1994.[305]

Race/Ethnicity	Age Group		
	25-64	65-89	25-89
Whites	2,390	35,850	38,240
Blacks	3,889	42,523	46,412

Through analysis of its in-house claims data, OptumInsight found a prostate cancer prevalence rate in 2010 for men 65 years of age or younger of 1.1 percent nationally and 1.7 percent in Connecticut.

A research study using prostate tissues from organ donors found that prostate cancer escalated from the 5th decade of life and it had increasing prevalence with age. The authors report that many of the cancers may be clinically insignificant based on Gleason score and small size. Prostate cancer (prostate adenocarcinoma) was found in 23.4 percent of the organ donors aged 50-59 at death; in 34.7 percent of organ donors age 60-69 at death; and in 45.5 percent of organ donors age 70-81 at death.[306]

Prostate cancer screening

The focus of this review is prostate cancer treatment; therefore prostate cancer screening and screening recommendations are only briefly discussed herein. For a comprehensive review of the social and financial impact of prostate cancer screening and screening recommendations, please see *Connecticut Mandated Health Insurance Benefits Reviews, 2010, Volume 1, Chapter 2*.[307]

Several laboratory and diagnostic tests are used for prostate cancer screening including digital rectal exam, prostate-specific antigen test and transrectal ultrasound.

Digital rectal exam

In a digital rectal exam (DRE), a physician palpates the prostate through the rectum to determine if there is any lumpy, hard or otherwise irregular tissue. Prior to the discovery of PSA, this was the main method to check for prostate cancer. As a general rule, irregularities in the prostate from cancer are likely to be more advanced before they can be detected by DRE. Evidence is mixed on whether combining Digital Rectal Exam (DRE) with PSA tests increases the detection of prostate cancer. The European Randomized Study of Screening for Prostate Cancer (ERSPC) found that DRE combined with PSA tests did not increase the rate of prostate cancer detection over PSA tests alone.[308]

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[304] U.S. National Institutes of Health, National Cancer Institute. 2011. Surveillance Epidemiology and End Results. SEER Stat Fact Sheets: Prostate. Accessed October 19, 2011 from: http://seer.cancer.gov/statfacts/html/prost.html.

[305] Merrill RM, Capocaccia R, Feuer EJ, et al. 2000. Cancer prevalence estimates based on tumour registry data in the Surveillance, Epidemiology, and End Results (SEER) program. *International Journal of Epidemiology* 29: 197-207.

[306] Yin M, Bastacky S, Chandran U, et al. 2008. Prevalence of incidental prostate cancer in the general population: a study of healthy organ donors. *The Journal of Urology* 179: 892-5.

[307] Accessed October 19, 2011 from: http://www.ct.gov/cid/cwp/view.asp?a=1254&q=447304

[308] Schroder FH, Hugosson J, Roobol MJ, et al. 2009. Screening and prostate-cancer mortality in a randomized European study. *New England Journal of Medicine* 360: 1320-8.

Prostate-specific antigen test

The prostate-specific antigen (PSA) test measures the level of PSA in the blood. PSA is a substance made by the prostate that may be found in an increased amount in the blood of men who have prostate cancer. PSA levels may also be high in men who have an infection or inflammation of the prostate or benign prostatic hyperplasia (BPH). BPH is a non-malignant enlargement of the prostate gland that may interfere with urination, has many of the same symptoms as prostate cancer and is common in older men.

The ERSPC and the Prostate, Lung, Colon, and Ovary Trial of the National Cancer Institute (NCI), recently found that there was little or no difference in the rate of prostate cancer deaths between those men screened for PSA levels and those men who were not screened.[309], [310] In October 2011, the United States Preventive Services Task Force (USPSTF) revised its recommendations for prostate cancer screening. Current USPSTF recommendations state that prostate-specific antigen–based screening results in small or no reduction in prostate cancer–specific mortality and is associated with harms related to subsequent evaluation and treatments, some of which may be unnecessary.[311]

Transrectal ultrasound

Transrectal ultrasound is a procedure in which a probe is inserted into the rectum to check the prostate. The probe bounces high-energy sound waves (ultrasound) off internal tissues or organs and makes echoes. The echoes form a picture of body tissues called a sonogram. Transrectal ultrasound may also be used during a biopsy.

Prostate cancer treatment

Because there is uncertainty about the benefits of treating prostate cancer for many men, there is no consensus regarding optimal treatment.[312] All treatments have risks of complications, although frequency and severity may vary. According to the U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality, common treatments include watchful waiting (active surveillance), surgery to remove the prostate gland (radical prostatectomy), external beam radiotherapy (EBRT) and interstitial radiotherapy (brachytherapy), freezing the prostate/tumor (cryotherapy), and androgen deprivation therapy (ADT).[313] See Table 4.5 for descriptions of common treatment options for prostate cancer.

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[309] *Ibid.*

[310] Andriole GL, Grubb RL, Buys SS, et al. 2009. Mortality results from a randomized prostate cancer screening trial. *New England Journal of Medicine* 360: 1310-19.

[311] Chou R, Croswell JM, Dana T, et al. 2011. Screening for prostate cancer: a review of the evidence for the U.S. Preventive Services Task Force. AHRQ Publication No. 12-05160-EF-3.
Accessed October 20, 2011 from: http://www.uspreventiveservicestaskforce.org/uspstf12/prostate/prostateart.htm.

[312] U.S. Preventive Services Task Force. 2008. Screening for prostate cancer: U.S. preventive services task force recommendation statement. *Annals of Internal Medicine* 149: 185-91.

[313] Wilt TJ, Shamliyan T, Taylor B, et al. 2008. Comparative effectiveness of therapies for clinically localized prostate cancer. Rockville, MD: Agency for Health Care Research and Quality; 2008. Comparative Effectiveness Review no. 13. AHRQ publication no. 08-EHC010-1.
Accessed November 21, 2011 from: http://www.effectivehealthcare.ahrq.gov/ehc/products/9/79/2008_0204ProstateCancerExecSum.pdf.

Table 4.5. Treatment options for clinically localized prostate cancer[314]

Treatment option	Treatment Description
Radical retropubic or perineal prostatectomy (RP)	Complete surgical removal of prostate gland with seminal vesicles, ampulla of vas, and, sometimes, pelvic lymph nodes. Sometimes done laparoscopically or with robotic assistance and attempt to preserve nerves for erectile function.
External beam radiotherapy (EBRT)	Multiple doses of radiation from an external source applied over several weeks. Dose and physical characteristics of beam may vary. Conformal radiotherapy uses 3D planning systems to maximize dose to prostate cancer and attempt to spare normal tissue. Intensity modulated radiation therapy (IMRT) provides the precise adjusted dose of radiation to target organs, with less irradiation of healthy tissues than conformal radiation therapy. Proton radiation therapy is a form of EBRT in which protons rather than photons are directed in a conformal fashion to a tumor site. The use of the heavier single proton beam (vs. photon therapy) allows for a low entrance dose and maximal dose at the desired tumor location with no exit dose. This theoretically permits improved dose distribution (delivering higher dose to the tumor with lower dose to normal tissue) than other EBRT techniques. May be used alone or in combination with proton and photon-beam radiation therapy.
Brachytherapy	Radioactive implants placed under anesthesia using radiologic guidance. Lower dose/permanent implants typically used. External beam "boost" radiotherapy and/or androgen deprivation sometimes recommended.
Cryoablation	Destruction of cells through rapid freezing and thawing using transrectal guided placement of probes and injection of freezing/thawing gases.
Androgen deprivation therapy	Oral or injection medications or surgical removal of testicles to lower or block circulating androgens.
Watchful waiting (active surveillance)	Active plan to postpone intervention. May involve monitoring with digital rectal exam/prostate-specific antigen test and repeat prostate biopsy with further therapy (either curative or palliative) based on patient preference, symptoms, and/or clinical findings.
Laparoscopic radical prostatectomy (LRP) and robotic assisted radical prostatectomy (RLRP)	Video-assisted, minimally invasive surgical method to remove the prostate.
High-intensity focused ultrasound therapy (HIFU)	High-intensity focused ultrasound therapy has been used as a primary therapy in patients with localized prostate cancer not suitable for radical prostatectomy. Tissue ablation of the prostate is achieved by intense heat focused on the identified cancerous area.

[314] *Ibid.*

Prostate cancer staging and treatment

The National Cancer Institute is one source of information for patients and their families about various aspects of the disease, treatment and care. The following is a summary of prostate cancer staging and treatment options discussed in the patient version of the National Cancer Institute publication for prostate cancer treatment.

[*Adapted from the patient version of the National Cancer Institute publication "Prostate Cancer Treatment (PDQ®)," available at:*
http://www.cancer.gov/cancertopics/pdq/treatment/prostate/Patient/AllPages#10]

After prostate cancer has been diagnosed, tests are done to find out if cancer cells have spread within the prostate or to other parts of the body. The process used to find out if cancer has spread within the prostate or to other parts of the body is called staging. The information gathered from the staging process determines the stage of the disease. It is important to know the stage in order to plan treatment. Tests used for staging may include radionuclide bone scan, magnetic resonance imaging (MRI), pelvic lymphadenectomy, CT scan, and seminal vesicle biopsy.

Cancer spreads in the body in three ways:

- through surrounding normal tissue
- through invading the lymph system and traveling through the lymph vessels to other places in the body
- through the blood via veins and capillaries to other places in the body.

When cancer cells break away from the primary (original) tumor and travel through the lymph or blood to other places in the body, another (secondary) tumor may form. This process is called metastasis. The secondary (metastatic) tumor is the same type of cancer as the primary tumor. For example, if prostate cancer spreads to the bones, the cancer cells in the bones are actually prostate cancer cells. The disease is metastatic prostate cancer, not bone cancer.

Prostate cancer can progress through four stages if it is not successfully treated. These stages are identified as Stage I, II, III and IV, although Stage II includes Stage IIA and IIB. As prostate cancer progresses from Stage I to Stage IV, the cancer cells grow within the prostate, through the outer layer of the prostate into nearby tissue, and then to lymph nodes or other parts of the body.

In Stage I, cancer is found in the prostate only.

In Stage II, cancer is more advanced than in Stage I, but has not spread outside the prostate. Stage II is divided into Stage IIA and Stage IIB. In Stage IIA, cancer is found in one lobe of the prostate. In Stage IIB, cancer is found in both lobes of the prostate.

In Stage III, cancer has spread beyond the outer layer of the prostate on one or both sides and may have spread to the seminal vesicles.

In Stage IV, the cancer has spread beyond the seminal vesicles to nearby tissue or organs, such as the rectum, bladder, or pelvic wall; or has spread to distant parts of the body, which may include lymph nodes or bones. Prostate cancer often spreads to the bones.

Recurrent Prostate Cancer

Recurrent prostate cancer is cancer that has recurred after it has been treated. The cancer

may come back in the prostate or in other parts of the body.

Treatment Options:

Different types of treatment are available for patients with prostate cancer; some are standard (the currently used treatment), and some are being tested in clinical trials. Six types of standard treatment are used:

Watchful waiting

Watchful waiting is closely monitoring a patient's condition without giving any treatment until symptoms appear or change. This is usually used in older men with other medical problems and early-stage disease.

Surgery

Patients in good health are usually offered surgery as treatment for prostate cancer. The following types of surgery are used:

Pelvic lymphadenectomy: A surgical procedure to remove the lymph nodes in the pelvis. A pathologist views the tissue under a microscope to look for cancer cells. If the lymph nodes contain cancer, the doctor will not remove the prostate and may recommend other treatment.

Radical prostatectomy: A surgical procedure to remove the prostate, surrounding tissue, and seminal vesicles. The two types of radical prostatectomy are retropubic prostatectomy, a surgical procedure to remove the prostate and nearby lymph nodes through an incision in the abdominal wall; and perineal prostatectomy, a surgical procedure to remove the prostate through an incision made in the perineum. Nearby lymph nodes may also be removed through a separate incision in the abdomen.

Transurethral resection of the prostate (TURP): A surgical procedure to remove tissue from the prostate using a resectoscope (a thin, lighted tube with a cutting tool) inserted through the urethra. This procedure is sometimes done to relieve symptoms caused by a tumor before other cancer treatment is given. Transurethral resection of the prostate may also be done in men who cannot have a radical prostatectomy because of age or illness.

Side effects of surgery: Impotence and leakage of urine from the bladder or stool from the rectum may occur in men treated with surgery. In some cases, doctors can use a technique known as nerve-sparing surgery. This type of surgery may save the nerves that control erection. However, men with large tumors or tumors that are very close to the nerves may not be able to have this surgery. The penis may be one to two centimeters shorter after a radical prostatectomy. The exact reason for this is not known. Inguinal hernia is bulging of fat or part of the small intestine through weak muscles into the groin. Inguinal hernia may occur more often in men treated with radical prostatectomy than in men who have some other types of prostate surgery, radiation therapy, or prostate biopsy alone. It is most likely to occur within the first two years after radical prostatectomy.

Radiation therapy

Radiation therapy is a cancer treatment that uses high-energy x-rays or other types of radiation to kill cancer cells or prevent them from growing. There are two types of radiation therapy including external radiation therapy and internal radiation therapy. During external radiation therapy, a machine outside the body sends radiation toward the cancer. Internal radiation therapy uses a radioactive substance sealed in needles, seeds, wires, or catheters that are placed directly into or near the cancer. The type of radiation therapy given depends on

the type and stage of the cancer being treated.

Side effects of radiation therapy: There is an increased risk of bladder cancer and/or rectal cancer in men treated with radiation therapy. Impotence and urinary problems may occur in men treated with radiation therapy.

Hormone therapy

Hormone therapy removes hormones or blocks their action and stops cancer cells from growing. Hormones are substances produced by glands in the body and circulated in the bloodstream. In prostate cancer, male sex hormones can cause prostate cancer to grow. Drugs, surgery, or other hormones are used to reduce the production of male hormones or block them from working.

Side effects of hormone therapy: Hot flashes, impaired sexual function, loss of desire for sex, and weakened bones may occur in men treated with hormone therapy. Other side effects include diarrhea, nausea, and pruritus (itching).

Chemotherapy

Chemotherapy is a cancer treatment that uses drugs to stop the growth of cancer cells, either by killing the cells or by stopping them from dividing. When chemotherapy is taken by mouth or injected into a vein or muscle, the drugs enter the bloodstream and can reach cancer cells throughout the body (systemic chemotherapy). When chemotherapy is placed directly into the cerebrospinal fluid, an organ, or a body cavity such as the abdomen, the drugs mainly affect cancer cells in those areas (regional chemotherapy). The way the chemotherapy is given depends on the type and stage of the cancer being treated.

Side effects of chemotherapy: fatigue, nausea, vomiting, decreased blood cell counts, hair loss, mouth sores, and pain

Biologic therapy

Biologic therapy is a treatment that uses the patient's immune system to fight cancer. Substances made by the body or made in a laboratory are used to boost, direct, or restore the body's natural defenses against cancer. This type of cancer treatment is also called biotherapy or immunotherapy.

Clinical trials

Several types of treatment are being tested in prostate cancer clinical trials. For example:

- Cryosurgery is a treatment that uses an instrument to freeze and destroy prostate cancer cells. This type of treatment is also called cryotherapy.
- High-intensity focused ultrasound is a treatment that uses ultrasound to destroy cancer cells.
- Proton beam radiation therapy is a type of high-energy, external radiation therapy that targets tumors with streams of protons (small, positively charged particles).

For some patients, taking part in a clinical trial may be the best treatment choice. Patients can enter clinical trials before, during, or after standard treatments begin. There are also clinical trials that test new ways to stop recurrence or reduce side effects. While clinical trials take place in many parts of the country, the availability of any specific clinical trial appropriate for a specific patient may be limited for several reasons, including the fact that clinical trials generally have limited enrollment capacity and the realities of geography can be

a difficult obstacle to overcome for many patients.

Treatment Options by Stage

Treatment of Stage I prostate cancer may include the following:

- Watchful waiting.
- Radical prostatectomy, usually with pelvic lymphadenectomy, with or without radiation therapy after surgery.
- External-beam radiation therapy.
- Implant radiation therapy.
- A clinical trial of high-intensity focused ultrasound.

Treatment of Stage II prostate cancer may include the following:

- Watchful waiting.
- Radical prostatectomy, with or without pelvic lymphadenectomy. Radiation therapy may be given after surgery.
- External-beam radiation therapy with or without hormone therapy.
- Implant radiation therapy.
- A clinical trial of radiation therapy with or without hormone therapy.
- A clinical trial of ultrasound -guided cryosurgery.
- A clinical trial of high-intensity focused ultrasound.
- A clinical trial of proton beam radiation therapy.
- Clinical trials testing new types of treatment, such as hormone therapy followed by radical prostatectomy.

Treatment of Stage III prostate cancer may include the following:

- External-beam radiation therapy with or without hormone therapy.
- Hormone therapy.
- Radical prostatectomy, with or without pelvic lymphadenectomy. Radiation therapy may be given after surgery.
- Watchful waiting.
- Radiation therapy, hormone therapy, or transurethral resection of the prostate as palliative therapy to relieve symptoms caused by the cancer.
- A clinical trial of radiation therapy.
- A clinical trial of ultrasound-guided cryosurgery.

Treatment of Stage IV prostate cancer may include the following:

- Hormone therapy.
- External-beam radiation therapy with or without hormone therapy.
- Radiation therapy or transurethral resection of the prostate as palliative therapy to relieve symptoms caused by the cancer.
- Watchful waiting.
- A clinical trial of radical prostatectomy with orchiectomy.

Treatment of recurrent prostate cancer may include the following:

- Radiation therapy.
- Prostatectomy for patients initially treated with radiation therapy.
- Hormone therapy.
- Biologic therapy with sipuleucel-T for patients already treated with hormone therapy.
- Chemotherapy.
- Pain medication, external radiation therapy, internal radiation therapy with radioisotopes such as strontium-89, or other treatments as palliative therapy to lessen bone pain.
- A clinical trial of ultrasound-guided cryosurgery.
- A clinical trial of new anticancer drugs.

Treatment risks

The American Cancer Society and the U.S. Preventive Services Task Force (USPSTF) acknowledge that treatment for prostate cancer can cause moderate to substantial harms, including erectile dysfunction, urinary incontinence, bowel dysfunction, and death.[315] Additional studies document similar prostate cancer treatment risks and its effect on quality of life.[316, 317, 318, 319]

Gleason scores

The tumor grading system for prostate cancer is called the Gleason score. Cells in different areas of the tumor are not necessarily all the same. Some parts may appear similar to normal prostate tissue, while others may look more abnormal. The Gleason score assesses different patterns of cells in the tumor and assigns a primary grade from 1 to 5 based on the most common pattern and a secondary grade, also from 1 to 5, based on the second most common pattern. The grades are based on the ability of the cancer cells to form clusters that look like the glands of normal prostate tissue. If the cancer cells look most like normal prostate tissue, a grade of 1 is assigned. If the cancer lacks these features and its cells seem to spread unevenly through the prostate, it is assigned a grade of 5. Grades 2 through 4 have intermediate features.[320]

Clinical Treatment/Practice Guidelines

The legislation under review requires coverage of prostate cancer treatment if it is medically necessary and in accordance with guidelines established by the National Comprehensive Cancer Network, the American Cancer Society or the American Society of Clinical Oncology. Organizations may publish guidelines that outline appropriate methods of treatment and care to be used primarily by medical providers in developing clinical treatment plans for a specific patient. Guidelines can address specific clinical situations (disease-oriented) or use of approved medical products, procedures, or tests (modality-oriented).[321] Another type of guideline is intended to inform patients about recommended treatment options and expected outcomes.

[315] Smith R, Cokkinides V, Brawley O. 2009. Cancer screening in the United States, 2009, A review of current American Cancer Society guidelines and issues in cancer screening. *CA Cancer J Clin* 59;27-41.

[316] Sanda MG, Dunn RL, Michalski J, et al. 2008. Quality of life and satisfaction with outcome among prostate-cancer survivors. *New England Journal of Medicine* 358(12): 1250-61.

[317] Potosky AL, Legler J, Albertsen PC, et al. 2000. Health outcomes after prostatectomy or radiotherapy for prostate cancer: results from the prostate cancer outcomes study. Journal of the *National Cancer Institute* 92(19): 1582-92.

[318] Potosky AL, Davis WW, Hoffman RM, et al. 2004. Five-year outcomes after prostatectomy or radiotherapy for prostate cancer: the prostate cancer outcomes study. Journal of the *National Cancer Institute* 96(18): 1358-67.

[319] Stanford JL, Feng Z, Hamilton AS, et al. 2000. Urinary and sexual function after radical prostatectomy for clinically localized prostate cancer: the prostate cancer outcomes study. *Journal of the American Medical Association* 283(3): 354-60.

[320] National Comprehensive Cancer Network. 2011. NCCN Guidelines for Patients: Prostate Cancer. Accessed November 7, 2011 from: http://www.nccn.com/files/cancer-guidelines/prostate/index.html#/1/.

[321] ASCO. 2011. Accessed November 22, 2011 from: http://www.asco.org/ASCOv2/Practice+ percent26+Guidelines/Guidelines/Clinical+Practice+Guidelines/Genitourinary+Cancer.

Because guidelines intended for patients do not provide the level of detail amenable for consultation in determining an appropriate course of treatment by providers or insurers, it is assumed that the legislative intent is related to the use of clinical practice guidelines rather than patient guidelines. Of the organizations referenced in the legislation, comprehensive clinical practice guidelines were found only from the National Comprehensive Cancer Network. CPHHP researchers found one clinical practice guideline established by The American Society of Clinical Oncology: "Initial Hormonal Management of Androgen-Sensitive Metastatic Recurrent, or Progressive Prostate Cancer."[322] This guideline is applicable in a relatively small number of prostate cancer cases.

The ASCO lists one other clinical practice guideline on its website related to a specific type of treatment for a specific type and stage of prostate cancer ["Non-Hormonal Therapy for Men with Metastatic Hormone Refractory (castration-resistant) Prostate Cancer"].[323] This clinical practice guideline was not established by the ASCO; rather it was established by another organization and endorsed by the ASCO. (In 2006, the ASCO Board of Directors approved a policy and a set of procedures for endorsing clinical practice guidelines that have been developed by other professional organizations.)[324] Because this clinical practice guideline is endorsed rather than established by the ASCO, it is unclear if the legislation would require insurance coverage of treatment that follows this clinical practice guideline.

The American Cancer Society appears to publish patient guidelines only for prostate cancer treatment and recommendations for prostate cancer screening and early detection.

The American Urological Association publishes comprehensive clinical treatment/practice guidelines for prostate cancer treatment but is not referenced in the legislation.

Treatment population and insurance coverage

Because the majority of prostate cancer cases that require treatment emerge later in life, a relatively larger percentage of prostate cancer treatment is covered by Medicare compared to treatments for many other types of cancer. During 2000-2008, the incidence rate for prostate cancer for men 65 years of age or older was more than ten times the rate for men younger than 65, and the mortality rate for men 65 years of age or older was more than 100 times the rate for men younger than 65.[325]

High risk or special populations that require or receive prostate cancer treatment

One study found that low socioeconomic status was significantly associated with decreasing survival in all men with prostate carcinoma and that racial disparity in survival among men with prostate cancer was largely explained by socioeconomic factors.[326] Another study noted that while much attention focuses on potential overdiagnosis and overtreatment of men whose prostate cancer is detected through screening, there is evidence that suggests that for low income, uninsured men, underdetection and undertreatment remain significant concerns.[327] In 2008, blacks had an incidence rate of prostate cancer that was approximately 60

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[322] Loblaw DA, Virgo KS, Nam R, et al. 2007. Initial hormonal management of androgen-sensitive metastatic, recurrent, or progressive prostate cancer: 2007 update of an American Society of Clinical Oncology Practice Guideline. *Journal of Clinical Oncology* 25(12): 1596-1605.

[323] Basch EM, Somerfield MR, Beer TM, et al. 2007. American society of clinical oncology endorsement of the cancer care Ontario practice guideline on nonhormonal therapy for men with metastatic hormone-refractory (castration-resistant) prostate cancer. *Journal of Clinical Oncology* 25(33): 5313-18.

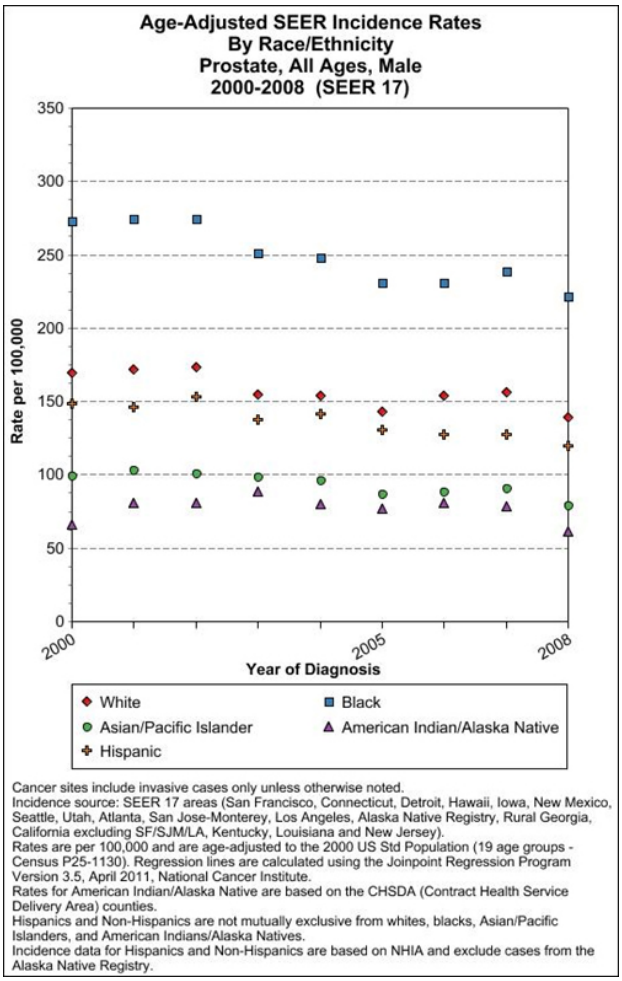
[324] *Ibid.*

[325] U.S. National Institutes of Health, National Cancer Institute. 2011. Surveillance Epidemiology and End Results. SEER Fast Stats. Accessed November 28, 2011 from: http://seer.cancer.gov/faststats/selections.php?series=age.

[326] Du XL, Fang S, Coker AL, et al. 2006. Racial disparity and socioeconomic status in association with survival in older men with local/regional stage prostate carcinoma: findings from a large community-based cohort. *Cancer* 106(6): 1276-85.

[327] Miller DC, Litwin MS, Bergman J, et al. 2009. Prostate cancer severity among low income, uninsured men. *The Journal of Urology* 181: 579-84.

percent higher than whites.[328] See Figure 4.1 (right).



III. Methods

Under the direction of CPHHP, medical librarians at the Lyman Maynard Stowe Library at the UConn Health Center (UCHC) gathered published articles and other information related to medical, social, economic, and financial aspects of the required benefit. Medical librarians conducted literature searches using:

- PubMed
- UptoDate
- DynaMed
- Essential Evidence Plus
- Cochrane Database of Systematic Reviews
- Web Search – Google

Keywords used included: prostate cancer, prostatic neoplasms, treatment, therapy, drug therapy, radiotherapy, practice guidelines; economics, financial support, insurance, diet therapy, surgery, treatment outcome, comparative treatment outcome, risk assessment, risk factors, cost-benefit analysis, combined modality therapy, complementary therapies, utilization, plant extracts/therapeutic use, antineoplastic agents, hormonal/therapeutic use.

CPHHP staff conducted independent literature searches using Scopus, Cochrane Database of Systematic Reviews, Web of Science and Google using several of the search terms used by the UCHC medical librarians. CPHHP staff also conducted literature searches for approaches to prostate cancer treatment using alternative, holistic, and complementary medicine; cost-effectiveness analysis and cost-utility analysis; and prostate cancer prevalence in Connecticut.

Where available, articles published in peer-reviewed journals and books authored or edited by experts in the applicable field of medicine are cited to support the analysis. Other sources of information may also be cited in the absence of peer-reviewed journal articles and books. Content from such sources may or may not be based on scientific evidence.

CPHHP consulted with clinical faculty and staff from the University of Connecticut School of Medicine on matters pertaining to medical standards of care, traditional, current and emerging practices, and evidence-based medicine related to the benefit if necessary. Additionally, staff may have consulted practitioners in the community for additional and/or specialized information if necessary.

Staff gathered additional information through telephone and e-mail inquiries to appropriate state, federal, municipal, and non-profit entities; internet sources such as the websites of organizations related to cancer,

[328] Miller DC, Litwin MS, Bergman J, et al. 2009. Prostate cancer severity among low income, uninsured men. *The Journal of Urology* 181: 579-84.

prostate cancer, and cancer research including the American Cancer Society and the National Cancer Institute; the State of Connecticut website; Centers for Medicare and Medicaid (CMS) website; other states' websites; professional organizations' websites; and non-profit and community-based organization websites.

With the assistance of the Connecticut Insurance Department (CID), CPHHP requested and received 2009 and 2010 coverage, plan enrollment and claims data from five insurance companies and managed care organizations (MCOs), referred to as "carriers," domiciled in Connecticut. Five carriers provided coverage and claims data for their fully insured group plans and five provided coverage and enrollment data for self-funded groups for which they provide administrative services only. Responding carriers account for approximately 90 percent of covered lives under fully insured group plans and self-funded plans.

CPHHP and the CID contracted with the actuarial firm OptumInsight (OI) to provide actuarial and economic analyses of the mandated benefit. OI analyzed 2010 data received from Connecticut domiciled health plan carriers and OI's in-house national and Connecticut-specific claims data from 2009 and 2010 to assess utilization and cost of services provided for the treatment of prostate cancer. The full OI report is available in Appendix III.

IV. Social Impact

1. The extent to which prostate cancer treatment is utilized by a significant portion of the population.

The American Cancer Society estimates that there will be 2,940 new prostate cancer cases in Connecticut in 2010.[329] Of these, a maximum of 603 are estimated to be covered by fully insured group and individual insurance policies subject to the mandated benefit.[330] This should be viewed as a high estimate because it does not account for the fact that prostate cancer, and its treatment, occurs frequently in the male population 65 years of age and older. Additionally, many prostate cancer tumors are slow-growing and treated under a watchful waiting/active surveillance approach.

2. The extent to which prostate cancer treatment is available to the population, including, but not limited to, coverage under Medicare, or through public programs administered by charities, public schools, the Department of Public Health, municipal health departments or health districts or the Department of Social Services.

Medicare

Patients aged 65 and older account for approximately 56 percent of cancer cases;[331] many patients aged 65 and older are covered by Medicare. Medicare covers surgical treatment of prostate cancer (prostatectomy) under Medicare Part A (hospital benefits).

- Chemotherapy: Medicare Part A covers chemotherapy for patients who are hospital A or B inpatients. In most cases, the patient must pay 20 percent of the Medicare-approved amount.[332] Medicare Part B covers chemotherapy for hospital outpatients, or patients in a doctor's office or freestanding clinic. In most cases, the patient must pay 20 percent of the Medicare-approved amount. Hospital outpatients must pay a copayment.[333]

[329] American Cancer Society. Cancer Facts & Figures 2010. Atlanta: American Cancer Society; 2010.

[330] Based on the estimated number of persons in Connecticut covered by fully insured group and individual insurance plans subject to state regulation and the estimated percent of cancer cases that occur in the under-65 years of age population.

[331] McKoy JM, Fitzner KA, Edwards BJ, et al. 2007. Cost considerations in the management of cancer in the older patient. *Oncology* 21(7): 851-7.

[332] Medicare Coverage Guidelines for Inpatient Chemotherapy (Connecticut)

[333] Medicare Coverage Guidelines for Outpatient Chemotherapy (Connecticut)

- Radiation: Medicare Part A covers radiation therapy for patients being treated in a hospital (both inpatient and outpatient). Patients must pay 20 percent of the Medicare-approved amount.[334] Medicare Part B covers radiation therapy for patients in freestanding facilities. The patient must pay a set copayment amount for radiation therapy in a hospital outpatient setting or in a freestanding facility.[335]

Public Programs Administered by Charities

There is a wide array of cancer-related charities and foundations throughout the country that may provide financial assistance for treatment of prostate cancer, including chemotherapy, radiation, and surgery; and financial assistance for travel and related expenses for patients and their families. The charities' resources are limited due to their own financial constraints and eligibility is generally based on an applicant's income and assets.

Many prostate cancer charities provide non-financial support, education and advocacy rather than financial assistance. Among these are Us TOO International Prostate Cancer Education and Support Network, the American Prostate Society and the Prostate Net. Additionally, charities may primarily fund prostate cancer research, for example, the Prostate Cancer Foundation.

Hospitals may provide prostate cancer treatment at reduced or no cost as part of a charitable mission or community service. For example, the Curtis D. Robinson Men's Health Institute at St. Francis Hospital and Medical Center in Hartford, Connecticut provides free services to men who are uninsured and underinsured, including patient education, early diagnosis and appropriate treatment for men with or at risk for prostate cancer. Most hospitals in Connecticut that provide prostate cancer treatment also sponsor support groups or offer other patient and family support services at no cost to patients/participants.

The American Cancer Society (ACS) does not offer health care insurance, and does not have the means available to provide financial assistance to all those in need. ACS provides answers to financial and insurance questions, helps with transportation and lodging, and funds cancer research.[336]

Public Programs Administered by Public Schools

No information was found that would indicate public schools would be a source of funding for prostate cancer treatment or provide prostate cancer treatment.

The Department of Public Health (DPH)

The Connecticut Department of Public Health (DPH) website includes information and resources related to cancer, including in-depth information about prostate cancer. The DPH does not provide direct funding for prostate cancer treatment; however, the DPH Comprehensive Cancer Control Program supports the efforts of the Curtis D. Robinson Men's Health Institute at St. Francis Hospital and Medical Center (see above).

Municipal Health Departments

No information was found that would indicate municipal health departments would be a source of treatment for prostate cancer or provide funding for treatment of prostate cancer. Municipal health departments routinely provide cancer/cancer prevention information and resources, early detection and screening services or referrals, and treatment referral services for residents.

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[334] Medicare Coverage Guidelines for Inpatient Radiation (Connecticut)

[335] Medicare Coverage Guidelines for Outpatient Radiation (Connecticut)

[336] American Cancer Society. 2007. "Access to Health Care".
Accessed June 1, 2010 from: http://www.cancer.org/docroot/subsite/accesstocare/content/Frequently_Asked_Questions.asp.

The Department of Social Services (DSS)
The Department of Social Services, through its Medicaid program, provides funding for prostate cancer treatment as follows:

- Surgery: Medicaid covers the cost associated with tumor removal/prostatectomy. Costs allowed per specific procedure can be found on the DSS surgical fee schedule.[337]

- Chemotherapy and radiation: Medicaid covers medically necessary and appropriate services, which include chemotherapy and radiation therapy.[338] The physician administered drugs section of the DSS Physician Office and Outpatient Fee Schedule includes chemotherapy drugs.[339]

3. The extent to which insurance coverage is already available for prostate cancer treatment.

State of Connecticut law requires coverage for treatment of tumors, which includes treatment for prostate cancer, in group health plans and individual insurance policies.[340] Roughly 29 percent of Connecticut residents under age 65 are covered by these plans.[341] Consistent with state law, carrier responses to the 2011 CPHHP Survey indicate that at least 98 percent of covered lives under their plans in 2009 and 2010 had coverage for prostate cancer treatment. For self-funded plans, which cover approximately 46 percent of Connecticut residents, survey responses received in 2011 from five carriers domiciled in Connecticut and covering more than 1.4 million lives report coverage for prostate cancer treatment at or exceeding the level described under P.A. 11-225.

Sections 1 and 2 of Public Act 11-225 require coverage specifically for prostate cancer treatment, effective January 1, 2012, thus ensuring coverage for prostate cancer treatment in the event that the statutes requiring coverage for treatment of tumors and leukemia (C.G.S.A., § § 38a-542 and 504) are repealed and Sections 1 and 2 of P.A. 11-225 remain in effect. As described in the comprehensive review of Connecticut's existing mandates completed in January 2011, the "tumors and leukemia" mandate prescribes minimum coverage levels of $500 for surgical removal of tumors and $500 for chemotherapy. These minimum coverage levels are a fraction of the actual costs of these treatments. P.A. 11-225 mandates treatment for prostate cancer without regard to the minimum coverage level in the "tumor and leukemia" mandate.

4. If the coverage is not generally available, the extent to which such lack of coverage results in persons being unable to obtain necessary health care treatment.

Coverage of prostate cancer treatment is required and generally available for persons enrolled in fully insured group plans and individual health insurance policies. Coverage is typically included in self-funded plans; persons enrolled in fully insured and self-funded group plans represent the majority of the insured population under age 65 in Connecticut. Medicare and Medicaid also cover treatment of prostate cancer. Thus on the whole, persons with either private or public health insurance coverage do not face barriers to care.

Most of the persons unable to obtain necessary health care treatment (in this case, men in need of prostate cancer treatment) are uninsured or underinsured or face other obstacles to care such as lack of health literacy.

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[337] DSS Provider Fee Schedule: Surgical, 2010.

[338] Personal communication. Nina Holmes. State of Connecticut Department of Social Services, Medical Policy Unit. April 8, 2010.

[339] DSS Provider Fee Schedule: Physician Office & Outpatient Fee Schedule, Specifically J, Q & S Codes

[340] Conn. Gen. Stat. Ann. § 38a-504 (individual insurance policies); § 38a-542 (group insurance policies).

[341] The Kaiser Commission on Medicaid and the Uninsured. Supplemental data tables. In: The Uninsured A primer. Key facts about Americans without health insurance. Kaiser Family Foundation. October 2011. p.36-37. Accessed December 2, 2011 from: http://kff.org/uninsured/upload/7451-07.pdf

5. If the coverage is not generally available, the extent to which such a lack of coverage results in unreasonable financial hardships on those persons needing treatment.

As noted above, coverage for prostate cancer treatment is required to be included in fully insured group plans and individual health insurance policies issued in Connecticut and is routinely included in self-funded plans, and is therefore generally available. Prostate cancer treatment, like other cancer treatments can be a relatively high cost health service, therefore depending on the level of cost-sharing and personal financial resources available, that coverage may or may not be sufficient for the insured's family to avoid unreasonable financial hardship.

There is a range of costs for treatment of prostate cancer depending on the stage of the cancer, treatment plan, disease progression at time of diagnosis, etc. which may result in significant health and economic costs for the individual and their family, even for those with comprehensive health benefits. While the majority of prostate cancers are slow growing, lack of screening can lead to delayed diagnosis, which can result in advanced disease progression that requires more intensive treatment. In cases such as these, lost work time and income are common, as well as other costs associated with treatment (e.g., travel) that are not covered by health insurance.

Further discussion of financial and socioeconomic effects of the mandated benefit may be found in Appendix III: OptumInsight Actuarial Report.

Most of the burden of unreasonable financial hardship related to prostate cancer treatment is likely to be experienced by persons who are uninsured or underinsured.

6. The level of public demand and the level of demand from providers for prostate cancer treatment.

Among the fifty states and the District of Columbia, Connecticut ranks eighth in incidence of prostate cancer. In Connecticut, the incidence of prostate cancer in 2007 was 172.8 per population of 100,000, compared to 156.9 per population of 100,000 in the United States.[342] Connecticut's death rate for prostate cancer is also higher than the national average; however the state ranks 26th, which provides a rudimentary indication that treatment for prostate cancer is effective in Connecticut.[343] High incidence coupled with a relatively low death rate for prostate cancer indicates high levels of public and provider demand for potential life-saving treatment.

7. The level of public demand and the level of demand from providers for insurance coverage for prostate cancer treatment.

Two physicians—one a prostate cancer patient testifying on behalf of patients and representing the Connecticut State Medical Society and the other representing the Connecticut Urology Society—submitted testimony in favor of Substitute Senate Bill 396 from the 2011 session of the Connecticut General Assembly.[344] S.B. 396 differs from P.A. 11-225 in that it would require insurance coverage for 1) external beam radiation therapy and brachytherapy for the treatment of prostate cancer, and (2) phosphodiesterase-5 inhibitor prescription drugs for the treatment of erectile dysfunction resulting from a radical prostatectomy. During the legislative process, the treatments specified in S.B. 396 were replaced with a more general benefit for treatment of prostate cancer based on medical necessity and in accordance with clinical guidelines.

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[342] Centers for Disease Control and Prevention and National Cancer Institute. 2011. U.S. Cancer Statistics Working Group. United States Cancer Statistics: 1999–2007 Incidence and Mortality Web-based Report. Accessed September 28, 2011 from: www.cdc.gov/uscs. Connecticut information available at: http://apps.nccd.cdc.gov/uscs/cancersrankedbystate.aspx.

[343] *Ibid.*

[344] Connecticut General Assembly. Public testimony for Substitute S.B. 396. February 10, 2010. Accessed September 30, 2011 from: http://www.cga.ct.gov/asp/menu/CommDocTmyBillAllComm.asp?bill=SB-00396&doc_year=2011.

No public testimony in favor or against was found in relation to prostate cancer treatment as specifically described in Section 2 of P.A. 11-225.

Evidence of the level of demand for insurance coverage of prostate cancer treatment is indicated by its wide availability in self-funded plans. Self-funded plan information received from carriers indicates that all persons enrolled in self-funded plans in Connecticut have coverage for prostate cancer treatment. According to the self-funded plan information received as part of an earlier study, over 86 percent of persons enrolled in self-funded plans in Connecticut have coverage for cancer treatment.

Some studies have shown that insurance coverage greatly affects the availability of certain life-saving treatments to cancer patients. For example, one study showed that uninsured cancer patients, although they still had access to chemotherapy, had significantly less access to surgical treatments and were more likely to present with late-stage cancer. The uninsured patients had twice the risk of death as insured patients.[345]

It has also been reported that the average cost of a patient undergoing chemotherapy using newer and more expensive oral agents was between $65,000 and $75,000 in 2009.[346] In the absence of insurance coverage for such high cost and potentially life-saving medical services, strong public and provider demand for insurance coverage of cancer treatments would be expected.

8. The likelihood of achieving the objectives of meeting a consumer need as evidenced by the experience of other states.

According to the National Association of Insurance Commissioners (NAIC), as of August 2008, twenty-one states, including Connecticut, require various types of health insurance plans and policies to cover chemotherapy in general (i.e., not for a specific cancer), which presumably would require coverage in the case of prostate cancer treatment.[347] Please see Tables 4.6 for additional details.

Table 4.6. States with Mandated Coverage for Chemotherapy (presumably applies to prostate cancer treatment)

State	Coverage
Alaska	Coverage for outpatient chemotherapy required in state health insurance plans.
Arizona	Coverage required for chemotherapy if prior authorized and coordinated with a member's contractor.
Arkansas	Group contracts must cover inpatient and outpatient chemotherapy.
California	Coverage required for chemotherapy on an inpatient and outpatient basis.
Connecticut	Minimum coverage includes outpatient chemotherapy for the removal of tumors and treatment of leukemia.
Delaware	Coverage required for chemotherapy under a policy for cancer-only coverage or on an expense incurred basis.
Idaho	A policy that provides cancer-only coverage must provide chemotherapy.
Illinois	A policy that provides cancer-only coverage must provide chemotherapy.
Maine	Coverage required for radiation and chemotherapy if medically necessary.

[345] Zaydfudim V, Whiteside MA, Griffin MR, et al. 2010. Health insurance status affects staging and influences treatment strategies in patients with hepatocellular carcinoma. *Annals of Surgical Oncology* 17:3104–11

[346] University of Connecticut. 2011. Connecticut mandated health insurance benefits reviews; 2010; Volume I. Accessed October 19, 2011 from: http://www.ct.gov/cid/cwp/view.asp?a=1254&q=447304.

[347] National Association of Insurance Commissioners. 2008. NAIC Compendium of State Laws on Insurance Topics.

State	Coverage
Montana	Required coverage includes outpatient chemotherapy. A plan of health coverage must offer high dose chemotherapy bone marrow transplantation.
New Jersey	Group and individual contracts must offer coverage for outpatient chemotherapy for breast cancer. All group and individual policies must provide benefits for the treatment of cancer by dose-intensive chemotherapy/autologous bone marrow transplants and peripheral blood stem cell transplants
New York	Ambulatory care in outpatient facilities includes services and medications used for nonexperimental cancer chemotherapy.
Pennsylvania	Any individual or group policy that provides for cancer benefits must include benefits for cancer chemotherapy and cancer hormone treatments in any medically appropriate treatment setting.
Rhode Island	The standard health benefit plan shall include outpatient hospital care for chemotherapy.
South Dakota	The standard health care plan shall include benefits for chemotherapy services for treatment of a malignancy.
Utah	Covered benefits under accident and health insurance policies shall include chemotherapy.
Vermont	Medically necessary growth cell stimulating factor injections taken as part of a prescribed chemotherapy regimen.
Virginia	Individual or group accident and sickness insurance policies must include coverage for the treatment of breast cancer by dose-intensive chemotherapy/autologous bone marrow transplants or stem cell transplants. Outpatient diagnostic and therapeutic services including testing and treatment upon referral by the primary care provider including outpatient radiation or chemotherapy treatment when medically necessary and upon referral by the primary care provider
Washington	A health insurance policy must provide benefits for chemotherapy.
West Virginia	A cancer-only policy must provide benefits for chemotherapy.
Wyoming	No expense reimbursement cancer policy shall provide benefits for any type of radiation therapy without also providing the same benefits for chemotherapy or any other therapy prescribed by a doctor of medicine and designed to destroy or to arrest the uncontrolled spread of cancer cells.

The National Conference of State Legislatures reports that no states require coverage of prostate cancer treatment specifically; however, it is reported that three states require coverage for "Ambulatory Cancer Treatment" and seven states require coverage for "Chemotherapy."[348]

The Council for Affordable Health Insurance (CAHI) also tracks state health insurance mandates. CAHI notes no states with required coverage for prostate cancer treatment specifically; however it documents that seven states have a mandate for chemotherapy and three states mandate ambulatory cancer treatment.[349]

9. The relevant findings of state agencies or other appropriate public organizations relating to the social impact of the mandated health benefit.

[348] Hanson K, Bondurant E. 2009. Cancer insurance mandates and exceptions. National Conference of State Legislatures. Accessed October 3, 2011 from: http://www.ncsl.org/portals/1/documents/health/CancerMandatesExcept09.pdf.

[349] Craig Bunce V, Wieske JP. 2009. Health insurance mandates in the states 2009. Council for Affordable Health Insurance. Accessed June 7, 2010 from: http://www.cahi.org/cahi_contents/resources/pdf/HealthInsuranceMandates2009.pdf.

Thirty states now require a fiscal note or an additional review process for any new required health insurance benefit prior to enactment.[350] States may also review existing health insurance mandates periodically. Internet searches and telephone inquiries found no studies from state agencies and public organizations related to the social impact of mandated insurance coverage for prostate cancer treatment. States may have reviewed existing or proposed benefits for some aspect of cancer treatment (e.g., oral chemotherapy drugs) that may be utilized for prostate cancer treatment; however, no analysis of the social impact of prostate cancer treatment specifically was found. Internet searches and/or telephone inquiries were conducted for states that have or had an established process for studying mandated health insurance benefits, with a relatively large number of mandated health benefits, or located in the Northeast. States searched included California, Colorado, Louisiana, Maine, Maryland, Massachusetts, New Jersey, Pennsylvania, Texas, Virginia, Washington, and Wisconsin.

While no studies from state agencies and public organizations related to the social impact of mandated insurance coverage for prostate cancer treatment were found, Louisiana reviewed the financial impact of prostate cancer treatment. As part of the Louisiana mandated benefit study, "HMOs and health indemnity companies with substantial health insurance premium revenue in Louisiana" provided prostate cancer treatment claims data for 2005 through 2007.[351] Louisiana then compared the cost of claims for prostate cancer screening with the cost of claims for prostate cancer treatment to evaluate the potential cost savings resulting from the mandated benefit. Because it is not a medical study, it is not possible to definitively determine cost savings from early cancer diagnosis. Such a study would require the following of the disease process of a selected group of medical patients over an appropriate time period.

Over the three-year study period, approximately $55.1 million was spent on 14,269 prostate cancer services, resulting in a cost per service of $3,900, while approximately $5.4 million was spent on 329,295 mandated screening tests resulting in a cost per service of about $20.

10. The alternatives to meeting the identified need, including but not limited to, other treatments, methods or procedures.

P.A. 11-225 requires coverage for all prostate cancer treatment that is medically necessary and in accordance with specified established clinical guidelines, thus the catalog of the appropriate alternatives is limited. Some potential alternatives may include complementary and alternative medicine and clinical trials.

Complementary and alternative medicine may include dietary changes, herbal agents, nutritional supplements, meditation, traditional Chinese medicine, and acupuncture among other approaches. The research literature shows that complementary and alternative medicine is commonly used for prostate cancer prevention and treatment, often in conjunction with surgery, hormone treatments, radiation, and chemotherapeutic treatments. Some research shows that complementary therapies may improve emotional well-being and ease anxiety in patients.[352] Scientific evidence (in the form of randomized controlled trials) of the effectiveness of complementary and alternative medicine as a primary and sole treatment for prostate cancer was not found. Existing evidence does show some potential benefit of complementary and alternative

[350] National Conference of State Legislatures. 2009. Health insurance coverage mandates: Are they too costly? Presentation at the Louisiana Department of Insurance 2009 Annual Health Care Conference. May 28, 2009. Accessed May 7, 2010 from: http://www.ncsl.org/portals/1/documents/health/MandatesCauchi09.pdf.

[351] Friedy RE, Reiners Winfrey K. 2009. Mandated health care benefits study 2005-2007. Office of Health Insurance, Louisiana Department of Insurance. Accessed November 15, 2011 from: http://www.ldi.state.la.us/Documents/Health/MandatedHealthcareBenefitsStudy.pdf.

[352] Beard C, Stason WB, Wang Q, et al. 2011. Effects of complementary therapies on clinical outcomes in patients being treated with radiation therapy for prostate cancer. *Cancer* 117(1): 96-102.

medicine for treatment of prostate cancer on the basis of nonclinical studies.[353, 354]

Cancer is a highly researched disease and a multitude of clinical trials are conducted in the United States in efforts to discover more effective treatments for cancer, including prostate cancer. According to the National Institutes of Health, as of November 2011 there were 79 prostate cancer clinical trials underway in Connecticut; 23 of which were recruiting new patients.[355] Clinical trials may include chemotherapies, chemotherapies in conjunction with radiation or other treatments, and other designs including immunotherapies. Often, clinical trials will add an investigational drug to delivery of standard of care treatment.[356]

In some cases, a clinical trial may meet the need as an alternative treatment, method, or procedure; however, the availability of a clinical trial that meets the needs of any single prostate cancer patient is limited. Thus, clinical trials should not be viewed as a reliable alternative to standard treatment. Additionally, covered costs of care in a clinical trial are generally restricted to the agent or therapy under investigation. All other costs of treatment, including standard of care treatment and routine medical costs are generally covered by the patient's health insurance or, if the patient is uninsured, through sources other than the clinical trial sponsor. Health insurance as well as clinical trials sponsors generally do not cover additional expenses that patients may incur through participation in a clinical trial that would otherwise not be required such as transportation and lodging.

11. Whether the benefit is a medical or broader social need and whether it is consistent with the role of health insurance and the concept of managed care.

Prostate cancer treatment fulfills medical needs. Lack of treatment for prostate cancer causes premature death. The prostate cancer treatment services described in the statute are required to be medically necessary; services that are medically necessary are medical needs.

Cancer treatments are generally high-cost medical expenses that few individuals could afford on an out-of-pocket basis. Coverage for prostate cancer treatment protects against extremely large personal medical costs, thus the benefit is consistent with the role of health insurance. The statute requires the treatment to be medically necessary and in accordance with treatment guidelines; thus it is consistent with the concept of managed care.

12. The potential social implications of the coverage with respect to the direct or specific creation of a comparable mandated benefit for similar diseases, illnesses, or conditions.

It is possible that the basic structure of the mandate, including requirements related to medical necessity and clinical treatment guidelines could be replicated for treatment of other cancers or diseases. The potential social implications of creation of a comparable mandate(s) may include requirements for clinical treatment guidelines where currently such guidelines are not required. Coverage for treatment of tumors and leukemia is already required in Connecticut through Connecticut Statutes Chapter 700, Sections 38a-542 and 38a-504, which do not refer to clinical treatment guidelines. Because multiple organizations issue clinical treatment guidelines, the potential for conflicting guidelines is possible. It is also possible that a clinical treatment guideline commonly followed by a particular patient's physician may be inadvertently left out of the legislation, which could potentially result in denied claims if carriers developed and followed a policy

[353] Wilkinson S, Chodak GW. 2003. Critical review of complementary therapies for prostate cancer. *Journal of Clinical Oncology* 21(11): 2199-2210.

[354] McClure MW. 2002. An overview of holistic medicine and complementary and alternative medicine for the prevention and treatment of BPH, prostatitis, and prostate cancer. *World Journal of Urology* 20: 273-84.

[355] U. S. National Institutes of Health. Clinical Trials.gov website. Accessed November 9, 2011 from: http://clinicaltrials.gov/ct2/home.

[356] Personal communication. Biree Andemariam, MD. July 14, 2010.

consistent with the statute. For example, the legislation under review refers to "guidelines established by… the American Cancer Society" but does not refer to the American Urological Association. The American Cancer Society provides a wealth of information for patients about their treatment options; however, it does not issue clinical treatment guidelines based on clinical research that are used by physicians in counseling patients and recommending a treatment plan. In contrast, the American Urological Association issues clinical guidelines with the goal of assisting physicians in recommending the appropriate course of treatment for a particular patient that accounts for patient characteristics such as tumor grade and stage, life expectancy, and health status.

13. The impact of the benefit on the availability of other benefits currently offered.

Health insurance carriers may cut costs by eliminating or restricting access to, or placing limits on other non-mandated benefits currently offered. However, the availability of any benefits to be restricted may be limited. Existing benefits may be administratively costly to restrict and insurers may be contractually obligated to provide them. Additionally, many of the benefits that could be targets for elimination are included in plans for competitive advantage.

While treatment of prostate cancer is a high-cost benefit, purchasers of health insurance (employers and individuals) expect coverage for this disease and its treatment. Additionally, while carriers generally oppose health insurance mandates, treatment for prostate cancer is not something that most carriers would argue against covering. Additionally, near universal coverage in self-funded plans suggests the mandated benefit for prostate cancer treatment has little impact on the availability of other benefits currently offered.

14. The impact of the benefit as it relates to employers shifting to self-insured plans and the extent to which the benefit is currently being offered by employers with self-insured plans.

Private-sector firms in Connecticut have increasingly offered at least one self-funded plan to their employees during the period 2000-2010. In 2000, 7.5 percent of private-sector establishments with less than 100 employees and 66.8 percent of private-sector establishments with more than 500 employees offered at least one self-funded plan.[357] By 2010, these percentages had risen to 13.9 percent for small firms and 81.1 percent for large firms.[358] For all private-sector establishments in Connecticut during the past 10 years, the percentage rose from 20.8 percent to 29.4 percent.[359]

Because the "tumors and leukemia" required benefit (which includes treatment for prostate cancer) has been in effect since at least 1990, it is not possible to determine the extent to which required coverage for treatment of prostate cancer will contribute to employer decisions to shift to self-funded plans; however, it is unlikely that the required benefit for prostate cancer treatment will have any additional contributory effect on the trend among private sector employers in Connecticut to self-fund. It is also not anticipated that repeal of the legislation under review or repeal of the "tumors and leukemia" required benefit would lead to a shift from self-funded plans to insured plans among employers because most insurers and MCOs would cover tumors, leukemia, and prostate cancer treatment in the absence of a mandate. Employers cognizant of the cumulative financial effects of mandated benefits and large enough to assume the risk of employee health care costs are more likely to consider self-funded plans. However, as seen in the insurance data presented above, in recent years a larger percentage of smaller employers are shifting to self-funded plans. Frequently, smaller firms pair a self-funded plan with stop-loss coverage, which allows greater flexibility in plan design

[357] U.S. Department of Health and Human Services. Agency for Healthcare Research and Quality. Medical Expenditure Panel Survey. Insurance Component and State and Metro Area Tables. Accessed November 23, 2011 from: http://www.meps.ahrq.gov/mepsweb/data_stats/summ_tables/insr/state/series_2/2010/tiia2a.pdf.

[358] *Ibid.*

[359] *Ibid.*

while protecting against astronomical health care costs. It is important to note that stop-loss coverage is not regulated by the Connecticut Insurance Department.[360]

There are several reasons for health insurance premium increases, including medical cost inflation, an aging population and an aging workforce, and required benefits or "mandates." Employers considering a shift to self-funded plans are likely to weigh these and other factors. Employers also may shift more of the premium cost to the employee or shift to fully insured plans with higher coinsurance amounts to keep premiums at a more affordable level. Research shows that from 2003-2010, the annual share of premiums that employees pay increased by 63 percent and average per-person deductibles increased by 98 percent.[361] Increased employee contributions can result in employees not enrolling in employer-sponsored health coverage; high deductibles can lead to not accessing care when needed.

Five carriers domiciled in Connecticut provided information about self-funded plans for which they administer benefits. All Connecticut residents in self-funded plans have coverage for the mandated services. Because coverage for prostate cancer treatment is typically included in health insurance plans not subject to state regulation, it is likely that the mandate will have little to no direct effect on employers shifting to self-funded plans.

15. The impact of making the benefit applicable to the state employee health insurance or health benefits plan.

The state employee health plan currently provides coverage for the treatment of prostate cancer and screenings in accordance with the guidelines set forth by the associations named in the bill.[362] However, all self-funded plans, including those that provide coverage for state employees, are not regulated by the state insurance department and are exempt from state health insurance required benefit statutes including Public Act No. 11-225.

Prostate cancer treatment, as part of the tumors and leukemia mandate, is a current benefit that has been included in the state employee health insurance and health benefits plans since 1990, and perhaps earlier. Thus the social impact of the benefit for the approximately 162,326 covered lives in state employee plans and 16,616 state retirees not enrolled in Medicare[363] is expected to be the same or similar to the social impact for persons covered in non-state employee health insurance plans as discussed throughout Section IV of this report.

In terms of financial impact, if the state employee health insurance/benefit plans provide coverage for the required benefit, the OI actuarial analysis estimates a $0.00 paid medical cost to the state employee health insurance plan in 2012. The zero cost is based on the assumption that the state already covers these benefits since the benefits are both consistent with already existing mandates and the standard among self-funded health plans.

16. The extent to which credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community determines prostate cancer treatment to be safe and effective.

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[360] Personal communication. Paul Lombardo. Connecticut Insurance Department. November 23, 2011.

[361] Schoen C, Fryer AK, Collins SR, et al. 2011. State trends in premiums and deductibles, 2003-2010: the need for action to address rising costs. The Commonwealth Fund. Accessed November 17, 2011 from: http://www.commonwealthfund.org/Publications/Issue-Briefs/2011/Nov/State-Trends-in-Premiums.aspx?omnicid=20.

[362] State of Connecticut, Office of Fiscal Analysis. 2011. OFA Fiscal Note: An Act Concerning Insurance Coverage For The Screening And Treatment Of Prostate Cancer. Accessed October 18, 2011 from: http://www.cga.ct.gov/2011/FN/2011SB-00396-R01-FN.htm.

[363] Personal communication from Rae-Ellen Roy, State of Connecticut Comptroller's Office. December 23, 2010.

The safety and effectiveness of prostate cancer treatment is well-represented in the medical literature. Cancer is a widely-researched disease; safety and effectiveness of treatment and disease management are periodically improved through the emergence of new or improved surgical techniques, chemotherapies or drug combinations, immunotherapies, and radiotherapies.

Prostate cancer treatment, while generally safe and effective, can carry significant risks including death. Radical prostatectomy, a surgical procedure, carries risks associated with many surgical procedures, particularly those performed on older patients including death and serious infection. Androgen deprivation therapy is associated with increased risk of fracture, diabetes mellitus, and cardiovascular death.[364] Additionally, serious physical and psychological side effects are common and affect quality of life, which vary with the type of treatment.[365, 366, 367, 368] Common side effects include sexual function problems, partner-reported distress related to patient's erectile dysfunction, urinary incontinence and urinary irritation or obstruction.[369],[370] Less common side effects include bowel or rectal function problems.[371]

The Cochrane Collaboration prepares and maintains reviews of thousands of clinical research studies, including studies related to prostate cancer treatment. Cochrane reviews are published in the Cochrane Library. CPHHP researchers searched the Cochrane Library for reviews related to the safety and effectiveness of prostate cancer treatment and found eight reviews providing evidence of the safety and effectiveness of a method of treatment for prostate cancer. Seven of the reviews are based on the published results of 79 randomized controlled clinical research trials that enrolled 17,835 patients. The eighth review is based on eight case series studies that enrolled 1,483 patients. The studies are summarized in Table 4.7 as follows:[372]

[364] Taylor LG, Canfield SE, Du XL. 2009. Review of major adverse effects of androgen-deprivation therapy in men with prostate cancer. *Cancer* 115(11): 2388-99.

[365] Sanda MG, Dunn RL, Michalski J, et al. 2008. Quality of life and satisfaction with outcome among prostate-cancer survivors. *New England Journal of Medicine* 358(12): 1250-61.

[366] Potosky AL, Legler J, Albertsen PC, et al. 2000.

[367] Potosky AL, Davis WW, Hoffman RM, et al. 2004.

[368] Talcott JA, Manola J, Clark JA, et al. 2003. Time course and predictors of symptoms after primary prostate cancer therapy. *Journal of Clinical Oncology* 21(21): 3979-86.

[369] Stanford JL, Feng Z, Hamilton AS, et al. 2000.

[370] Sanda MG, Dunn RL, Michalski J, et al. 2008.

[371] *Ibid*.

[372] Available at: http://www.thecochranelibrary.com/details/browseReviews/578177/Prostate.html.

Table 4.7. Reviews of the Evidence of Effectiveness of Prostate Cancer Treatment

Title	Year published/ updated	Summary of Findings
Radical prostatectomy versus watchful waiting for prostate cancer[373]	2010/2010	Clinical trial results indicate that radical prostatectomy (RP) is likely to reduce the risks of overall mortality, prostate-cancer mortality and distant metastases (cancer spread) compared to watchful waiting, but the magnitude of the effect is unclear. Furthermore, the risk reductions appear to have been limited to men under 65 years of age. This trial also provides evidence that RP increases the risks of erectile dysfunction and urinary leakage.
Chemotherapy for hormone-refractory prostate cancer[374]	2006/2008	Data from recent randomized trials of chemotherapy suggest an improvement in overall survival, pain relief, and quality of life with this form of therapy. Side effects are common and can be severe.
Cryotherapy for localized prostate cancer[375]	2007/2008	Cryotherapy is a procedure that introduces probes directly into the prostate tumor and kills the malignant cells by a freezing process. It is a relatively new procedure for the treatment of localized prostate cancer. The main complications associated with cryotherapy include impotence, incontinence, and tissue sloughing (making urination difficult). Studies report that cryotherapy has potential clinical benefits for many patients with no evidence of cancer postoperatively; however, the quality of the available evidence is poor.
Early versus deferred androgen suppression in the treatment of advanced prostatic cancer[376]	2001/2011	Evidence from randomized controlled trials is limited. However, the available information suggests that early androgen suppression for treatment of advanced prostate cancer reduces disease progression and complications due to progression. Early androgen suppression may provide a small but statistically significantly improvement in overall survival at 10 years.
Intermittent versus continuous androgen suppression for prostatic cancer[377]	2007/2008	Data from randomized controlled trials comparing intermittent androgen suppression (IAS) and continous androgen suppression (CAS) are limited by small sample size and short duration. There are no data for the relative effectiveness of IAS versus CAS for overall survival, prostate cancer-specific survival, or disease progression. Limited information suggests IAS may have slightly reduced adverse events. Overall, IAS was also as effective as CAS for potency, but was superior during the interval of cycles.

[373] Hegarty J, Beirne PC, Walsh E, et al. 2010. Radical prostatectomy versus watchful waiting for prostate cancer. *Cochrane Database of Systematic Reviews* 2010, Issue 11. Art. No.: CD006590. DOI: 10.1002/14651858.CD006590.pub2.

[374] Shelley M, Harrison C, Coles B, et al. 2008. Chemotherapy for hormone-refractory prostate cancer. *Cochrane Database of Systematic Reviews* 2006, Issue 4. Art. No.: CD005247. DOI: 10.1002/14651858.CD005247.pub2.

[375] Shelley M, Wilt T, Coles B, et al. 2007. Cryotherapy for localized prostate cancer. *Cochrane Database of Systematic Reviews* 2007, Issue 3. Art. No.: CD005010. DOI: 10.1002/14651858.CD005010.pub2.

[376] Wilt TJ, Nair B, MacDonald R, et al. 2001. Early versus deferred androgen suppression in the treatment of advanced prostatic cancer. *Cochrane Database of Systematic Reviews* 2001, Issue 4. Art. No.: CD003506. DOI: 10.1002/14651858.CD003506.

[377] De Conti P, Atallah AN, Arruda HO, et al. Intermittent versus continuous androgen suppression for prostatic cancer. *Cochrane Database of Systematic Reviews* 2007, Issue 4. Art. No.: CD005009. DOI: 10.1002/14651858.CD5009.pub2.

Title	Year published/ updated	Summary of Findings
Low-dose rate brachytherapy for men with localized prostate cancer[378]	2011/2011	Localized prostate cancer has not spread outside the prostate gland. Low-dose rate brachytherapy (LDR-BT) is short-distance radiotherapy using low-energy radioactive sources. LDR-BT has been recommended for men with low risk localized prostate cancer. It has not been proven whether patients treated with this procedure live longer than patients treated with treatment alternatives. Urinary incontinence was less frequent after LDR-BT and urinary irritation was less frequent after RP at a short term follow up at 6 months.
Maximal androgen blockade for advance prostate cancer[379]	1999/2011	Long-standing observations have found prostate cancer responsive to androgen suppression. The primary approach to androgen suppression for men with advanced disease (cancer that has spread outside the prostate gland) has been castration. However, medical or surgical castration eliminates only 90 percent to 95 percent of the daily testosterone production. The remainder is produced in the adrenal glands. In response to this a number of anti-androgen agents were identified and used in combination with medical or surgical castration to obtain maximal androgen blockade (MAB). This review found that MAB produces a modest overall and cancer-specific survival at five years, but is associated with increased adverse events and reduced quality of life that may mean it is not a suitable treatment for all men.
Neo-adjuvant and adjuvant hormone therapy for localized and locally advanced prostate cancer[380]	2006/2009	Since prostate cancer is driven, in part, by male sex hormones, the use of hormonal treatment to reduce the level of circulating male hormones is a potentially very useful method of treating all stages of this disease. This review found that hormone therapy combined with either prostatectomy or radiotherapy is associated with significant clinical benefits in patients with local or locally advanced prostate cancer. The results of this review indicate that neo-adjuvant hormone therapy administered three to six months before the primary curative therapy (radical prostatectomy radical radiotherapy) did not, as yet, result in a detectable improvement in overall survival or disease-specific survival. There was, however, a significant improvement in disease-free survival when given before radiotherapy. Neo-adjuvant hormone therapy prior to radical prostatectomy also significantly improved pathological variables associated with poor prognosis. Adjuvant hormone therapy following prostatectomy did not change overall or disease-specific survival compared to prostatectomy alone. Adjuvant therapy following radiotherapy significantly improved overall survival and disease-specific survival up to 10 years post-treatment. Disease–free survival was also significantly improved at 10 years. Hormone therapy is associated with a number of side effects including hot flushes and gynecomastia.

[378] Peineman F, Grouven U, Hemkens LG, et al. 2011.Low-dose rate brachytherapy for men with localized prostate cancer. *Cochrane Database of Systematic Reviews* 2011, Issue 7. Art. No.: CD008871. COI: 10.1002/14651858.CD008871.pub2.

[379] Schmitt B, Bennett C, Seidenfeld J, et al. 1999. Maximal androgen blockade for advanced prostate cancer. *Cochrane Database of Systematic Reviews* 1999, Issue 2. Art. No.: CD001526. DOI: 10.1002/14651858. CD001526.

[380] Kumar S, Shelley M, Harrison C, et al. 2006. Neo-adjuvant hormone therapy for localized and locally advanced prostate cancer. *Cochrane Database of Systematic Reviews* 2006, Issue 4. Art. No.: CD006019. DOI: 10.1002/14651858. CD006019.pub2.

IV. Financial Impact

1. The extent to which the mandated health benefit may increase or decrease the cost of prostate cancer treatment over the next five years.

The mandate is not expected to materially alter the availability or cost of prostate cancer treatment over the next five years. The benefit is included in most health insurance plans—public and private, group and individual, fully insured and self-funded—thus the presence of the insurance mandate is not expected to have any additional effect on its cost. In addition, prostate cancer treatment is required to be covered by existing legislation, under the tumors and leukemia mandates (C.G.S.A., §§38a-542 and 38a-504), although minimum dollar limits associated with surgical removal of tumors and chemotherapy would provide little tangible benefit if carriers provided coverage only up to the minimum required by law.

2. The extent to which the mandated health benefit may increase the appropriate or inappropriate use of prostate cancer treatment over the next five years.

Because prostate cancer treatment is required to be covered under existing legislation (C.G.S.A., §§ 38a-542 and 38a-504), a specific mandate for prostate cancer treatment is unlikely to increase appropriate use of the service. For persons covered by self-funded plans, or who use out-of-pocket funds or receive funding for prostate cancer treatment from other sources, a mandated benefit may not increase appropriate use. However, it is not uncommon for the mandated benefit to be included in self-funded plans that are not subject to state benefit mandates.

Because the legislation requires prostate cancer treatment to be medically necessary and in accordance with treatment guidelines, significant inappropriate use is not expected to occur as a result of the legislation. From time to time, guidelines are revised; at some later date some treatment service or method may be found to have been inappropriate at the time of delivery. In these rare instances inappropriate use may have increased; however, the degree to which the presence of a health insurance mandate would be accountable for the inappropriate use would be negligible because it would have likely occurred regardless of the presence of an insurance mandate.

3. The extent to which the mandated health benefit may serve as an alternative for more expensive or less expensive treatment, service or equipment, supplies or drugs, as applicable.

Medically necessary treatments for prostate cancer do not serve as an alternative for any other treatment, service or equipment, supplies or drugs. However, many prostate cancers are slow-growing and unlikely to become clinically significant before the patient dies of other causes. Treatment of these "indolent" cancers is a more expensive treatment option than watchful waiting and active surveillance. Prostate cancer treatment also carries risks, complications and side effects. When complications and side effects of treatment occur and require treatment, costs increase.

4. The methods that will be implemented to manage the utilization and costs of the mandated health benefit.

It is anticipated that carriers will implement the same utilization management methods and cost controls that are used for other covered benefits. The legislation does not prohibit carriers from employing utilization management, prior authorization, or other utilization tools at their discretion. The legislation also requires prostate cancer treatment to be medically necessary and in accordance with guidelines established by the National Comprehensive Cancer Network, the American Cancer Society or the American Society of Clinical Oncology.

5. The extent to which insurance coverage for prostate cancer treatment may be reasonably expected to increase or decrease the insurance premiums and administrative expenses for policyholders.

Insurance premiums include medical cost and retention costs. Medical cost accounts for medical services. Retention costs include administrative cost and profit (for for-profit insurers/MCOs) or contribution to surplus (for not-for-profit insurers/MCOs).

Group and Individual plans: The total effect on insurance premiums from P.A. 11-225 is estimated at $0.00 PMPM due to the previously established mandates for coverage of treatment for tumors and leukemia and prostate cancer screening. This is not to say that prostate cancer screening and treatment does not contribute to policy premiums, but rather that the trajectory of these costs is already embedded into premiums due to the earlier mandates. It is expected that the paid medical claims already incorporated into 2012 premiums will contribute an estimated $2.64 PMPM or $31.68 per year per insured. Treatment accounts for $2.43 PMPM, which is 92 percent of the estimated PMPM, whereas screening accounts for $0.21 PMPM or 8 percent.

For further discussion, please see Appendix III: OptumInsight Actuarial Report.

6. The extent to which the treatment, service or equipment, supplies or drugs, as applicable, is more or less expensive than an existing treatment, service or equipment, supplies or drugs, as applicable, that is determined to be equally safe and effective by credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community.

Not applicable. The legislation does not identify a single treatment or service. Rather, the mandated services include all medically necessary treatment for prostate cancer in accordance with certain guidelines, thus the extent to which the mandated services are more or less expensive cannot be determined.

7. The impact of insurance coverage for prostate cancer treatment on the total cost of health care, including potential benefits or savings to insurers and employers resulting from prevention or early detection of disease or illness related to such coverage.

The total cost of health care is understood to be the funds flowing into the medical system, which are the medical costs of insurance premiums and cost sharing. The OI analysis estimates no additional cost to the total cost of health care under P.A. 11-225. This is due to comparable statutory language requiring fully insured group and individual health plans to cover prostate screening and treatment. Since these benefits are believed to already be covered, enactment of P.A. 11-225 is not expected to result in any potential benefits, savings or costs to insurers and employers.

8. The impact of the mandated health care benefit on the cost of health care for small employers, as defined in section 38a-564 of the general statutes, and for employers other than small employers.

No published literature was found regarding the effect of mandated coverage of prostate cancer treatment on the cost of health care for small employers. In general, if the premium increases, the employer may decide to absorb that cost or increase the employee's share of the premium. Alternatively, a potential premium increase can trigger a decision to redesign benefits. If benefits are redesigned, coverage for some non-mandated benefits may be discontinued. Firms may also increase employee cost-sharing at the point of service level with increased co-payments or deductibles. To some degree, both the employer and the employee are sensitive to increasing prices and small businesses tend to be more sensitive to price changes than large businesses.

For further information regarding the differential effect of the mandates on small group vs. large group insurance, please see Appendix III: OptumInsight Actuarial Report.

9. The impact of the mandated health benefit on cost-shifting between private and public payers of health care coverage and on the overall cost of the health care delivery system in the state.

Cost-shifting between private and public payers of health care coverage generally occurs when formerly privately insured persons, after enrolling in a public program or becoming un- or underinsured, require and are provided health care services. Cost-shifting also occurs when a formerly publicly-funded service becomes the responsibility of private payers, which can result following enactment of a health insurance mandate.

Most persons formerly covered under private payers lose such coverage due to a change in employer, change in employment status, or when private payers discontinue offering health care coverage as an employee benefit or require employee contributions to premiums that are not affordable. Because prostate cancer treatment has been an implicit mandated benefit for many years under the tumors and leukemia mandate, it is unlikely that the mandate under review will have any impact on cost-shifting between private and public payers of health care coverage.

Treatment of prostate cancer is a high-cost medical service; however, the coverage provided by carriers is not likely to be substantially influenced by the existence of a mandate. Purchasers of health plans and policies expect coverage for prostate cancer treatment to be included and carriers generally pay claims for medically necessary cancer treatment.

The overall cost of the health delivery system in the state is understood to include total insurance premiums (medical costs and retention) and cost sharing. The OI analysis estimates no additional cost to the health delivery system after implementation of P.A. 11-225. This is due to existing statutory language already requiring fully insured group and individual health plans to cover prostate screening and treatment. Since these benefits are believed to already be covered, enactment of P.A. 11-225 is not expected to result in any changes to the overall cost of the health care delivery system.

For further information, please see Appendix III, OptumInsight Actuarial Report.

Chapter 5

Breast Ultrasound Screening

Analysis of Senate Bill 848

An Act Concerning Breast Ultrasound Screening

January Session 2011

Prepared by:

Mary U. Eberle. JD

Brian L. Benson, MPP

University of Connecticut
Center for Public Health and Health Policy

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I. Overview

In Public Act 09-179, An Act Concerning Reviews of Health Insurance Benefits Mandated in this State, the Connecticut General Assembly established within the Connecticut Insurance Department (Department) a health benefit review program for the review and evaluation of any mandated health benefit that is requested by the joint standing committee of the General Assembly having cognizance of matters relating to insurance (Committee). The Department is directed in this legislation to contract with the University of Connecticut Center for Public Health and Health Policy (CPHHP) to perform such review and evaluation and to assess the insurers licensed in Connecticut to recover the costs of such contract.

In a letter dated August 26, 2011, the co-chairs of the Insurance Committee requested that the Department review and analyze six proposed or recently enacted health insurance benefit mandates. A copy of this letter is attached to this volume as Appendix II. This report is a part of that review and was conducted following the requirements stipulated under Public Act 09-179. The review is a collaborative effort of the Connecticut Insurance Department and the University of Connecticut Center for Public Health and Health Policy.

Senate Bill 848 would amend C.G.S.A., §§38a-503 and 38a-530 to prohibit the imposition of a coinsurance, copayment, deductible or other out-of-pocket expense for ultrasound screening for breast cancer. This mandate would apply to certain group and individual health insurance policies delivered, issued for delivery, renewed, amended or continued in this state after January 1, 2012. This mandate would not be applicable to high deductible health plans, as defined in C.G.S.A., § 38a-520.

Specifically, S.B. 848 provides in Section 2 that:

> Sec. 2. Section 38a-530 of the general statutes is repealed and the following is substituted in lieu thereof:
>
> (a) Each group health insurance policy providing coverage of the type specified in subdivisions (1), (2), (4), (11) and (12) of section 38a-469 delivered, issued for delivery, renewed, amended or continued in this state [on or after October 1, 2001,] shall provide benefits for mammographic examinations to any woman covered under the policy which are at least equal to the following minimum requirements: (1) A baseline mammogram for any woman who is thirty-five to thirty-nine years of age, inclusive; and (2) a mammogram every year for any woman who is forty years of age or older.
>
> (b) Such policy shall:
>
> [provide] (1) Provide additional benefits for comprehensive ultrasound screening of an entire breast or breasts if a mammogram demonstrates heterogeneous or dense breast tissue based on the Breast Imaging Reporting and Data System established by the American College of Radiology or if a woman is believed to be at increased risk for breast cancer due to family history or prior personal history of breast cancer, positive genetic testing or other indications as determined by a woman's physician or advanced practice registered nurse; and
>
> (2) Not impose a coinsurance, copayment, deductible or other out-of-pocket expense for such ultrasound screening, except that a high deductible health plan, as that term is used in subsection (f) of section 38a-520, shall not be subject to this subdivision.
>
> [(b) Benefits] (c) Except as specified under subdivision (2) of subsection (b) of this section, benefits under this section shall be subject to any policy provisions that apply to other

services covered by such policy.

[(c)] (d) On and after October 1, 2009, each mammography report provided to a patient shall include information about breast density, based on the Breast Imaging Reporting and Data System established by the American College of Radiology. Where applicable, such report shall include the following notice: "If your mammogram demonstrates that you have dense breast tissue, which could hide small abnormalities, you might benefit from supplementary screening tests, which can include a breast ultrasound screening or a breast MRI examination, or both, depending on your individual risk factors. A report of your mammography results, which contains information about your breast density, has been sent to your physician's office and you should contact your physician if you have any questions or concerns about this report."

Section 1 of S.B. 848 makes the same changes to C.G.S.A., §38a-503 for individual insurance policies.

N.B. In the same legislative session in which S.B. 848 was introduced, the General Assembly enacted P.A. 11-67, effective January 1, 2012. This act added magnetic resonance imaging to the subsections of C.G.S.A., §§38a-503 and 530 which deal with ultrasound screening. P.A. 11-67 was not in place when S.B. 848 was drafted and considered, so S.B. 848 did not include any reference to MRI screening. However, should the language of S.B. 848 be introduced and enacted in a future session, it will amend these statutes as currently existing with the language of P.A. 11-67 in the operative subsections. Therefore, we have analyzed the cost and impact of S.B. 848 in two ways: the first as applicable to ultrasound screening only, and the second as applicable to MRI screening.

(The existing language in C.G.S.A., §§38a-503 and 530, which mandate coverage of screening mammography and screening breast ultrasound, was reviewed and evaluated in 2010, as part of the review of all existing mandated health insurance benefits. The report on §§38a-503 and 530 can be found in Connecticut Mandated Health Insurance Benefits Reviews 2010, Vol. II, Chapter 1.[381] The proposed mandate on breast MRI that was enacted in 2011 as P.A. 11-67 was reviewed in February 2011.[382])

Note: Magnetic resonance imaging was added to the pertinent statutory subsections during the 2011 Session; therefore, this proposed mandate has been evaluated for its effect on the cost of both ultrasound screening and MRI screening.

In October 2011, the CPHHP distributed and received responses to a survey requesting policy documents (e.g., utilization review processes, parameters for defining medical necessity, etc.) and data for the proportion of members with policy exclusions, the extent of member coverage, treatments requested and approved, and claims related to ultrasound and MRI screening for breast cancer, as specified by the mandate. Respondents included five insurers and managed care organizations (carriers) domiciled in Connecticut that cover approximately 911,000 covered lives enrolled in fully insured group and individual health insurance plans in Connecticut. Including self-funded plans, respondents cover about 77 percent (2.3 million lives) of the Connecticut population under age 65. Based on that claims data, a review of the legislative history, reviews

[381] Connecticut Department of Insurance. 2010. Connecticut Mandated Health Insurance Benefits Reviews 2010. Accessed December 29, 2011 from: http://www.ct.gov/cid/lib/cid/2010_Connecticut_Mandated_Health_Insurance_Benefits_Reviews_-_Volume_II.pdf.

[382] Connecticut Department of Insurance. 2011. Review and Evaluation of Proposed Health Benefit Mandates in Connecticut 2011. Accessed December 29, 2011 from: http://www.ct.gov/cid/lib/cid/2011_-_Review_and_Evaluation_of_Proposed_Health_Benefit_Mandates_in_CT.pdf.

of pertinent literature and the OptumInsight (OI) report, this review found the following:

Current coverage

All five domestic group or individual health insurers or health plans currently provide coverage for diagnostic ultrasound and MRI for breast cancer. All plans consider imaging procedures performed as a follow-up to mammograms to be subject to cost-sharing depending on plan design. Not all plans require cost-sharing for imaging procedures. Plans that do require cost-sharing vary by plan design.

Premium impact

Elimination of co-pay on ultrasound screening

Group plans: On a 2012 basis, the paid medical cost of this mandate is estimated to be $0.20 PMPM. Estimated total impact on premium to insurers (paid medical cost, administrative fees, and profit) of the proposed mandated services on a 2012 basis in group plans is $0.23 PMPM, which is less than one-tenth of one percent of estimated total premium costs in group plans.

Individual policies: On a 2012 basis, the paid medical cost is estimated to be $0.20 PMPM. Estimated total impact on premium (paid medical cost, administrative fees, and profit) of the mandated services in 2010 in individual plans is $0.23 PMPM, which is less than one-tenth of one percent of estimated total premiums in individual plans. (Note: Individual data is less credible than group data primarily due to small sample size.)

Elimination of co-pay on MRI screening

Group plans: On a 2012 basis, the paid medical cost of this mandate if applied to MRI screening is estimated to be $0.10 PMPM. Estimated total impact on premium to insurers (paid medical cost, administrative fees and profit) of this mandate is $0.12 PMPM, which is less than one-tenth of one percent of estimated total premiums in group plans.

Individual policies: On a 2012 basis, the paid medical cost if applied to MRI screening is estimated to be $0.10 PMPM. Estimated total impact on premium (paid medical cost, administrative fees and profit) of this mandate is $0.12 PMPM, which is less than one-tenth of one percent of estimated total premiums in individual policies. (Note: Individual data is less credible than group data primarily due to small sample size.)

If MRI screening is added to H.B. 848, the impact on premium would be the sum of the impacts of ultrasound and MRI screening, or $0.35 PMPM for group policies.

Self-funded plans: CPHHP received responses from five carriers about the employer groups for which they provided "administrative services only" during 2010. Forty-six percent of Connecticut residents are covered by self-funded health care plans. The Connecticut insurers/MCOs reported that whether a self-insured plan requires cost-sharing from the participant for breast ultrasound or MRI varies and depends on the design of the particular plan.

II. Background

Breast cancer is the most common cancer diagnosed in women in the United States.[383] According to the Connecticut Department of Public Health (DPH), it is also the most commonly diagnosed cancer in women

[383] National Cancer Institute. 2012. What you need to know about breast cancer. Accessed January 13, 2012 from: http://www.cancer.gov/cancertopics/wyntk/breast.

in Connecticut.[384] In 2004, there were 2,706 diagnoses of new malignant breast cancers in Connecticut. Breast cancer is the second-leading cause of cancer deaths in women in Connecticut, with 552 deaths in 2004.[385] The American Cancer Society estimates that 2,790 new breast cancer cases were discovered and 480 women died of breast cancer in Connecticut in 2009.[386]

Women who are at an average risk of developing breast cancer have approximately a 12 percent chance of developing breast cancer over their lifetimes.[387] The risk of developing breast cancer increases with age. Women aged 30-39 have a one in 233 chance of developing breast cancer in the next ten years. Women aged 60-69 have a one in 29 chance. According to the DPH, three out of four new cancers in 2004 were found in women over 50 years of age.

There is no proven way to prevent breast cancer, but early detection is the best way to maximize treatment effectiveness.[388] The American Cancer Society recommends annual screening for breast cancer for women over 40. The U.S. Preventive Services Task Force recommends biennial screening for women over 50 who are at average risk of developing breast cancer.[389]

C.G.S.A., §§38a-503 and 530 mandate coverage of screening mammograms, ultrasounds and MRIs only. Screening is defined as checking for disease when there are no symptoms. If a follow-up imaging procedure is done for the purpose of investigating something found in the initial screening mammogram, the second procedure is considered diagnostic, not screening, and would not be covered by this mandate. Similarly, if an imaging technology is used to guide a needle biopsy or to evaluate the effect of treatment, it is not considered to be for screening. If, however, a follow-up imaging procedure is done because a screening mammogram could not be interpreted (e.g., because of dense breast tissue), it would also be considered a screening procedure. Medicare has separate billing codes for screening and for other mammograms.[390] However, Medicare covers only diagnostic breast ultrasound and MRI.[391, 392]

There are a variety of imaging technologies used in cancer screening, diagnosis and treatment. These include mammography, ultrasonography, and MRI. The primary screening technology recommended for breast cancer is mammography.[393] For women at high risk (>25 percent lifetime risk) of developing breast cancer, the ACS recommends an annual mammogram and an annual MRI. The ACS lists breast ultrasound as an effective technology to investigate areas of concern found on mammograms. It acknowledges that

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[384] Connecticut Department of Public Health. 2007. Breast Cancer in Connecticut. Accessed January 12, 2012 from: http://www.ct.gov/dph/cwp/view.asp?a=3134&q=396512.

[385] *Ibid.*

[386] American Cancer Society. Cancer Facts & Figures 2009. Atlanta: American Cancer Society; 2009.

[387] National Cancer Institute. 2010. Probability of Breast Cancer in American Women. Accessed January 12, 2012 from: http://www.cancer.gov/cancertopics/factsheet/detection/probability-breast-cancer.

[388] American Cancer Society. 2011. Breast cancer overview. Accessed January 11, 2012 from: http://www.cancer.org/Cancer/BreastCancer/OverviewGuide/breast-cancer-overview-diagnosed.

[389] U.S. Preventive Services Task Force. 2009. Screening for breast cancer. Accessed January 12, 2012 from: http://www.uspreventiveservicestaskforce.org/uspstf09/breastcancer/brcanrs.htm.

[390] U.S. Department of Health and Human Services. Centers for Medicare and Medicaid Services. Medicare claims processing manual. Accessed January 19, 2012 from: https://www.cms.gov/manuals/downloads/clm104c18.pdf.

[391] U.S. Department of Health and Human Services. Centers for Medicare and Medicaid Services. Medicare National Coverage Determinations Manual. Accessed January 6, 2012 from: https://www.cms.gov/manuals/downloads/ncd103c1_Part4.pdf.

[392] U.S. Department of Health and Human Services. Centers for Medicare and Medicaid Services. 2011. Local coverage determination for breast imaging. Accessed January 18, 2012 from: https://www.cms.gov/medicare-coverage-database/details/lcd-details.aspx?LCDId=26890&ContrId=&ver=57&ContrVer=1&CoverageSelection=Local&ArticleType=All&PolicyType=Final&s=Connecticut&KeyWord=Breast+Imaging&KeyWordLookUp=Title&KeyWordSearchType=And&bc=gAAAACAAgAAA&.

[393] U.S. Preventive Services Task Force. 2009. Screening for breast cancer. Accessed January 13, 2012 from: http://www.uspreventiveservicestaskforce.org/uspstf09/breastcancer/brcanrs.htm.

it may have a role in screening women with dense breast tissue, but only in conjunction with and not instead of mammography. (A recent article in the Hartford Courant[394] describes a study by Dr. Jean Weigert at Hospital of Central Connecticut that reportedly found an additional 3.25 cases of breast cancer per 1,000 women studied that were found by ultrasound, but not mammography. This study has not yet been published, but has been accepted for publication in The Breast Journal, and has been presented at a conference of the Radiological Society of North America, according to the article.)

The U.S. Preventive Services Task Force recommends mammography beginning at age 50 for women at average risk of developing breast cancer, and acknowledges that studies have shown breast MRI to be effective in detecting additional cancers in women at high risk. It does not recommend MRI for women at average risk. USPSTF recommendations are silent as to screening breast ultrasounds.[395]

S.B. 848

This proposed mandate concerns elimination of the cost-sharing on screening breast ultrasounds and potentially on screening breast MRIs. For an evaluation of screening breast ultrasound itself, please see our earlier report on C.G.S.A., §§38a-503 and 530 referenced above in footnote 1. For an evaluation of screening breast MRI, please see our earlier report on S.B. 259 (now P.A. 11-67), referenced above in footnote 2.

Cost-sharing is the portion of the cost of a treatment or service which is borne by the member. This portion of the cost is not spread to all insureds as part of the premium of the policy, but is paid by the member receiving the treatment or service. Cost-sharing can take several forms:

- deductibles, which is the amount that must be paid by the member, usually on an annual basis, for all services received by the member before any insurance payments are payable for any service;
- co-insurance, which generally takes the form of a percent of the allowed cost payable to the provider under the provider's contract with the insurer, to be paid by the member; and
- co-pays, which generally are a fixed amount payable by the member for each episode of treatment or service.

The purpose of cost-sharing is to discourage over-use of medical services by making the insured member bear a portion of the cost. However, if the cost-share is high, it can discourage even necessary or desirable care[396, 397] and result in the postponement of needed services until the point at which the member's condition requires much more expensive care.

In order to provide incentive to the members to obtain high value services when they are recommended, many insurers do not impose cost-sharing on them. Under the federal Affordable Care Act, cost-sharing is prohibited for non-grandfathered plans for preventive services which have an A or B rating from the U.S. Preventive Services Task Force (USPSTF).[398] Screening mammograms are an example of this, and have a B rating for women aged 50-74. (Therefore, even though Connecticut law does not prohibit cost-sharing

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[394] Weir W. *Ultrasounds Detect Cancers That Mammograms Missed, Study Finds*. Hartford Courant, January 13, 2012. Accessed January 24, 2012 from: http://www.courant.com/health/connecticut/hc-breast-density-mammograms-0116-20120113,0,5107029.story.

[395] American Cancer Society. 2012. Breast cancer: early detection. Accessed January 16, 2012 from: http://www.cancer.org/Cancer/BreastCancer/MoreInformation/BreastCancerEarlyDetection/breast-cancer-early-detection-new-screening-technologies.

[396] Solanki G, Schauffler HH, Miller LS. 2000. The direct and indirect effects of cost-sharing on the use of preventive services. *Health Services Research* 34(6): 1331-1350.

[397] Trivedi AN, Rakowski WR, Ayanian JZ. 2008. Effect of Cost Sharing on Screening Mammography in Medicare Health Plans. *N Engl J Med* 358:375-383.

[398] Kaiser Family Foundation. 2010. Impact of Health Reform on Women's Access to Coverage and Care. Accessed January 16, 2012 from: http://www.kff.org/womenshealth/upload/7987.pdf.

for screening mammograms, for most plans federal law now does.) However, the USPSTF does not address the use of ultrasound for breast cancer screening and does not recommend the use of breast MRIs to screen women for breast cancer.[399]

III. Methods

Under the direction of CPHHP, medical librarians at the Lyman Maynard Stowe Library at the UConn Health Center (UCHC) gathered published articles and other information related to medical, social, economic, and financial aspects of the required benefit. Medical librarians conducted literature searches using: Pub Med, Scopus, National Guidelines Clearinghouse, American Cancer Society, National Cancer Institute, American Society of Clinical Oncology, Google.

General search terms used included: Breast cancer, breast neoplasm, early detection of cancer, mass screening, radiography.

CPHHP staff conducted independent literature searches using similar search terms used by the UCHC medical librarians. Where available, articles published in peer-reviewed journals are cited to support the analysis. Other sources of information may also be cited in the absence of peer-reviewed journal articles. Content from such sources may or may not be based on scientific evidence.

Staff gathered additional information from internet sources such as the State of Connecticut website, Centers for Medicare and Medicaid (CMS) website, other states' websites, professional organizations' websites, and non-profit and community-based organization websites.

With the assistance of the Connecticut Insurance Department (CID), CPHHP and OI requested and received 2009 and 2010 claims data from insurance companies and MCOs domiciled in Connecticut. Five insurers/MCOs provided claims data for their fully-insured group and individual plan participants. These carriers also provided information about coverage in the self-insured plans they administer.

CPHHP and the CID contracted with OI to provide actuarial and economic analyses of the mandated benefit. Further details regarding the insurer/MCO claims data and actuarial methods used to estimate the cost of the benefit and economic methods used to estimate financial burden may be found in the OI report in Appendix III.

This report is intended to be read in conjunction with the General Overview and the OptumInsight Actuarial Report which is included as Appendix III.

IV. Social Impact

1. The extent to which the treatment, service or equipment, supplies or drugs, as applicable, is utilized by a significant portion of the population.

An estimated 207,090 new cases of breast cancer are expected to occur among women in the U.S. during 2010; about 1,970 new cases are expected in men.[400] Excluding cancers of the skin, breast cancer is the most frequently diagnosed cancer in women. An estimated 40,230 breast cancer deaths (39,840 women; 390

[399] U.S. Preventive Services Task Force. 2009. Screening for breast cancer. Accessed January 13, 2012 from: http://www.uspreventiveservicestaskforce.org/uspstf09/breastcancer/brcanrs.htm.

[400] American Cancer Society. 2010. Cancer facts and figures, 2010. Atlanta: American Cancer Society. Accessed August 18, 2010 from: http://www.cancer.org/acs/groups/content/@epidemiologysurveilance/documents/document/acspc-026238.pdf.

men) are expected in 2010.[401] The American Cancer Society estimates that 2,790 new breast cancer cases were discovered and 480 women died of breast cancer in Connecticut in 2009.[402]

According to the U.S. Census Bureau, there are approximately 627,000 women in Connecticut between the ages of 40-64.[403] Approximately 29 percent or 183,000 of Connecticut's population is covered by fully insured health care policies.

Based on a review of its claims data, OI reported that an estimated 38 percent of fully insured women in Connecticut had mammograms in 2010 and 16 percent of those who had a mammogram also had an ultrasound within 12 months of the mammogram. A larger percent of younger women have follow-up ultrasound than do older women.

Based on the Optum claims data, the rate of follow-up MRI within one year of a mammogram is estimated to be 1.5 percent. This rate does not change with increasing age.[404]

Since there is only one CPT code for breast ultrasound and one CPT code for breast MRI, it cannot be determined how many of these procedures are for supplemental screening and how many are for diagnostic or treatment purposes.

2. The extent to which the treatment, service or equipment, supplies or drugs, as applicable, is available to the population, including, but not limited to, coverage under Medicare, or through public programs administered by charities, public schools, the Department of Public Health, municipal health departments or health districts or the Department of Social Services.

Medicare: Medicare distinguishes between screening and diagnostic breast imaging. It covers diagnostic breast ultrasound only.[405] It covers MRI only for diagnostic or treatment evaluation purposes. Medicare does not apply Part B deductibles, but does apply cost-sharing to breast ultrasound and breast MRI. (Neither deductibles nor cost-sharing applies to screening mammograms.[406])

Medicaid : Medicaid covers medically necessary ultrasound. Medicaid may require cost sharing. The Affordable Care Act does not prohibit cost-sharing in Medicaid for essential services, but contains incentives to encourage Medicaid plans not to require cost-sharing for these services.[407]

Connecticut Department of Public Health: Does not include screening ultrasound or MRI in its Breast and Cervical Cancer Early Detection Program. Only screening mammograms are covered.

3. The extent to which insurance coverage is already available for the treatment, service or equipment, supplies or drugs, as applicable.

Coverage of screening breast ultrasounds has been mandated in Connecticut since 2006 in individual and

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[401] *Ibid*.

[402] American Cancer Society. Cancer Facts & Figures 2009. Atlanta: American Cancer Society; 2009.

[403] U.S. Census Bureau. 2005-2009 American Community Survey 5-Year Estimates: Connecticut: S0101 Age and Sex. Accessed January 5, 2012 from: http://factfinder.census.gov/servlet/STTable?_bm=y&-context=st&-qr_name=ACS_2009_5YR_G00_S0101&-ds_name=ACS_2009_5YR_G00_&-tree_id=5309&-redoLog=false&-_caller=geoselect&-geo_id=04000US09&-format=&-_lang=en.

[404] OptumInsight report, Appendix III

[405] U.S. Department of Health and Human Services. Centers for Medicare and Medicaid Services. Medicare National Coverage Determinations Manual. Accessed January 6, 2012 from: https://www.cms.gov/manuals/downloads/ncd103c1_Part4.pdf. January 6, 2012

[406] U.S. Department of Health and Human Services. Centers for Medicare and Medicaid Services. Medicare claims processing manual. Accessed January19, 2012 from: https://www.cms.gov/manuals/downloads/clm104c18.pdf.

[407] Kaiser Family Foundation. 2010. Impact of Health Reform on Women's Access to Coverage and Care. Accessed January 16, 2012 from: http://www.kff.org/womenshealth/upload/7987.pdf.

group health insurance policies delivered, renewed or amended in Connecticut (P.A. 06-38). Coverage of screening MRIs was added to this mandate in 2011 (P.A. 11-67). However, most insurance plans/MCO programs require cost-sharing for these procedures. The level of cost-sharing depends on the design of each plan.

4. If the coverage is not generally available, the extent to which such lack of coverage results in persons being unable to obtain necessary health care treatment.

Health insurance policies in Connecticut must cover screening breast ultrasounds and now must cover screening breast MRIs. At issue in this proposed mandate is elimination of the cost-sharing required currently by many plans for these services.

The average co-pay or co-insurance on a breast ultrasound is approximately $44. This should not pose a barrier to obtaining the service for a person with an average income of $50,000.

C.G.S.A., §38a-511 (individual) and §38a-550 (group) limit the amount of co-payment for MRIs done for any purpose to $75 per MRI, with an annual maximum of $375, for in-network services under certain circumstances. The co-payment for one breast MRI is more than for a breast ultrasound, but should not pose a barrier to obtaining this service for a person with an average income of $50,000.

Breast ultrasounds and MRIs may also be subject to a policy's annual deductible, depending on the policy language. The cost-sharing for an individual who has not yet met the annual deductible could be substantially greater, particularly for an MRI, and could pose a barrier to obtaining this service.

5. If the coverage is not generally available, the extent to which such a lack of coverage results in unreasonable financial hardships on those persons needing treatment.

Assuming an average annual cost-share of $44 for a breast ultrasound according to the OI report, the lack of coverage for the cost-share should not pose an unreasonable financial hardship on persons with an average income of $50,000.

MRIs are considerably more expensive and cost-sharing on a breast MRI can be as much as $400, if C.G.S.A., §38a-511 or §38a-550 is not applicable. This level of cost-sharing could pose a financial hardship on a person needing a screening breast MRI.

Ultrasounds and MRIs may also be subject to a policy's annual deductible. The cost-sharing for an individual who had not yet met the annual deductible could be substantially greater for either of breast ultrasound or breast MRI, and could pose more of a financial hardship. This is particularly true for MRIs, which cost an average of $2,000 per MRI.

6. The level of public demand and the level of demand from providers for the treatment, service or equipment, supplies or drugs, as applicable.

OI estimates that approximately 38-39 percent of insured women in Connecticut between the ages of 40-64 undergoes screening mammography each year. In 2010, approximately 13.4 percent of insured women in Connecticut utilized breast ultrasound and 1.3 percent of insured women in Connecticut utilized breast MRI within one year of undergoing a screening mammogram. It cannot be determined from available claims data whether these ultrasounds and MRIs were for screening, diagnostic or treatment purposes. Only screening ultrasounds and MRIs would be covered by S.B. 848.

7. The level of public demand and the level of demand from providers for insurance coverage for the

treatment, service or equipment, supplies or drugs, as applicable.

Two individuals provided testimony in favor of S.B. 848 at the public hearing of the Insurance and Real Estate Committee held February 3, 2011. One was a patient, and one was an advocate.

8. The likelihood of achieving the objectives of meeting a consumer need as evidenced by the experience of other states.

Forty-nine states and the District of Columbia mandate coverage of screening mammograms.[408] A few states prohibit application of deductibles[409] and/or other types of cost-sharing to breast cancer screening.[410]

California includes other screening technologies as well as mammography in its mandate. It mandates coverage for screening and diagnosis of breast cancer, consistent with generally accepted medical practice and scientific evidence, upon the referral of the enrollee's participating physician.[411] It further mandates coverage for all generally medically accepted cancer screening tests, subject to all terms and conditions that would otherwise apply.[412]

Maryland also mandates coverage for breast cancer screening in accordance with the guidelines of the American Cancer Society, without reference to a particular technology.[413]

9. The relevant findings of state agencies or other appropriate public organizations relating to the social impact of the mandated health benefit.

The Connecticut Department of Public Health does not include ultrasound or MRI in its breast cancer screening program, although it may provide them as diagnostic procedures if an abnormality is identified.

10. The alternatives to meeting the identified need, including but not limited to, other treatments, methods or procedures.

Mammography is the technology most recommended for breast cancer screening by the American Cancer Society, the National Cancer Institute, the U.S. Food and Drug Administration and the American College of Radiologists. The American Cancer Society recommends breast MRI for women at very high risk of developing breast cancer, based on genetic make-up or family or personal history of breast cancer, in addition to an annual mammogram.

11. Whether the benefit is a medical or broader social need and whether it is consistent with the role of health insurance and the concept of managed care.

Screening for breast cancer meets a medical need. To the extent it increases access to breast cancer screening, the elimination of cost-sharing for screening ultrasounds and MRIs addresses a medical need.

12. The potential social implications of the coverage with respect to the direct or specific creation of a comparable mandated benefit for similar diseases, illnesses, or conditions.

This mandate may have implications for other cost-sharing requirements of health insurance policies, particularly for procedures or services that can be deemed to be "screening" or "preventive."

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[408] National Council of State Legislators. 2010. State stats: mandating health insurance benefits for cancer. Accessed January 19, 2012 from: http://www.ncsl.org/Portals/1/Documents/magazine/articles/2009/SL0110_Statestats.pdf. A

[409] Maryland General Assembly. MGA §15-814.

[410] Illinois. 215 ILCS 5/356g(a)(5).

[411] Callifornia Health and Safety Code, sec. 1367.7 and California Insurance Code, sec. 10123.8.

[412] California Health and Safety Code, sec. 1367.665 and California Insurance Code, sec. 10123.20

[413] Maryland General Assembly. MGA §15-814.

13. The impact of the benefit on the availability of other benefits currently offered.

The elimination of cost-sharing on breast ultrasounds and breast MRIs can have a substantial impact on premium cost over the next few years. This is due not only to the cost-shift from the member to the plan, but also to the potential for an increase in utilization, particularly for breast MRI. The cost-sharing for breast MRI is significantly more than the cost-sharing for breast ultrasound, and its elimination may spur utilization of breast MRIs.

In order to limit the impact of these increases in cost, employers may increase deductible levels or cost-sharing levels on other services. They may also increase the employee share of the premium or drop other, non-mandated benefits.[414]

14. The impact of the benefit as it relates to employers shifting to self-insured plans and the extent to which the benefit is currently being offered by employers with self-insured plans.

The five Connecticut domiciled insurers/MCOs who responded to our survey reported a significant increase in the percentage of members who are covered by self-funded employer plans. In 2010, 46 percent of Connecticut residents were covered by self-funded health care plans, versus 29 percent of Connecticut residents covered by fully insured group or individual health insurance policies. (The remaining residents are covered by public plans or are uninsured.)

Mandated benefits are only one of the factors that may cause an employer to change to a self-funded plan. The cost impact of this mandate is unlikely, by itself, to increase this trend. (See OI report for a discussion of the factors that contribute to an employer's decision to self-fund a health plan.)

15. The impact of making the benefit applicable to the state employee health insurance or health benefits plan.

State employee health insurance and health benefit plans became self-insured on July 1, 2010 and would not be subject to this proposed mandate. However, the Office of the State Comptroller reported that the state employee plans do not currently require cost-sharing for any ultrasound or MRI procedures. Therefore, the estimated annual costs given below are not new costs to the state from this proposed mandate, but reflect an estimate of what the state is already paying as a result of foregoing any cost-sharing on these procedures.

The annual medical cost to the State of foregoing cost-sharing on screening breast in 2012 is estimated to be $389,832 for active employees and $36,456 for the retiree medical plans (total =$426,288). The annual medical cost for foregoing cost-sharing for screening breast MRIs in 2012 is estimated to be $194,916 for active employee plans and $18,228 for the retiree medical plan (total=$213,144). (N.B., the costs may be somewhat higher for the retiree plans, since the incidence of breast cancer increases with age and compliance with breast cancer screening recommendations also increases with age.)

These estimates have been calculated by multiplying the 2012 PMPM medical costs by 12 to get an estimated annual medical cost per insured life, and then multiplying that product by 162,430 covered lives for the active employee plans and 15,190 covered lives under the retiree medical plans that are not eligible for Medicare, as reported by the State Comptroller's office.[415]

Caveat: This estimate is calculated using weighted averages for all claims paid by Connecticut-domiciled insurers and health maintenance organizations in the State. The actual cost of this mandate to the State plans may be higher or lower, based on the actual benefit design of the State plans and the demographics of

[414] OptumInsight report. Appendix III.

[415] Email from Rae-Ellen Roy, Office of the State Comptroller, dated December 23, 2011.

the covered lives (e.g., level of cost-sharing, average age of members, etc.).

Retention costs are not included in this estimate because the State is now self-funded and the traditional elements of retention do not apply. State costs for administration of the plans are in addition to the costs shown above.

16. The extent to which credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community determines the treatment, service or equipment, supplies or drugs, as applicable, to be safe and effective.

Both breast ultrasound and breast MRI are considered safe. Neither exposes the patient to radiation or to breast compression. Ultrasound is non-invasive. MRI is usually non-invasive, but can require injection of contrast dye into a vein. Both are effective in identifying breast cancers, although neither are 100 percent accurate.[416] Both are deemed to be useful adjuncts to mammography for certain women.[417, 418]

Breast ultrasound appears to carry little risk, and when combined with mammography is an effective method in increasing the rate of cancer detection.[419] Allergic contact dermatitis reaction to ultrasonic gels occurs, rarely, in ultrasonography applications, however no articles specific to breast ultrasound were found.

MRIs have a high level of safety, based on the large number of trouble-free studies that have been performed since the first use of them for clinical diagnosis.[420] However, MRIs expose the body to strong magnetic fields and they do pose a risk to patients with ferromagnetic foreign objects in their bodies (such as pins, clips or shrapnel) or implanted electronic devices (such as pace-makers, infusion pumps, or neurostimulators). They can also pose a risk to patients and staff if ferromagnetic objects such as oxygen tanks or scissors are within the area of magnetic force.[421]

V. Financial Impact

1. The extent to which the mandated health benefit may increase or decrease the cost of the treatment, service or equipment, supplies or drugs, as applicable, over the next five years

This proposed mandate is estimated to increase the cost of breast ultrasound from $0.20 PMPM in 2012 to $0.37 PMPM in 2016. This calculation includes estimated increases in utilization as well as 6 percent annual growth in overall medical inflation or "trend."

If S.B. 848 is made applicable to breast MRI as well as breast ultrasound, the cost of breast MRI is expected to increase from $0.10 PMPM in 2012 to $0.22 PMPM in 2016.[422] This calculation includes estimated increases in utilization as well as 6 percent annual growth in overall medical inflation or "trend."

2. The extent to which the mandated health benefit may increase the appropriate or inappropriate use of the treatment, service or equipment, supplies or drugs, as applicable, over the next five

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[416] Lee CH et al. 2010. Breast cancer screening with imaging: recommendations from the Society of Breast Imaging and the ACR on the use of mammography, breast MRI, breast ultrasound and other technologies for the detection of clinically occult breast cancer. *J Am Coll Rad* 7(1):18-27.

[417] *Ibid.*

[418] Smith RA et al. 2003. American Cancer Society guidelines for breast cancer screening, update 2003. *CA: a Cancer Journal for Clinicians* 53:141-169.

[419] Alnaimy NM, Khoumais N. 2009. Role of ultrasonography in breast cancer imaging. *PET Clinics* 4(3): 227-240.

[420] Schenck JF. 2000. Safety of strong, static magnetic fields. *J Magnetic Res Imag* 12:2-19.

[421] Andersen E, Childre F. 2007. *AAOHN Journal* 55(4);137.

[422] OptumInsight report. Appendix III.

years.

OI reported a fifty percent increase in the use of breast ultrasound between 2009 and 2010, likely as a result of the implementation of the mammogram notification letter mandated in 2009. The OI cost estimate of $0.20 PMPM includes some growth in utilization as a result of the removal of the cost-share in addition to the mammogram notification letter.

While breast MRI doubled between 2006 and 2008 nationally and in Connecticut, the utilization rate has been steady since 2008, indicating little impact of the mammogram notification letter on the utilization of MRI. However, OI predicts a more significant growth in utilization of breast MRI as a result of the removal of the cost-share. MRI is significantly more expensive than ultrasound, and the cost-share in Connecticut is 2-10 times as much as the cost-share on ultrasound. Removal of cost-sharing on screening breast MRI is expected to spur its utilization. This would increase not only the impact of the removal of the cost-sharing, but would greatly increase the medical cost to insurers/MCOs of the MRI service itself.

3. The extent to which the mandated health benefit may serve as an alternative for more expensive or less expensive treatment, service or equipment, supplies or drugs, as applicable.

C.G.S.A., §§ 38a-503 and 38a-530 do not mandate coverage of screening ultrasound and MRI as alternatives to mammography, but as adjuncts to it. The American Cancer Society, the National Cancer Institute and the American College of Radiologists all agree that these technologies should not be substituted for mammography, which is still the best technology for detecting breast cancer at its early stages. Ultrasound is about the same cost as mammography, while MRI is nearly ten times as costly.

4. The methods that will be implemented to manage the utilization and costs of the mandated health benefit.

The mandate is limited to breast ultrasound (or breast MRI) that is prescribed by a licensed health care provider. It is also limited as to the circumstances under which it may be prescribed. In addition, all other terms of the policy apply, so that insurers/MCOs can negotiate unit cost and utilization review can be exercised by the carriers to avoid inappropriate use of the benefit. However, utilization review may be limited by the following language: "other indications as determined by a woman's physician or advanced practice registered nurse."

5. The extent to which insurance coverage for the treatment, service or equipment, supplies or drugs, as applicable, may be reasonably expected to increase or decrease the insurance premiums and administrative expenses for policyholders.

Insurance premiums include medical cost and retention costs. Medical cost accounts for medical services. Retention costs include administrative cost and profit (for for-profit insurers/MCOs) or contribution to surplus (for not-for-profit insurers/MCOs). (For further discussion, please see Appendix III, OptumInsight Actuarial and Economic Report.)

Ultrasound

Group plans: When the medical cost of the mandate is spread to all insureds in group plans, medical costs are estimated to be $0.20 PMPM and retention costs are estimated to be $0.03 PMPM in 2012. Thus the total effect on insurance premiums is estimated at $0.23 PMPM in 2012, which is less than one-tenth of one percent of premium.

Individual plans: When the medical cost of the mandate is spread to all insureds in individual plans, medical costs are estimated to be $0.20 PMPM and retention costs are estimated to be $0.03 PMPM in

2012. Thus the total effect on insurance premiums is estimated at $0.23 PMPM in 2012, which is less than one-tenth of one percent of premium.

If MRI screening is added to H.B. 848, the impact on premium would be the sum of the impacts of ultrasound and MRI screening, or $0.35 PMPM for group policies.

MRI

Group plans: When the medical cost of the mandate is spread to all insureds in group plans, medical costs are estimated to be $0.10 PMPM and retention costs are estimated to be $0.02 PMPM in 2012. Thus the total effect on insurance premiums is estimated at $0.12 PMPM in 2012, which is less than one-tenth of one percent of premium.

Individual plans: When the medical cost of the mandate is spread to all insureds in individual plans, medical costs are estimated to be $0.10 PMPM and retention costs are estimated to be $0.02 PMPM in 2012. Thus the total effect on insurance premiums is estimated at $0.12 PMPM in 2012, which is less than one-tenth of one percent of premium.

If MRI screening is added to H.B. 848, the impact on premium would be the sum of the impacts of ultrasound and MRI screening, or $0.35 PMPM for group policies.

For further information, please see Appendix III: OptumInsight Actuarial Report.

6. The extent to which the treatment, service or equipment, supplies or drugs, as applicable, is more or less expensive than an existing treatment, service or equipment, supplies or drugs, as applicable, that is determined to be equally safe and effective by credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community.

Mammography is the recommended screening technology for breast cancer by the American Cancer Society, the U.S. Preventive Services Task Force and the American College of Radiologists. C.G.S.A., §38a-503 and §530 mandate coverage of breast ultrasound and breast MRI only as an adjunct to mammography, not as an alternative, and only in certain circumstances.

MRI ($2,000) is considerably more expensive than either mammography ($100-200) or ultrasound ($100).

7. The impact of insurance coverage for the treatment, service or equipment, supplies or drugs, as applicable, on the total cost of health care, including potential benefits or savings to insurers and employers resulting from prevention or early detection of disease or illness related to such coverage.

The total cost of health care is understood to be the funds flowing into the medical system, which are the medical costs portion of insurance premiums and the cost sharing of the insureds. Actuarial analysis of claims data received from insurers/MCOs in Connecticut shows an expected impact in 2012 of $3,278,790 for elimination of cost-sharing for screening breast ultrasound and breast MRI for Connecticut residents covered by fully-insured group and individual health insurance. (This impact assumes that MRI screening is added to H.B. 848.)

This cost may be offset by reductions in treatment costs for breast cancers that are found at earlier, more treatable stages as a result of additional screening.

8. The impact of the mandated health care benefit on the cost of health care for small employers, as

defined in section 38a-564 of the general statutes, and for employers other than small employers.

The actuarial report found that this mandate is expected to have roughly the same effect on the paid medical cost of small group plans as it does on large group plans. The elimination of cost-sharing may have a greater impact on small group plan premium, since small group plans typically require more cost-sharing from employees. The small group market is also more sensitive to the cost of health insurance and may be somewhat more likely to drop coverage as a result of cost increases generally.

9. The impact of the mandated health benefit on cost-shifting between private and public payers of health care coverage and on the overall cost of the health care delivery system in the state.

The overall cost to the health care delivery system, as defined for this report, is comprised of paid medical cost, cost-sharing, administration fees and profit/reserves. OI projected an increase to the overall cost to the health care delivery system of $3,857,400 for the elimination of cost-sharing on screening breast ultrasound and MRI.[423] It is not expected to result in cost-shifting between private and public payers of health care coverage. (This impact assumes that MRI screening is added to H.B. 848.)

This estimated impact assumes that the State of Connecticut plans continue to comply with this mandate even though these plans are now self-funded and therefore are not required to include it.

423 OptumInsight report. Appendix III.

Chapter 6

Breast Thermography

Review and evaluation of H.B. 5448
2011 Regular Session

An Act Requiring Coverage for Breast Thermography

Prepared by:

Mary U. Eberle, JD
Brian L. Benson, MPP
Erin Havens, MPA, MPH

University of Connecticut
Center for Public Health and Health Policy

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I. Overview

In Public Act 09-179, An Act Concerning Reviews of Health Insurance Benefits Mandated in this State, the Connecticut General Assembly directed the Connecticut Insurance Department to review proposed or statutorily mandated health benefits as requested by the General Assembly's Insurance and Real Estate Committee (Committee). This report is a part of that review and was conducted at the request of the Committee, following the requirements stipulated under Public Act 09-179. The review is a collaborative effort of the Connecticut Insurance Department and the University of Connecticut Center for Public Health and Health Policy.

Connecticut General Assembly H.B. 5448 from the 2011 Regular Session sought to mandate that group and individual health insurance policies issued, renewed, amended or continued in this state provide coverage for breast cancer screening by thermography under certain circumstances. The proposed mandate would require coverage of breast screening by thermography in cases where a mammogram has demonstrated heterogeneous or dense breast tissue or where a physician or advanced practice nurse believes a patient to be at increased risk for breast cancer based on family history, positive genetic testing or other, unspecified, indications.

Specifically, H.B. 5448 provided that:

> Section 1. Subsection (a) of section 38a-503 of the general statutes is repealed and the following is substituted in lieu thereof (Effective January 1, 2012):
>
> (a) (1) Each individual health insurance policy providing coverage of the type specified in subdivisions (1), (2), (4), [(6),] (10), (11) and (12) of section 38a-469 delivered, issued for delivery, renewed, amended or continued in this state [on or after October 1, 2001,] shall provide benefits for mammographic examinations to any woman covered under the policy which are at least equal to the following minimum requirements: [(1)] (A) A baseline mammogram for any woman who is thirty-five to thirty-nine years of age, inclusive; and [(2)] (B) a mammogram every year for any woman who is forty years of age or older.
>
> (2) Such policy shall provide additional benefits for comprehensive ultrasound screening and thermography of an entire breast or breasts if a mammogram demonstrates heterogeneous or dense breast tissue based on the Breast Imaging Reporting and Data System established by the American College of Radiology or if a woman is believed to be at increased risk for breast cancer due to family history or prior personal history of breast cancer, positive genetic testing or other indications as determined by a woman's physician or advanced practice registered nurse.
>
> Sec. 2. Subsection (a) of section 38a-530 of the general statutes is repealed and the following is substituted in lieu thereof (Effective January 1, 2012):
>
> (a) (1) Each group health insurance policy providing coverage of the type specified in subdivisions (1), (2), (4), (11) and (12) of section 38a-469 delivered, issued for delivery, renewed, amended or continued in this state [on or after October 1, 2001,] shall provide benefits for mammographic examinations to any woman covered under the policy which are at least equal to the following minimum requirements: [(1)] (A) A baseline mammogram for any woman who is thirty-five to thirty-nine years of age, inclusive; and [(2)] (B) a mammogram every year for any woman who is forty years of age or older.
>
> (2) Such policy shall provide additional benefits for comprehensive ultrasound screening and

thermography of an entire breast or breasts if a mammogram demonstrates heterogeneous or dense breast tissue based on the Breast Imaging Reporting and Data System established by the American College of Radiology or if a woman is believed to be at increased risk for breast cancer due to family history or prior personal history of breast cancer, positive genetic testing or other indications as determined by a woman's physician or advanced practice registered nurse.

In October 2011, CPHHP and OptumInsight (OI), the actuarial consultant for this review, requested and received 2009 and 2010 policy and claims data related to the proposed mandated benefit from five insurers and managed care organizations (MCOs) domiciled in Connecticut that cover approximately 90 percent of the population in fully insured group and individual health insurance plans in Connecticut (911,000 persons). Based on that policy and claims data, a review of the legislative history, reviews of pertinent literature and the OI report, this review found the following:

Current coverage

No domestic group or individual health insurer or health plan currently provides coverage for breast cancer screening by thermography in Connecticut. All insurers/carriers consider thermography to either be experimental or to be of no proven value for this purpose.

Premium impact

Group plans: On a 2012 basis, the medical cost of this proposed mandate is estimated to be $0.05 PMPM. Estimated cost-sharing is $0.01 PMPM. The estimated total cost to insurers (medical cost, administrative fees and profit) of the mandated services on a 2012 basis in group plans is $0.06 PMPM, which is approximately one-tenth of one percent of estimated total premium costs in group plans.

Individual policies: None of the five insurers/MCOs that provided policy and claims data for individual health insurance policies include thermography in their provisions for breast cancer screening. On a 2012 basis, paid medical cost is estimated to be $0.05 PMPM. Estimated cost-sharing is $0.01 PMPM. The estimated total cost (medical cost, administrative fees, and profit) of the proposed mandated services in 2012 in individual plans is $0.06 PMPM, which is one-tenth of one percent of estimated total premiums in individual plans. (Note: Individual data is less credible than group data primarily due to small sample size.)

Self-insured plans: Connecticut insurers/MCOs reported that none of their self-insured customers currently include coverage for breast cancer screening by thermography in their plans.

II. Background

"Screening" is defined by the National Cancer Institute as "checking for disease when there are no symptoms."[424] For purposes of this proposed mandate, it is important to distinguish between procedures for screening purposes where there is no sign or symptom of disease, and those done for diagnostic purposes where something suspicious has been found, either during a screening procedure or by the patient or provider. Only screening procedures are mandated under C.G.S.A., §§38a-503 and 530.

Merriam Webster's Medical Dictionary defines "thermography" as "a technique for detecting and measuring variations in the heat emitted by various regions of the body and transforming them into visible signals that can be recorded photographically (as for diagnosing abnormal or diseased underlying conditions)."[425] This is done through the use of infrared cameras. Thermography is non-invasive, it does not require compression of the breast and it does not expose the patient to radiation.[426] It does not identify the presence or absence of a tumor itself, but senses temperature changes in the skin that may be a sign of a tumor or of a pre-cancerous state. This is based on the need of tumors for increased blood supply and tumors' ability to create increased blood flow or vasodilation for their nourishment.[427] Abnormal thermograms require additional procedures to identify the cause of the temperature change and to locate any tumor or malignancy.[428]

Thermography is not a new technology. It has been in use since the 1950s.[429] In the 1970s there was a great deal of interest in it for breast cancer screening. In 1973 the National Cancer Institute initiated the Breast Cancer Detection Demonstration Project (BCDDP). One of the objectives of the BCDDP was to determine if a negative infrared imaging was sufficient to preclude the use of clinical examination and mammography for the detection of breast cancer.[430] However, at that time mammography was determined to be a more effective screening technology and thermography was dropped from the study. Interest in thermography for breast cancer screening waned in the years following this study.

Improved thermography equipment, including digital infrared equipment, has given rise to new interest in the procedure in the last 10-15 years.[431, 432] However, to date there is no credible research-based evidence as to the effectiveness of thermography in the detection and diagnosis of breast cancer as a stand-alone technology[433]

The Federal Food and Drug Administration has determined thermography to be safe and effective for

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[424] National Cancer Institute. Dictionary of cancer terms: screening. Accessed December 22, 2011 from: http://www.cancer.gov/dictionary?expand=S.

[425] Dictionary.com. Merriam-Webster's Medical Dictionary. Merriam-Webster, Inc. Accessed December 5, 2011 from: http://dictionary.reference.com/browse/thermography

[426] Kennedy DA, Lee T, Seely D. 2009. A comparative review of thermography as a breast cancer screening technique. *Integrative Cancer Therapies*,8(1):9-16.

[427] Keyserlingk JR, Ahlgren PD, Yu E, Belliveau N, Yassa M. 2000. Functional Infrared Imaging of the Breast. *IEEE Eng Med Biol Mag* 19:30-41.

[428] Kennedy DA, Lee T, Seely D. 2009. A comparative review of thermography as a breast cancer screening technique. *Integrative Cancer Therapies*,8(1):9-16.

[429] *Ibid.*

[430] Keyserlingk JR, Ahlgren PD, Yu E, Belliveau N, Yassa M. 2000. Functional Infrared Imaging of the Breast. *IEEE Eng Med Biol Mag* 19:30-41.

[431] Kennedy DA, Lee T, Seely D. 2009. A comparative review of thermography as a breast cancer screening technique. I*ntegrative Cancer Therapies,* 8(1):9-16.

[432] Head JF, Wang F, Lipari CA, Elliott RL/ 2000. The important role of infrared imaging in breast cancer. IEEE eng Med Biol Mag 19:52-57.

[433] U.S. Food and Drug Administration. FDA Safety Communication: Breast Cancer Screening - Thermography is Not an Alternative to Mammography, issued June 2011. Accessed December 22, 2011 from: http://www.fda.gov/MedicalDevices/Safety/AlertsandNotices/ucm257259.htm.

certain purposes. However, it has warned several manufacturers of thermographic equipment against advertising their equipment as the primary or sole technology for breast cancer screening.[434] The FDA will allow marketing of thermographic equipment for the purpose of breast cancer screening only as an adjunct to mammography, which it still considers the best means of detecting breast cancer early.

Neither the United States Preventive Services Task Force (USPSTF) nor the American Cancer Society includes the use of thermography in their breast cancer screening guidelines or recommendations.[435, 436] The American Cancer Society does mentions thermography in its section on New and Experimental Methods.[437]

III. Methods

Under the direction of CPHHP, medical librarians at the Lyman Maynard Stowe Library at the UConn Health Center (UCHC) gathered published articles and other information related to medical, social, economic, and financial aspects of the required benefit. Medical librarians conducted literature searches using: PubMed, Scopus, National Guidelines Clearinghouse, American Cancer Society, National Cancer Institute, American Society of Clinical Oncology and Google.

General search terms used included: Mass screening, breast neoplasms, thermography, infrared rays, image interpretation, and radiographic image interpretation, thermography utilization and thermography standards.

CPHHP staff conducted independent literature searches using similar search terms to those used by the UCHC medical librarians. Where available, articles published in peer-reviewed journals are cited to support the analysis. Other sources of information may also be cited in the absence of peer-reviewed journal articles. Content from such sources may or may not be based on scientific evidence.

Staff also searched websites for appropriate state, federal, municipal, non-profit entities, and internet sources such as the State of Connecticut website, Centers for Medicare and Medicaid (CMS) website, other states' websites, professional organizations' websites, and non-profit and community-based organization websites.

With the assistance of the Connecticut Insurance Department (CID), CPHHP and OI requested and received 2009 and 2010 claims and coverage policies on thermography for breast cancer screening from insurance companies and MCOs domiciled in Connecticut. Five insurers/MCOs provided coverage policies for breast thermograpy for their fully insured group and individual plan participants. MCOs also provided information about such coverage in the self-insured plans they administer.

CPHHP and the CID contracted with OI to provide actuarial and economic analyses of the mandated benefit. Further details regarding the insurer/MCO claims data and actuarial methods used to estimate the cost of the benefit and economic methods used to estimate financial burden may be found in the OI report in Appendix III.

This report is intended to be read in conjunction with the General Overview to this volume, the analysis of

[434] U.S. Food and Drug Administration. Enforcement actions; warning letters. Meditherm Inc. 4/4/11. Accessed December 23, 2011 from: http://www.fda.gov/ICECI/EnforcementActions/WarningLetters/2011/ucm249863.htm.

[435] U.S. Preventive Services Task Force. 2009. Breast Cancer Screening. Accessed December 23, 2011 from: http://www.uspreventiveservicestaskforce.org/uspstf/uspsbrca.htm.

[436] American Cancer Society. 2011. American Cancer Society recommendations for early breast cancer detection. Accessed December 23, 2011 from: http://www.cancer.org/Healthy/FindCancerEarly/ExamandTestDescriptions/MammogramsandOtherBreastImagingProcedures/mammograms-and-other-breast-imaging-procedures-screening-mammogram.

[437] American Cancer Society. 2011. Mammograms and other imaging procedures: newer and experimental breast imaging methods. Accessed December 23, 2011 from: http://www.uspreventiveservicestaskforce.org/uspstf/uspsbrca.htm.

P.A. 09-115 and the OptumInsight Actuarial Report which is included as Appendix III.

IV. Social Impact

1. The extent to which the treatment, service or equipment, supplies or drugs, as applicable, is utilized by a significant portion of the population.

The American College of Clinical Thermology (ACCT) lists thirteen approved thermology clinics in Connecticut.[438] One website for an international thermography organization lists two certified thermography labs in Connecticut.[439] Another website lists six locations in Connecticut that offer breast thermography. It is unclear from these websites how widespread the use of breast thermography is in the general population, however.

2. The extent to which the treatment, service or equipment, supplies or drugs, as applicable, is available to the population, including, but not limited to, coverage under Medicare, or through public programs administered by charities, public schools, the Department of Public Health, municipal health departments or health districts or the Department of Social Services.

Medicare does not cover thermography for breast cancer screening.[440]

Medicaid does not cover thermography for breast cancer screening.

Connecticut Department of Public Health does not include thermography in its Breast and Cervical Cancer Early Detection Program.[441]

3. The extent to which insurance coverage is already available for the treatment, service or equipment, supplies or drugs, as applicable.

No Connecticut insurers/MCOs include thermography in their breast cancer screening benefits. In response to a question in our survey, Connecticut insurers/MCOs reported that none of the self-funded plans administered by them cover thermography for breast cancer screening.

4 . If the coverage is not generally available, the extent to which such lack of coverage results in persons being unable to obtain necessary health care treatment.

Thermography is not recommended for breast cancer screening by either the USPSTF or the American Cancer Society.[442, 443]

Breast cancer screening is widely available using other technologies, including mammography, ultrasound and magnetic resonance imaging (MRI). Connecticut health care policies and plans are mandated to cover mammography, ultrasound and MRI for the purpose of breast cancer screening in C.G.S.A., §§381-503

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[438] American College of Clinical Thermology. Accessed December 20, 2011 from: http://www.thermologyonline.org/Breast/breast_thermography_clinics.htm.

[439] Breast Thermography International. Accessed December 20, 2011 from: http://www.btiscan.com/Aboutus.html.

[440] Centers for Medicare and Medicaid Services. Medicare National Coverage Determinations Manual, Chapter 1, Part 4 (Sections 200 – 310.1) Coverage Determinations; section 220.11. Accessed December 23, 2011 from: http://www.cms.gov/manuals/downloads/ncd103c1_Part4.pdf.

[441] Connecticut Department of Public Health. Breast and cervical cancer early detection program. Accessed December 23, 2011 from: http://www.ct.gov/dph/cwp/view.asp?a=3124&q=388824.

[442] U.S. Food and Drug Administration. Enforcement actions; warning letters. Meditherm Inc. 4/4/11. Accessed December 23, 2011 from: http://www.fda.gov/ICECI/EnforcementActions/WarningLetters/2011/ucm249863.htm.

[443] American Cancer Society. 2011. Mammograms and other imaging procedures: newer and experimental breast imaging methods. Accessed December 23, 2011 from: http://www.uspreventiveservicestaskforce.org/uspstf/uspsbrca.htm.

and 381-530. Mammography is made available to women of all income levels through the Department of Public Health's Connecticut Breast and Cervical Cancer Early Detection Program, in cooperation with local hospitals.[444]

5. If the coverage is not generally available, the extent to which such a lack of coverage results in unreasonable financial hardships on those persons needing treatment.

Assuming an average cost of $220, the actuarial report indicates that breast thermography can cost an average of four-tenths of one percent of a family's income for families earning $50,000 annually, if there is no insurance for it.[445] The level of hardship this may pose for any given individual depends on their level of income and their competing expenses, and will vary by individual.

6. The level of public demand and the level of demand from providers for the treatment, service or equipment, supplies or drugs, as applicable.

As indicated in Section 1 above, there are a number of thermography providers in Connecticut. It is unknown how much demand there is for breast cancer screening using this technology, however, since the major medical guidelines for breast cancer screening do not include it and none of the Connecticut-domiciled insurers/MCOs provide insurance coverage for it.

7. The level of public demand and the level of demand from providers for insurance coverage for the treatment, service or equipment, supplies or drugs, as applicable.

At the public hearing for H.B. 5448 in February 2011, two individuals spoke in favor of mandating insurance coverage for breast thermography: a thermography provider, and the president of the Connecticut Breast Health Initiative.

8. The likelihood of achieving the objectives of meeting a consumer need as evidenced by the experience of other states.

No mandates for insurance coverage of thermography for the purpose of breast cancer screening were found in other states. California mandates coverage for breast cancer screening by all generally medically accepted screening tests.[446, 447] Since thermography is not recommended by any of the major breast cancer screening guidelines, it is unclear whether it would be covered by this mandate in California.

9. The relevant findings of state agencies or other appropriate public organizations relating to the social impact of the mandated health benefit.

The Connecticut Department of Public Health does not include thermography in its Breast and Cervical Cancer Early Detection Program (see footnote 17 above).

10. The alternatives to meeting the identified need, including but not limited to, other treatments, methods or procedures.

Mammography is the recommended technology for initial breast cancer screening. Magnetic resonance imaging and ultrasound are recognized as effective additional aids in breast cancer detection for women at

[444] Connecticut Department of Public Health, Connecticut Breast and cervical cancer early detection program. Accessed December 22, 2011 from: http://www.ct.gov/dph/cwp/view.asp?a=3124&q=388824

[445] X to Rays. Accessed December 20, 2011 from: http://xtorays.com/locations.html.

[446] Health & Safety Code Section 1367.6 and Insurance Code Section 10123.8; also Basic Health Care Services; California Health and Safety Code, Section 1345 and Section 1300.67 of the California Code of Regulations, Title 28; Cancer Screening; Health and Safety Code Section 1367.665 and Insurance Code Section 10123.20.

[447] California Health Benefits Review Program. 2011. Analysis of senate bill 173:mammograms. Accessed January 20, 2012 from: http://www.chbrp.org/docs/index.php?action=read&bill_id=117&doc_type=2.

high risk and women with dense breast tissue, for whom mammography is less effective.

11. Whether the benefit is a medical or broader social need and whether it is consistent with the role of health insurance and the concept of managed care.

The proposed mandate would apply to the use of thermography for the purpose of breast cancer screening. Breast cancer is a medical condition, and mandating coverage for thermography for breast cancer screening would be consistent with the role of health insurance and the concept of managed care if thermography were widely recognized by the medical community as an appropriate technology for this purpose. However, the American Cancer Society considers it a "newer and experimental breast imaging method" that requires more study before its usefulness can be established.[448]

12. The potential social implications of the coverage with respect to the direct or specific creation of a comparable mandated benefit for similar diseases, illnesses, or conditions.

This mandate may have implications for other experimental treatments, which are generally not covered by health insurance.

13. The impact of the benefit on the availability of other benefits currently offered.

Health insurance carriers may cut costs by eliminating or restricting access to, or placing limits on other non-mandated benefits currently offered. However, the availability of any benefits to be restricted may be limited. Existing benefits may be administratively costly to restrict and insurers may be contractually obligated to provide them. Additionally, many of the benefits that could be targets for elimination are included in plans for competitive advantage.

14. The impact of the benefit as it relates to employers shifting to self-insured plans and the extent to which the benefit is currently being offered by employers with self-insured plans.

According to the Connecticut insurers/MCOs surveyed for this report, none of the self-insured plans administered by them includes coverage for breast cancer screening by thermography.

15. The impact of making the benefit applicable to the state employee health insurance or health benefits plan.

State employee health insurance and health benefit plans became self-funded on July 1, 2010 and would not be subject to this proposed mandate. Assuming, however, that the State plans would comply with this proposed mandated health benefit if it were enacted, the total annual medical cost for this mandate in 2012 is estimated to be $97,485 for active employees and $9,114 for the retiree medical plans. (N.B., the cost may be somewhat higher for the retiree plan, since the incidence of breast cancer increases with age and compliance with breast cancer screening recommendations may also increase with age). This has been calculated by multiplying the 2012 PMPM medical cost by 12 to get an annual cost per insured life, and then multiplying that product by 162,430 covered lives for the active employee plans and 15,190 covered lives under the retiree medical plans that are not eligible for Medicare, as reported by the State Comptroller's office.[449]

Caveat: The actual cost of this mandate to the State plans may be higher or lower, based on the actual benefit design of the State plans and the demographics of the covered lives (e.g., average age of members,

[448] American Cancer Society. Mammograms and other breast imaging procedures. Accessed December 22, 2011 from: http://www.cancer.org/Healthy/FindCancerEarly/ExamandTestDescriptions/MammogramsandOtherBreastImagingProcedures/mammograms-and-other-breast-imaging-procedures-newer-br-imaging-tests.

[449] Email from Rae-Ellen Roy, Office of the State Comptroller, dated December 23, 2011.

negotiations with providers, etc.).

Retention costs are not included in this estimate because the State is now self-funded and the traditional elements of retention do not apply. State costs for administration of the plans would be in addition to the above amount.

16. The extent to which credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community determines the treatment, service or equipment, supplies or drugs, as applicable, to be safe and effective.

The federal Food and Drug Administration has determined that thermographic equipment is safe and effective to use. However, the FDA prohibits manufacturers of this equipment from marketing it as an alternative to mammography for purposes of breast cancer screening.[450] It may only be marketed as an adjunct to mammography, not as a primary screening tool.

V. Financial Impact

1. The extent to which the mandated health benefit may increase or decrease the cost of the treatment, service or equipment, supplies or drugs, as applicable, over the next five years.

The cost of breast thermography currently is roughly equivalent to the cost of breast ultrasound: approximately $220.[451] This cost is not expected to increase simply as a result of the mandate. Insurers/MCOs will be able to negotiate cost with thermography providers, and this may act to contain the cost of individual procedures.

2. The extent to which the mandated health benefit may increase the appropriate or inappropriate use of the treatment, service or equipment, supplies or drugs, as applicable, over the next five years.

Breast thermography is not currently covered by any insurer/MCO in Connecticut. The OptumInsight report estimates that 2012 utilization would be approximately 10 percent of breast ultrasound utilization, if this mandate is adopted.[452] From 2013-2016, OI estimates that utilization will grow by as much as 50 percent annually, as new providers enter Connecticut in response to the mandated coverage. A higher rate of growth is predicted for breast thermography than for breast ultrasound because it would be new coverage and because thermography does not require a physician's license to perform. However, due to a lack of current data it is more difficult to predict future growth for thermography.

3. The extent to which the mandated health benefit may serve as an alternative for more expensive or less expensive treatment, service or equipment, supplies or drugs, as applicable.

It is unclear whether breast thermography may serve as an alternative for breast ultrasound or breast MRI. New technology tends to be additive rather than substitutive. Also, breast thermography does not detect or locate tumors themselves but only detects the heat on the surface of the skin generated by increased blood flow. Elevated heat emissions can be caused by conditions other than cancers as well, such as mastitis. Diagnostic mammograms, ultrasounds or MRIs would still be needed to evaluate the cause of such elevated heat emission and to locate any suspected tumor. Proponents of breast thermography tout its

[450] U.S. Food and Drug Administration. FDA Safety Communication: Breast Cancer Screening - Thermography is Not an Alternative to Mammography, issued June 2011. Accessed December 22, 2011 from: http://www.fda.gov/MedicalDevices/Safety/AlertsandNotices/ucm257259.htm.

[451] OptumInsight Actuarial Report, Appendix III.

[452] OptumInsight Actuarial Report, Appendix III.

ability to identify pre-cancerous cellular activity that will allow more targeted surveillance.[453] In this case, thermography may increase the use of the other breast imaging technologies.

4. The methods that will be implemented to manage the utilization and costs of the mandated health benefit.

The mandate is limited to situations in which "a mammogram demonstrates heterogeneous or dense breast tissue based on the Breast Imaging Reporting and Data System established by the American College of Radiology or if a woman is believed to be at increased risk for breast cancer due to family history or prior personal history of breast cancer, positive genetic testing or other indications as determined by a woman's physician or advanced practice registered nurse".

Insurers/MCOs will be able to negotiate costs with thermography providers. Utilization review may be difficult to exercise, however, since the proposed bill mandates coverage of breast thermography subsequent to mammography in any case where the woman's physician or advanced practice registered nurse determines it is warranted.

5. The extent to which insurance coverage for the treatment, service or equipment, supplies or drugs, as applicable, may be reasonably expected to increase or decrease the insurance premiums and administrative expenses for policyholders.

Insurance premiums include medical cost and retention costs. Medical cost accounts for medical services. Retention costs include administrative cost and profit (for for-profit insurers/MCOs) or contribution to surplus (for not-for-profit insurers/MCOs).

Group plans: When the medical cost of the mandate is spread to all insureds in group plans, 2012 medical costs are estimated to be $0.05 PMPM and retention costs are estimated to be $0.01 PMPM in 2012. Thus the total effect on insurance premiums is estimated at $0.06 PMPM in 2012, which is one-tenth of one percent of premium.

Individual plans: When the medical cost of the mandate is spread to all insureds in individual plans, medical costs are estimated to be $0.05 PMPM and retention costs are estimated to be $0.01 PMPM in 2012. Thus the total effect on insurance premiums is estimated at $0.06 PMPM in 2012, which is one-tenth of one percent of premium.

For further information, please see Appendix III: OptumInsight Actuarial Report.

6. The extent to which the treatment, service or equipment, supplies or drugs, as applicable, is more or less expensive than an existing treatment, service or equipment, supplies or drugs, as applicable, that is determined to be equally safe and effective by credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community.

Breast thermography ($220) costs approximately the same as breast ultrasound. It is approximately one-tenth the cost of a breast MRI ($2,000).[454] Both ultrasound and MRI are alternatives to breast thermography and are included in the breast cancer screening guidelines of the American Cancer Society as adjuncts to mammography, particularly for women at high risk of breast cancer and for women with dense breast tissue or who have breast implants. Thermography, ultrasound and MRI are non-invasive technologies which do not expose the patient to radiation. Thermography detects temperature changes at

[453] Head JF, Wang F, Lipari CA, Elliott RL/ 2000. The important role of infrared imaging in breast cancer. *IEEE eng Med Biol Mag* 19:52-57.

[454] OptumInsight Actuarial Report. Appendix III.

the surface of the breast.[455] Mammography, ultrasound and MRI detect tumors and other masses in the breast tissue itself.

7. The impact of insurance coverage for the treatment, service or equipment, supplies or drugs, as applicable, on the total cost of health care, including potential benefits or savings to insurers and employers resulting from prevention or early detection of disease or illness related to such coverage.

The total cost of health care is understood to be the funds flowing into the medical system, which are the medical costs portion of insurance premiums and the cost sharing of the insureds. Actuarial analysis of claims data received from insurers/MCOs in Connecticut shows an expected impact in 2012 of $546,465 for breast thermography for Connecticut residents covered by fully insured group and individual health insurance.[456]

The cost of breast thermography may be offset by somewhat lower costs to treat breast cancer, if thermography allows the breast cancer to be detected at an earlier stage. However, breast thermography may also increase the use of mammogram, ultrasound, MRI and/or biopsy to verify abnormal thermography readings, since thermography does not itself show or locate tumors.

8. The impact of the mandated health care benefit on the cost of health care for small employers, as defined in section 38a-564 of the general statutes, and for employers other than small employers.

The actuarial report found that the cost burden of this mandate is likely to have a greater effect on those insured under small group plans than on those insured under large group plans.[457] The small group market is more sensitive to the cost of health insurance and may be somewhat more likely to drop coverage as a result of cost increases generally. In addition, small groups tend to pass more of the cost of their plans to employees in the form of larger employee premium payments and larger employee cost-sharing on services.

9. The impact of the mandated health benefit on cost-shifting between private and public payers of health care coverage and on the overall cost of the health care delivery system in the state.

The overall cost of the health delivery system in the state is understood to include total insurance premiums (medical costs and retention) and cost-sharing. The estimated annual impact of this mandate on the overall cost of health care delivery in the state is $72,193. It is not expected to result in cost-shifting between private and public payers of health care coverage.[458]

This estimated impact assumes that the State of Connecticut plans continue to comply with this mandate even though these plans are now self-funded and therefore are not required to include it.

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[455] Kennedy DA, Lee TL, Seely D. 2009. A comparative review of thermography as a breast cancer screening technique. *Integr Cancer Ther* 8:9-16.

[456] OptumInsight Actuarial Report. Appendix III.

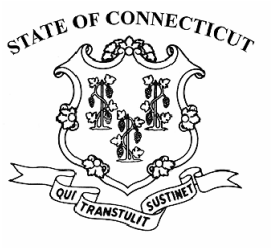
[457] OptumInsight Actuarial Report. Appendix III.,

[458] OptumInsight Actuarial Report. Appendix III.

Appendix I

Public Act 09-179

An Act Concerning Reviews of Health Insurance Benefits Mandated in this State



House Bill No. 5018

Public Act No. 09-179

AN ACT CONCERNING REVIEWS OF HEALTH INSURANCE BENEFITS MANDATED IN THIS STATE.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. (NEW) (*Effective July 1, 2009*) (a) As used in this section:

(1) "Commissioner" means the Insurance Commissioner.

(2) "Mandated health benefit" means an existing statutory obligation of, or proposed legislation that would require, an insurer, health care center, hospital service corporation, medical service corporation, fraternal benefit society or other entity that offers individual or group health insurance or medical or health care benefits plan in this state to: (A) Permit an insured or enrollee to obtain health care treatment or services from a particular type of health care provider; (B) offer or provide coverage for the screening, diagnosis or treatment of a particular disease or condition; or (C) offer or provide coverage for a particular type of health care treatment or service, or for medical equipment, medical supplies or drugs used in connection with a health care treatment or service. "Mandated health benefit" includes any proposed legislation to expand or repeal an existing statutory obligation relating to health insurance coverage or medical benefits.

(b) (1) There is established within the Insurance Department a

health benefit review program for the review and evaluation of any mandated health benefit that is requested by the joint standing committee of the General Assembly having cognizance of matters relating to insurance. Such program shall be funded by the Insurance Fund established under section 38a-52a of the general statutes. The commissioner shall be authorized to make assessments in a manner consistent with the provisions of chapter 698 of the general statutes for the costs of carrying out the requirements of this section. Such assessments shall be in addition to any other taxes, fees and moneys otherwise payable to the state. The commissioner shall deposit all payments made under this section with the State Treasurer. The moneys deposited shall be credited to the Insurance Fund and shall be accounted for as expenses recovered from insurance companies. Such moneys shall be expended by the commissioner to carry out the provisions of this section and section 2 of this act.

(2) The commissioner shall contract with The University of Connecticut Center for Public Health and Health Policy to conduct any mandated health benefit review requested pursuant to subsection (c) of this section. The director of said center may engage the services of an actuary, quality improvement clearinghouse, health policy research organization or any other independent expert, and may engage or consult with any dean, faculty or other personnel said director deems appropriate within The University of Connecticut schools and colleges, including, but not limited to, The University of Connecticut (A) School of Business, (B) School of Dental Medicine, (C) School of Law, (D) School of Medicine, and (E) School of Pharmacy.

(c) Not later than August first of each year, the joint standing committee of the General Assembly having cognizance of matters relating to insurance shall submit to the commissioner a list of any mandated health benefits for which said committee is requesting a review. Not later than January first of the succeeding year, the

commissioner shall submit a report, in accordance with section 11-4a of the general statutes, of the findings of such review and the information set forth in subsection (d) of this section.

(d) The review report shall include at least the following, to the extent information is available:

(1) The social impact of mandating the benefit, including:

(A) The extent to which the treatment, service or equipment, supplies or drugs, as applicable, is utilized by a significant portion of the population;

(B) The extent to which the treatment, service or equipment, supplies or drugs, as applicable, is currently available to the population, including, but not limited to, coverage under Medicare, or through public programs administered by charities, public schools, the Department of Public Health, municipal health departments or health districts or the Department of Social Services;

(C) The extent to which insurance coverage is already available for the treatment, service or equipment, supplies or drugs, as applicable;

(D) If the coverage is not generally available, the extent to which such lack of coverage results in persons being unable to obtain necessary health care treatment;

(E) If the coverage is not generally available, the extent to which such lack of coverage results in unreasonable financial hardships on those persons needing treatment;

(F) The level of public demand and the level of demand from providers for the treatment, service or equipment, supplies or drugs, as applicable;

(G) The level of public demand and the level of demand from

providers for insurance coverage for the treatment, service or equipment, supplies or drugs, as applicable;

(H) The likelihood of achieving the objectives of meeting a consumer need as evidenced by the experience of other states;

(I) The relevant findings of state agencies or other appropriate public organizations relating to the social impact of the mandated health benefit;

(J) The alternatives to meeting the identified need, including, but not limited to, other treatments, methods or procedures;

(K) Whether the benefit is a medical or a broader social need and whether it is consistent with the role of health insurance and the concept of managed care;

(L) The potential social implications of the coverage with respect to the direct or specific creation of a comparable mandated benefit for similar diseases, illnesses or conditions;

(M) The impact of the benefit on the availability of other benefits currently offered;

(N) The impact of the benefit as it relates to employers shifting to self-insured plans and the extent to which the benefit is currently being offered by employers with self-insured plans;

(O) The impact of making the benefit applicable to the state employee health insurance or health benefits plan; and

(P) The extent to which credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community determines the treatment, service or equipment, supplies or drugs, as applicable, to be safe and effective; and

(2) The financial impact of mandating the benefit, including:

(A) The extent to which the mandated health benefit may increase or decrease the cost of the treatment, service or equipment, supplies or drugs, as applicable, over the next five years;

(B) The extent to which the mandated health benefit may increase the appropriate or inappropriate use of the treatment, service or equipment, supplies or drugs, as applicable, over the next five years;

(C) The extent to which the mandated health benefit may serve as an alternative for more expensive or less expensive treatment, service or equipment, supplies or drugs, as applicable;

(D) The methods that will be implemented to manage the utilization and costs of the mandated health benefit;

(E) The extent to which insurance coverage for the treatment, service or equipment, supplies or drugs, as applicable, may be reasonably expected to increase or decrease the insurance premiums and administrative expenses for policyholders;

(F) The extent to which the treatment, service or equipment, supplies or drugs, as applicable, is more or less expensive than an existing treatment, service or equipment, supplies or drugs, as applicable, that is determined to be equally safe and effective by credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community;

(G) The impact of insurance coverage for the treatment, service or equipment, supplies or drugs, as applicable, on the total cost of health care, including potential benefits or savings to insurers and employers resulting from prevention or early detection of disease or illness related to such coverage;

(H) The impact of the mandated health care benefit on the cost of health care for small employers, as defined in section 38a-564 of the general statutes, and for employers other than small employers; and

(I) The impact of the mandated health benefit on cost-shifting between private and public payors of health care coverage and on the overall cost of the health care delivery system in the state.

Sec. 2. (*Effective July 1, 2009*) The commissioner shall carry out a review as set forth in section 1 of this act of statutorily mandated health benefits existing on or effective on July 1, 2009. The commissioner shall submit, in accordance with section 11-4a of the general statutes, the findings to the joint standing committee of the General Assembly having cognizance of matters relating to insurance not later than January 1, 2010.

Approved June 30, 2009

Appendix II

Letter from the Insurance Committee

Dated August 26, 2011

Copy to Debra

State of Connecticut
GENERAL ASSEMBLY

INSURANCE & REAL ESTATE COMMITTEE
STATE CAPITOL
HARTFORD, CONNECTICUT 06106

CC: Mary Ellen Brandt
Paul Formica
Beth Cook
Mary Eberle
Brian Benson

August 26, 2011

Thomas B. Leonardi, Commissioner
State of Connecticut Insurance Department
P O Box 816
Hartford, CT 06142-0816

Dear Commissioner Leonardi,

Pursuant to Section 1(c) of Public Act 09-179, we respectfully request that the Insurance Department through its statutory designees, review several particular proposed health benefits.

Specifically, we request a cost-benefit analysis of the following:

HB 5448 & SB 848 Use of ultrasound and thermography as supplementary screening technologies.

Public Act 11-225
SB 396 Coverage for the treatment of prostate cancer and prohibits differential payments for colonoscopies and endoscopies based on the location of service.

Public Act 09-115 and Proposed Bills SB 974 and 978 All pertaining to treatment of autism.

Please be advised that this request replaces our letter of July 27, 2011.

Thank you for your attention to our request.

Sincerely,

Senator Joseph J. Crisco, Jr.
Co-Chair, Insurance & Real Estate Committee

Representative Robert Megna
Co-Chair, Insurance & Real Estate Committee

Appendix III

OptumInsight

Actuarial Report
for the State of Connecticut on
2012 Health Insurance Mandates
covered by Public Act 09-179

Prepared by:

Daniel Bailey FSA, MAAA
OptumInsight

OPTUMINSIGHT—

ACTUARIAL REPORT For The STATE Of CT
On 2012 HEALTH INSURANCE MANDATES Covered By
PUBLIC ACT 09-179

January 24, 2012

Daniel Bailey, FSA, MAAA
400 Capital Boulevard
Rocky Hill, CT 06067
860-221-0245
Daniel.Bailey@Optum.com

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I. INTRODUCTION:

This report serves to record the findings of OptumInsight (OI) pursuant to our engagement to provide actuarial services to the State of CT in conjunction with Substitute House Bill No. 5021, Public Acts 09-179. It is intended to communicate the results of our work.

OptumInsight is pleased to have been chosen to serve the State of CT in this valuable project. A team approach has been employed, both internally at OptumInsight and with the workgroup that includes the CT Department of Insurance and the CT Center for Public Health and Health Policy. Consulting health actuary, Daniel Bailey, FSA, MAAA, of OptumInsight in Rocky Hill, CT, managed the actuarial work for this project. Dr. Thomas Knabel, MD, and his clinical staff were responsible for clinical guidance and support. Support staff in Minneapolis and Rocky Hill, CT carried out the data research that involved Optum's extensive commercial health claims databases. OptumInsight will also provide a separate and subsequent report on the economic aspects of these four proposed mandates.

OptumInsight was retained by the state to assess several health insurance mandates for 2012. In this document, our findings and conclusions related to the actuarial evaluation are presented for each of the mandates. Each one has been reviewed with respect to cost, with additional commentary on their socio-economic impact and effect on the finance and delivery system. This is referred to as the Phase Four Actuarial Report.

The results are presented in several steps: First, in summary form, and subsequently, the additional data and calculations that support the findings are layered into the report.

Optum reviewed these seven 2012 mandates and analyzed one current mandate:

I. Breast Cancer Screening:
   a. Eliminate All Member Cost-Sharing on Breast Ultrasound performed subsequent to a screening mammogram for women meeting certain conditions. (SB 848).
   b. Eliminate All Member Cost-Sharing on Breast MRI performed subsequent to a screening mammogram for women meeting certain conditions. (SB 848, by extension to MRI).
   c. Cover breast thermography as a supplemental screening approach subsequent to a screening mammogram, for women meeting certain conditions pertaining to their risk of breast cancer, with member cost-sharing. (HB 5448).

d. Cover breast thermography as a supplemental screening approach subsequent to a screening mammogram, for women meeting certain conditions, with**out** member cost-sharing. (HB 5448, by extension to SB 848).

II. Prostate Cancer Treatment:

In addition to diagnosis of prostate cancer for men meeting certain conditional criteria, which is required by the existing mandate, the 2012 mandate adds a requirement for **treatment** of prostate cancer. (SB 396 and PA 11-225).

III. Autism Spectrum Disorder (ASD)

a. Cover Developmental Relationship-Based Therapy: SB 974; Group only, in addition to all the ASD services currently required under the existing ASD mandate.
b. Extraterritorial Application of current ASD mandate (38a-514b in combination with PA 09-115): SB 978; applies to Group coverage only, not Individual policies.
c. In the context of reviewing the two ASD mandates above, the current ASD mandate, 38a-514b, was also reviewed. Like SB 974 and SB 978, the current ASD mandate applies to Group only.

I.2 Cost of Mandates When Added To Commercial Fully Insured Coverage, and the Two Components of Health Insurance Premium:

The term "commercial" insurance is used to distinguish it from public programs, such as Medicaid, Medicare, or HUSKY. Commercial coverage is generally for people less than 65 years of age who do not have public coverage. The term commercial coverage can be used to describe two forms of health coverage—fully insured and self-funded. Self-funded coverage is not technically a form of health insurance. State health insurance mandates apply only to fully insured coverage.

Commercial health insurance can be broken into two types of policies:

- Group coverage—a policy typically sponsored by an employer who is the policy holder. Employees who elect to participate are certificate holders, and they generally pay a portion of the premium, usually less than half,
- Individual coverage—a policy sold to an individual to cover that person and possibly some or all that person's dependents. At present in CT, individual policies are purchased by individuals and paid for by them in their entirety. In the CT insurance market of December, 2011, there are no

government subsidized individual policies as there are in MA under Commonwealth Care. Beginning in 2014, under the Affordable Care Act, the federal government will subsidize individual policies sold in other states through exchanges that meet federal qualifications.

With respect to the cost of health insurance mandates and their effect on commercial health insurance premiums, two separate pieces were examined—these are the two components of health insurance premiums:

1. Medical costs, also called benefit expense, and
2. Non-medical cost, also called non-benefit expense.

More emphasis has been devoted to the former since it represents the far greater portion of overall premium cost. This is described in more detail later in this report. The term "retention" is also used for non-medical expense; it comprises both administrative cost and a profit/risk charge. Medical cost is also referred to as Paid cost; it is the liability of the health insurer that is responsible for payment. Paid cost is to be distinguished from "Allowed" cost. In addition to Paid cost, Allowed cost includes member cost-sharing, which is not part of health insurance premiums. Allowed cost examined at greater length later in this report.

Elsewhere in this report, the terms "benefit expense" and "non-benefit expense" are also used in reference to these two mutually exclusive components of health insurance premium.

For commercial group health insurance plans, non-medical (non-benefit) cost has been about 17% of premium, which is 21% to 22% of medical cost. Thus, for every dollar of health care cost paid by the insurer in group coverage, there was approximately twenty-one cents of associated cost that also went into health insurance premiums—this non-medical expense covered the operational costs associated with payment of claims, collection of premium, medical management, profit, and more. For individual coverage, non-benefit expense is and has been a larger portion of health care cost—it was approximately 23% of premium. This leads to roughly thirty cents of associated cost for every dollar of medical cost paid by insurers providing individual coverage. The Affordable Care Act requires insurers to comply with a minimum loss ratio of 85% on large group and 80% for small group and individual. This will tend to compress retention. That is, non-benefit expense will be limited as a percentage of health insurance premium for commercial insurance coverage.

In this report, it was assumed that 2012 medical costs on average will be 85% of health insurance premiums for all group plans combined, not 83% as was used in prior reports.

Historically, on average, this medical cost ratio has been higher for large groups than for small groups.

These two components, medical cost and non-medical expense, are the two basic building blocks of health insurance premiums. There is yet another separate category of health care cost that is not part of health insurance premiums—this is the cost-sharing paid by the member at the time of service or later. It is mentioned only briefly here, but covered in more detail elsewhere in this report. Cost-sharing (or "member cost-sharing") generally takes the form of deductibles, copays, and coinsurance. It may also include balance billing, out of network costs, and the cost of non-covered services. For covered services, the sum of cost-sharing and paid medical cost is referred to as Allowed Cost. Most of the focus in this report is on Paid medical cost, since it is ultimately the primary underlying driver of health insurance premiums.

The annual medical cost in 2012 dollars is indicated based on current and projected utilization and medical cost levels. Medical costs were also projected forward for the next four years. Expected changes in the finance and delivery system were considered, as was the effect of trend on unit cost and utilization. Optum's internal commercial health claims data for 2009 – 2010 was examined, with emphasis on 2010 for the prostate cancer and autism data. Various outside data sources were also reviewed in order to establish incidence and prevalence rates, utilization levels, unit cost of services, and overall spending on types of service. Survey information provided by CT carriers as requested by the state was also considered.

First, a summary of the expected 2012 medical cost is presented without detail or long-range projections. Later in this report, the medical cost of each mandate will be elaborated on. The socio-economic consequences of the mandates and their ramifications on the finance and delivery system will be examined, including their effect on health insurance cost and availability. The cost of group coverage has been emphasized more than the cost of individual plans because fully insured group coverage constitutes about 90% of the commercial health insurance market.

Fully insured coverage does **not** include self-funded group coverage. Until last year, the number of people covered by self-funded coverage in CT was roughly as large as the number covered by fully insured group coverage. As of the end of 2011, there are more people in CT who receive health coverage through a self-funded employer plan than from fully insured group and individual coverage combined. This is primarily a result of the state of CT employees plan moving to a self-funded arrangement. It is also a consequence of the continued migration of fully-insured groups into self-funded

coverage. Finally, it reflects the increase in the number of uninsured people resulting from a larger decrease in fully insured than self-funded.

It is important to note that self-funded groups are **not** subject to state mandates; however, they are subject to certain federal mandates, of which there are far fewer than those required by the state of CT. As the fully insured population shrinks relative to the self-funded, state health insurance mandates have jurisdiction over a decreasing percentage of the state's residents.

For the sake of clarification, it should be explained that the term commercial health coverage is generally used to refer to all health benefit plans for people who are not covered by government health plans such as Medicare and Medicaid. Commercial coverage is also referred to as private coverage to distinguish it from public (government) programs. Sometimes, the term "commercial" health coverage is used to mean the same thing as commercial health insurance, which applies to fully insured plans only. In this report, the term commercial health insurance is used to refer to insured group and individual plans and excludes self-funded plans. Like many basic terms in insurance, some may be defined somewhat differently by different users. The 2012 CT mandates examined in this report apply to fully insured comprehensive commercial health insurance plans; these plans cover less than half of CT residents who are less than 65 years of age.

In estimating the 2012 medical cost of the mandates reviewed in this report, it was assumed that the mandates would become effective on January 1, 2012 and remain in effect throughout the entire calendar year. In the five year projection provided in the appendix to this report, future cost increases are explained. This is a complicating factor especially in the case of the breast cancer screening and autism spectrum disorder mandates because it is expected that the frequency of those services will increase in time as medical practice patterns change and public awareness increases.

When mandates are introduced, there may be a growth period during which utilization is increasing but the overall level is less than the ultimate level it will reach after this initial growth period is over and utilization reaches a mature level. During this period, utilization may increase at a rate far greater than medical trend. It may take months or years to reach this ultimate level, depending on the mandate and other factors. The medical system is a highly complex system in which many different forces play a role, and these will affect how quickly the costs of these proposed mandates escalate over the next several years.

I.3 EXECUTIVE SUMMARY OF 2010 MEDICAL COST ASSESSMENT:

Note: In the estimates below, a range of projected cost estimates has been used as well as a point estimate in some cases. The point estimate is not intended to imply a false sense of precision. Some aspects of the calculations may involve actuarial judgment. The actual 2012 cost could be greater or less than the expected values that have been projected.

The term *de minimis* is used to describe the projected incremental cost of any mandate that we expect to be less than $0.05 per member per month (PMPM) when the cost is spread to all the insured people covered by the plan. We also use the terms per person per month and per insured person per month to mean the same thing as PMPM. When considering the term PMPM, bear in mind that the average "person" is a blend of all ages and genders.

The PMPM medical costs presented in this section are for group coverage. Individual data and costs will be presented later in Section II.4.

The numbering of the mandates below does not reflect their relative importance.

I. Mandate one involves the elimination of cost-sharing for women between 35 and 65 who receive a breast ultrasound subsequent to a screening mammogram, provided the woman meets certain conditional criteria specified in the mandate; these criteria serve as a proxy for a "higher risk" assessment. It does not apply to high deductible plans. (SB 848) It is expected to add **$0.20 PMPM** of paid medical cost to fully insured, commercial group plans in 2012.

2 Mandate two involves the elimination of cost-sharing for women between 35 and 65 who receive a breast MRI subsequent to a screening mammogram, provided the woman meets the same conditional criteria specified in the mandate for ultrasound above. It does not apply to high deductible plans. (SB 848, by extension to breast MRI.) It is expected to add **$0.10 PMPM** of paid medical cost to fully insured, commercial group plans in 2012.

3. Mandate three involves the coverage of thermography as a supplemental breast cancer screening method subsequent to a screening mammogram for women between 35 and 65. As for breast ultrasound and MRI above, the woman must meet certain conditional criteria specified in the mandate. Mandate three allows the insurer to require that the member share the cost of the thermography services in the form of copays, deductibles and or coinsurance. It does not apply to high deductible plans. (HB 5448.) It

is expected to add **$0.05 PMPM** of paid medical cost to fully insured, commercial group plans in 2012.

4. Mandate four is identical to mandate three except that it does not permit any member cost-sharing for the thermography services. It does not apply to high deductible plans. (HB 5448, in conjunction with SB 848.) It is expected to add **$0.06 PMPM** of paid medical cost to fully insured, commercial group plans in 2012. Mandate three and mandate four are mutually exclusive—either or the other would be enacted, but not both.

5. Mandate five requires health insurers to cover prostate cancer treatment in accordance with three sets of specified guidelines. (SB 396 and PA 11-225.) Treatment of prostate cancer is already mandated by a mandate covering all cancer.
Mandate five is expected to add **a *de minimis* amount** of paid medical cost to fully insured, commercial group plans in 2012.

6. Mandate six requires insurers to cover Developmental Relationship Based Therapy (DRBT) for children with autism. (SB974.) It is expected to add **$0.08 PMPM** of paid medical cost to fully insured, commercial group plans in 2012.

7. Mandate seven requires out of state insurers to cover CT's mandates for children with autism on an extraterritorial basis as long as the child resides in CT. (SB974.) In 2012, it is expected to add **$0.04 PMPM** of paid medical cost only to fully insured, commercial group plans that are domiciled outside of CT. It will not add any cost to any health insurance plans or HMOs whose state of domicile is CT.

I.3A SUMMARY OF EXPECTED MEDICAL COSTS OF MANDATES IN 2012

1.	Ultrasound Cost-Shr	$0.20 PMPM	0.05%
2.	MRI	$0.10 "	0.025%
3.	Thermog, with c/s	$0.05 "	0.012%
4.	Thermog, w/out c/s	---	---
5.	PCT	$0.00 "	0.00%
6.	DRBT	$0.08 "	0.02%
7.	ASD, Extraterritorial	--- "	---
TOTAL		**$0.43 "**	**0.1%**

8. An eighth mandate, the existing ASD mandate for group, 38a-514b under PA 09-115, was also reviewed. It is expected to cost **$0.40** PMPM in 2012. This is not included in the cost estimates shown above because this mandate is already in existence in 2011.

The foregoing expected 2012 PMPM cost amounts are "best estimates" and represent a medium cost scenario as of 2011; a low cost and high cost scenario are also shown. The three scenarios are projected forward annually in the five year projections. It can be observed that the difference between the low and high cost scenarios increases in time.

I.4 THE DATA

OptumInsight data was extracted for the purposes of this study. OI's internal commercial health claims data for 2009 – 2010 was examined, with emphasis on 2010 for prostate cancer and ASD. Various outside data sources were also reviewed in order to establish incidence and prevalence rates, utilization levels, unit cost of services, and overall spending on types of service. OI used national and CT-specific health claims data that was split between fully insured and self-funded coverage. Survey information was provided by CT carriers at the request of the state. It pertained primarily to whether the mandated services are currently covered.

II. ELABORATION ON THE FOUR MANDATES:

II.1 COMMENTARY ON ADMINISTRATIVE COST (ADMIN):

Any change in health benefits resulting from the mandates will need to be considered and addressed by health insurers. The mandates will necessitate changes in various operational and technological processes, such as premium billing and claims payments systems. Health insurers will need to configure benefit systems to handle the required benefit changes. They may also need to notify members or policy-holders of the changes and perhaps revise marketing and sales material. Even for a mandate whose medical cost is *de minimis*, there may still be an associated one-time administrative cost involved in implementation. This one-time administrative cost is separate from the ongoing cost that occurs in subsequent years. Most health insurance companies, HMOs, and third party administrators have become more adept with the operational aspects of benefit changes, although some systems and companies may accommodate change more easily. Some mandates may involve more first-time implementation expense than others.

The year one 2012 non-medical expense for these mandates is expected to be about **$0.08** PMPM in addition to the $0.43 of paid medical cost for group plans. This is the total non-benefit expense and reflects more than operational costs only. As a range, this total non-medical cost is expected to be about $0.05 to $0.12 PMPM, depending on the level of medical cost and the operational changes that insurers and HMOs will need to make in order to comply with the mandates. These changes may include revisions to online and printed marketing materials, changes in the coding of claim payment systems in order to adjudicate claims in compliance with the mandates, staff training, etc.

It is possible that the mandates may reduce some minor existing administrative cost that insurers now bear as a result of claim denials and appeals in conjunction with denied services pertaining to the four mandates. If such cost exists, it would be *de minimis* and minor in relation to other operational expenses, and no such reductions to non-benefit expense are included in this report.

In addition to administrative cost, insurers build a profit charge into their premiums in order to cover their cost of capital. Unlike non-insurance businesses, insurers build a risk charge into their profit margin so that they have sufficient surplus capital on hand to pay more claims than usually expected, and thereby assure their financial security. This enables health insurers and HMOs to avoid insolvency due to a confluence of catastrophically large claims in a short period of time. In the case of for-profit insurers, their profits also benefit their shareholders, and the taxes they pay inure to the common good. The term “retention” is used in this report to describe administrative cost plus profit, which is all non-medical cost.

In the prior mandate reports, the portion of health insurance premium that was assumed to apply to administrative cost, excluding profit, on average, was approximately:

Non-Benefit Expense as Percentage of Total Premium:

Individual	17% to 24%
Small Group	13% to 18%
Large Group	10% to 15%

This was reasonably consistent with the retention percentages provided by the CT DOI based on 2010 CT HMO filings. In the prior mandate reports, it was assumed that medical cost represented 83% of the average group's premium. For 2012, however, we assumed the average medical cost ratio for group would be 85%. As previously, this will generally vary by plus or minus a few percent depending on the insurer. As medical costs increases, particularly as more services are rendered and claims are paid, administrative cost also tends to increase. Over time, however, as medical claim cost increases at a faster rate (medical CPI) than administrative cost (CPI), administrative cost as a percentage of the premium dollar should decrease. The effect of this differential increase is mitigated somewhat by the effect of benefit "buy-downs" whereby more of the allowed cost is shifted to the member in the form of higher copays and deductibles. Although buy-downs mitigate the differential increase, they do not entirely eliminate it, so eventually administrative cost should represent a smaller and smaller percentage of overall premium. In general, at time of renewal, employers have been shifting some of the cost of the annual premium increase to the employees and dependents in two ways. First, employees may be asked to share a greater percentage of the premium. Second, all members may be asked to pay more in the form of cost-sharing, such as higher copays for services. In the case of the breast ultrasound and MRI mandates, the mandate itself prohibits member cost-sharing for those services, so if a group wants to buy down its benefit, the increased cost-sharing would have to apply to benefits other than breast ultrasound and MRI. Similarly, if thermography is covered, there is the possibility that the no cost-sharing mandate may apply to it.

II.1A SUMMARY OF EXPECTED TOTAL COSTS OF MANDATES IN 2012

For 2012 medical cost we used a projected range of $0.20 to $0.75 PMPM, and a point estimate of $0.43 PMPM for a medium-cost scenario. For non-medical cost, we assumed a range of $0.00 to $0.15 PMPM for the mandates, with a point estimate of $0.08. This yields a total cost estimate of $0.51 PMPM, which would need to be added to health insurance premiums to cover these mandates in group plans on an all else equal basis.

$0.43 PMPM Medical Cost
$0.08 PMPM Non-Medical Cost—Includes Administrative Cost and Risk/Profit Charge
$0.51 PMPM TOTAL

This is the sum of mandates 1, 2, 3, 5, and 6. Mandate 5 has no cost. Mandates 6, 7, and 8 apply to group only. Mandate 4 is excluded because only one of mandates 3 and 4 can be enacted. If mandate 4 is selected in place of mandate 3, the paid medical cost and the Total each are expected to increase by $0.01 PMPM.

For future calculations later in this report, 0.1% of premium has been used as the incremental cost of these mandates, which is a best estimate, although there is a substantial amount of variability around this overall projection. The average cost of **premium** per member for group coverage in 2012 is assumed to be $400 PMPM.

$0.51 / $400 = 0.1%

This is the 2012 expected incremental cost of health insurance premiums for group policies in CT. All eight mandates apply to group policies, whereas, mandates 6, 7, and 8 do not apply to individual coverage. For both group and individual policies, either mandate 3 or 4 will apply, but not both mandates. Both mandate 3 and 4 pertain to breast thermography. Mandate 4 is a variation on mandate 3. In mandate 4, member cost-sharing is prohibited; in mandate 3, member cost-sharing is not prohibited.

II.2 EXPLANATION OF THE MEDICAL ASPECTS OF THE MANDATES:

1. MANDATES 1 and 2: Breast Ultrasound and Breast MRI Subsequent to Screening Mammogram—Remove Member Cost-Sharing

Summary of the History of BCS Mandates in CT and New Aspects to Proposed 2012 BCS Mandates:

A. CT has had a long-standing mammogram mandate (since 1988), then a subsequent mandate for breast ultrasound under certain conditions (Oct 2006; P.A. 06-38) and then a mandate concerning the mammogram results notification letter (Oct 2009) with language concerning dense tissue based on BIRADs standards (the Breast Imaging and Reporting Data System established by the American College of Radiology) , then a mandate for subsequent breast MRI (similar to subsequent breast ultrasound), also under certain conditions (2011).

B. Two new aspects to breast cancer screening (BCS) are proposed for 2012—a) **remove all member cost-sharing** from subsequent ultrasound(s) and MRI(s), and b) **cover thermography** as a supplemental BCS method subsequent to mammography for women 35 years of age or older who meet conditions of higher risk. (Thermography with and without cost-sharing will be considered as two separate mandates in this report.)

Note: Although both pertain to BCS, the removal of member cost-sharing from breast ultrasound and MRI are reviewed separately from the coverage of breast thermography with and without member cost-sharing for thermography services.

Contextual Considerations:

a) There has been continued debate and controversy over the 2010 USPSTF recommendation. This includes increased media coverage of BCS and its effectiveness, which is less than 100% for all types of BCS. Like all other screening, each breast cancer screening approach produces some false positives and negatives. Recent medical evidence has been published suggesting that screening mammography does not save as many lives as previously believed, especially prior to age 50. In chapter 6 of his book, Overdiagnosed, by Dr. H. Gilbert Welch, (2011, Beacon Press), the author focuses on breast cancer screening and screening mammography. In it, he cites the actual and assumed benefits of screening mammography, and states that "these 'benefits' are limited or nonexistent." Using the National Center of Health Statistics' Multiple-Cause-of-Death Public-Use Files, he argues that 2,000 forty year old women would have to be screened annually for 10 years in order for one life to be saved during that ten year period. The benefit of screening increase with age. At fifty years of age, 1,000 women would need to be screened to save one life during the ten year period. At sixty, 588 women must be screened; and at sixty-five, 500 must be screened.

There is concern in the medical community and amongst payers that there may be changing standards of care due to mandates, and increasing utilization of supplemental screening methods or alternative screening methods. The increasing utilization evident in the Optum data suggests there is induced utilization caused by the mammogram results notification letter and mandatory language (PA 09-41) concerning breast density. (CT data shows significant increase from 2009 to 2010.) Patients may also experience increased "medical anxiety" caused by increased concern about screening and re-screening. This is one of the harms of screening that Dr. Welch cites in Overdiagnosed.

b) The supply of radiography providers who perform breast ultrasound and breast MRI has not been studied in this report. It is understood that a new radiographic facility provider in CT must first acquire a certificate of need through the OCA, which is part of the Department of Public Health.

The US Preventive Services Task Force (USPSTF) announced in 2010 that a mammogram should be once every two years for women 50 years of age and older, not 40 and older. The CT mandate begins at age 35 and requires one baseline screening mammogram from age 35 through 39; it requires an annual screening beginning at age 40. Mammography exposes women to low dose radiation that accumulates over time and thereby increases the risk of cancer for some who would otherwise be at low risk; however, each woman's risk is unknown *a priori,* except for those who have been genetically tested or have a family history of the disease.

Mammography has false positives and negatives. Breast ultrasounds and MRIs also have false positives and negatives. Mammograms might not detect (false negative) breast cancer in women with dense or heterogeneous breast tissue. Digital mammography is increasingly used. Digital is more costly than the earlier analog version. The digital version can produce a digital image that may be saved as part of an electronic health record and retrieved for viewing on a computer monitor.

On October 24, 2011, the Hartford Courant published an article, "Screening Mammograms Save Fewer Lives Than You Think," about the effectiveness of screening mammography. The article also incorporates statistics from the National Cancer Institute. The following statistics have been cited:

- 39 million women have a mammogram per year in the US
- 230,000 women are diagnosed with BC each year
- 138,000 are diagnosed with BC based on a mammogram

- Of those 138,000 diagnosed with breast cancer based on a mammogram, 120,000 to 134,000 do not experience a better health outcome as a result of the mammogram; that is, only 4,000 to 18,000 are actually helped.

Of the women whose breast cancer is detected by a screening mammogram, only the 4,000 to 18,000 women in one of the four categories of breast cancer experience a better health outcome—this is the category of deadly breast cancer that when caught early can be cured or prolong life. It is a relatively small portion of the 138,000 women whose breast cancer is detected by a mammogram. Some women believe their lives have been saved by a mammogram when that is not the case because the breast cancer was either slow-growing or non-invasive. There are three other categories of breast cancer detected by mammograms that do not experience an improved health outcome:

- Slow-growing cancer that would be found and treated without a mammogram.
- Innocuous breast cancer that is non-life-threatening.
- Aggressive deadly cancers that are lethal, even when detected early.

These points are raised not to undermine the value of screening mammography but to give the reader a better understanding of its benefits and that of subsequent breast ultrasound or MRI.

A. Effectiveness of Breast Ultrasound or MRI subsequent to mammography
    - Neither is accepted as the equal of mammography on a stand-alone basis
    - Neither involves exposure to radiation
    - These supplemental screening approaches also have false positives and negatives
    - Their effectiveness, even as a supplemental screening approach, is not yet clinically proven.

2. **MANDATE 2:**

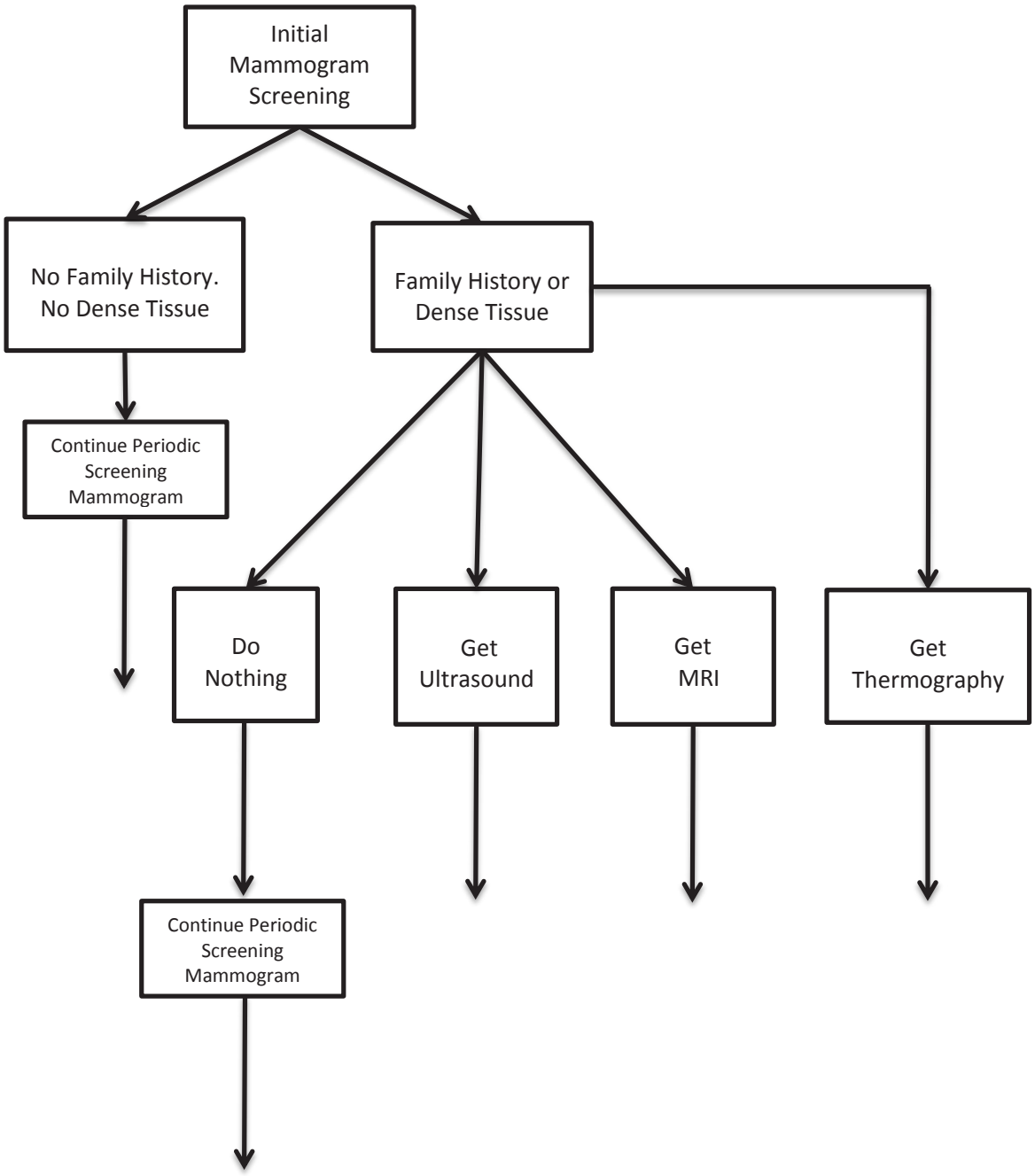
The allowed cost of a breast MRI is roughly ten times that of a breast ultrasound. According to the American Cancer Association, any woman whose five year risk of breast cancer is 20% or more should submit to an annual breast MRI in addition to a screening mammogram. The risk is determined by the GAIL model or similar tools to assess genetic predisposition. These tools can be found online.

There is a mandate currently in force in CT that limits the amount any fully insured individual must spend out of pocket annually for any MRI provided in network. The limit is $75 per MRI and $375 for all MRIs or CAT (Computed Axial Tomography) scans in one year. This mandate is 38a-511 for individual coverage and 38a-550 for

group. It also specifies that it does not apply if the prescribing physician is the same as the physician rendering the MRI, or in the same group practice. This CT mandate already serves to limit the cost-sharing that women pay for breast MRI following a screening mammogram. If insurers are complying, the cost-sharing for breast MRI should be limited to $75 per MRI.

The State of CT Employees' Plan is no longer a fully insured plan. There is no member cost-sharing for MRIs and ultrasounds under this plan.

FLOWCHART OF THE BREAST CANCER SCREENING PROCESS



3. MANDATES 3 and 4: Thermography

On June 2, 2011, the Food and Drug Administration issued a statement warning women not to substitute breast thermography for mammography to screen for breast cancer. The FDA cleared thermography devices for use only as an additional diagnostic tool for the screening and diagnosis of breast cancer. Some thermography providers had claimed it is superior to mammography because it does not require radiation exposure. While it is true that thermography does not involve radiation exposure but mammography does, Helen Barr, MD, of the FDA, explicitly stated that, "mammography is still the most effective screening method for detecting breast cancer in its early, most treatable stages," and "women should not rely solely on thermography for the screening or diagnosis of breast cancer."

Little has been published about thermography for the past 20 years; insurers generally do not pay for breast thermography for breast cancer screening. Unlike mammography, there is no radiation exposure to the patient from thermography, nor is there from ultrasound or MRI. Mammograms deliver a relatively small dose of radiation compared with CAT scans. CAT scans of the breast are not part of this study; they are mentioned only because they are a common form of complex radiology and it is not widely known that they involve a much higher level of radiation exposure than the mammogram. CT scans are not used for screening of breast cancer, but may be used as a diagnostic tool for breast cancer and various other types of cancer.

4. MANDATE 4: Thermography without Member Cost-Sharing

From a clinical perspective, mandate 4 is identical to mandate 3, except that the elimination of cost-sharing may induce utilization.

5. MANDATE 5: Prostate Cancer Treatment

1. Recent History of PC Mandate, and New Aspects of It Resulting From Public Act 11-225, which is effective 1/1/2012:

A. CT has a long-standing mandate requiring coverage for <u>all types of cancer</u> (including prostate cancer) (38a-542 for group coverage; 38a-504 for individual coverage). There is also a subsequent mandate for prostate cancer <u>screening</u> including PSA testing (Jan 2000, 38a-518g for group, and 38a-492g for individual). This screening mandate reads " … shall provide coverage for laboratory and diagnostic tests, including,

but not limited to, prostate specific antigen (PSA) tests, to screen for prostate cancer for men who are symptomatic, whose biological father or brother has been diagnosed with prostate cancer, and for all men fifty years of age or older. "

B. There are two new aspects to the prostate screening mandate required under PA 11-225 for 2012—

a) **cover PC treatment in keeping with the 3 sets of guidelines specified by:** (the National Comprehensive Cancer Network , the American Cancer Society, and the American Society of Clinical Oncologists), and

b) PC treatment is explicitly singled out as a service that must be covered, even though it was already covered under the general cancer mandate, 38a-542 group and 38a-504 individual.

Throughout 2011, there has been increased media coverage of PSA and its effectiveness, which is imperfect. PSA testing comes with false positives and negatives, like screening for other types of cancer. Recent medical reports reveal that PSA screening may have more harms than previously believed. In October 2011, the U.S. Preventive Services Task Force recommended against PSA screening for prostate cancer in asymptomatic men; this reversed a long-standing recommendation in favor of PSA testing.

Upon learning they have cancer, even if it may be harmless when left alone, many choose to have it removed from their body. Some men undergo treatment for non-invasive types of prostate cancer, rather than watch and wait, and they may suffer adverse post-operative side effects as a result, such as lifelong incontinence, erectile dysfunction, or bowel problems. In rare instances, there can be an adverse effect caused by the biopsy, even when there was no prostate cancer, but this is minor in comparison with the more serious post-operative side effects potentially associated with unnecessary surgery.

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Some men who learn they have an elevated level of PSA based on the test do not experience any health benefit or improvement in health outcome as a result of the PSA test for prostate cancer. Many educated people still believe that cancer is invariably a progressive disease that will invariably grow and inevitably kill. If that were the case, early detection would always be beneficial. But it is not. Cancer is such a powerful word that it confounds the doctor patient discussion with the patient's reaction, which is not always purely rational. There is a category of deadly prostate cancer that when caught early can be cured or otherwise prolong life. This is the only category of prostate cancer that is helped by PSA testing. The other three of the four categories of prostate cancer are not actually helped. These other three categories are:

- Slow-growing cancer that would be found and treated without a PSA test,
- Innocuous prostate cancer that is non-life-threatening, and
- Aggressive deadly forms of cancer that are lethal, even if detected early.

Diagnosis is two-phased: First, there is clinical diagnosis. The second is pathological diagnosis, which is based on biopsy and microscopic analysis. It is necessary to differentiate between the various severity levels of prostate cancer to assess their potential lethality. The Gleason score is used as a measure of severity and potential lethality. It is assigned based on a microscopic examination of the prostate cancer cells from the biopsy. On a scale of 2 to 10, a Gleason score of 2 represents the best prognosis, and 10 is the worst. Men with a Gleason score of 7 or more have a higher mortality rate and shorter expected survival time than those with a score of 6 or less. On average, men with a Gleason score of 7 to 10 will benefit more from early detection.

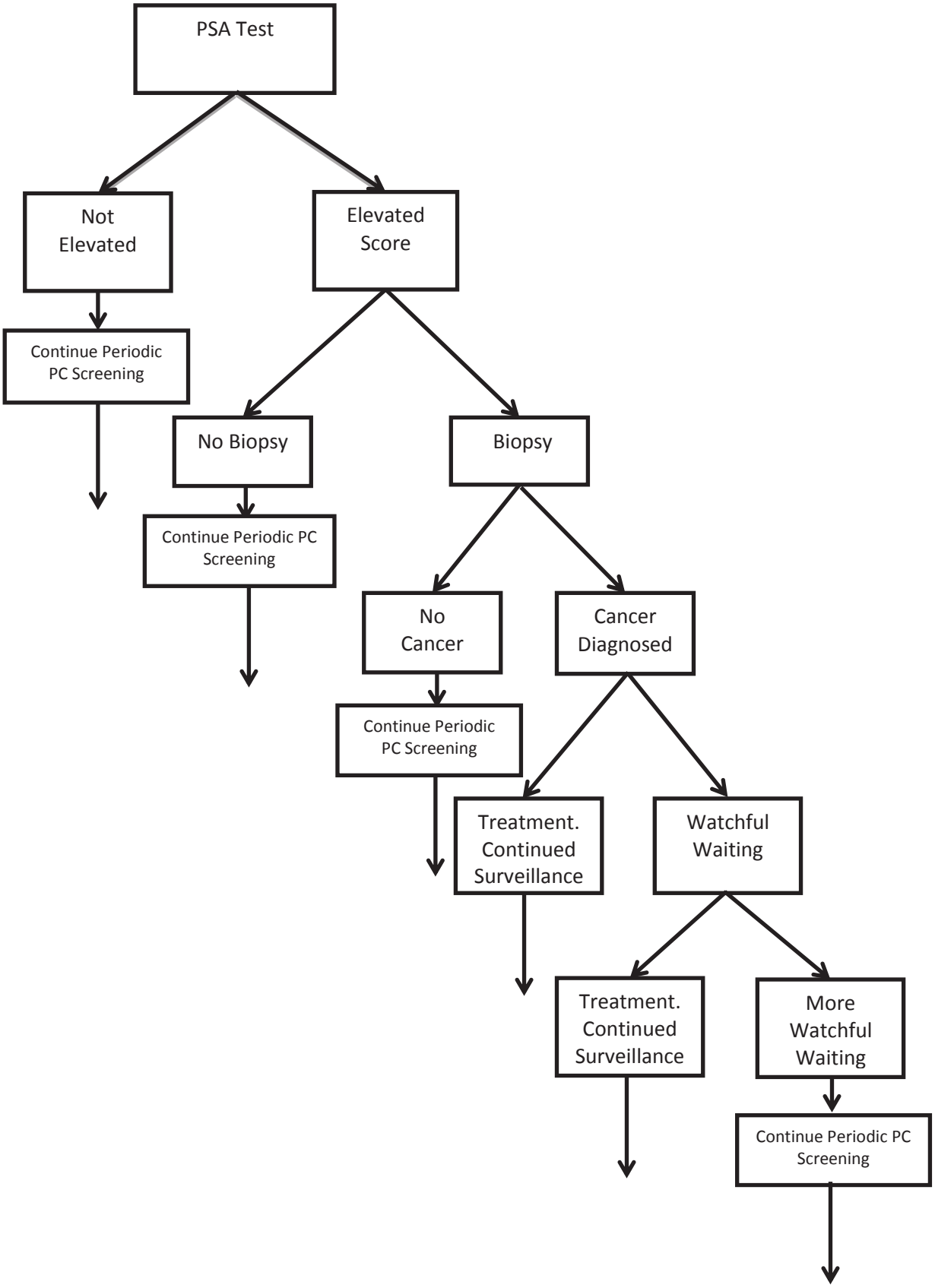
Prostate cancer strikes men at an older average age of onset than breast cancer, and the survival time is longer. Moreover, a higher percentage of cases of indolent, slow-growing, non-invasive prostate cancer occur in men than breast cancer in women. However, many men seek PC treatment when a watch and wait approach would be preferable. Like all who learn they have any type of cancer, men who are told they have prostate cancer develop anxiety about harboring this disease. These men feel more comfortable in having the cancer removed despite the fact that many men suffer adverse side-effects from PC treatment, such as long-term post-operative incontinence and impotence.

PSA testing itself does not distinguish between different forms of prostate cancer. It cannot detect the difference between invasive fast-growing prostate cancer and indolent, slow-growing cancer. It is used in combination with a digital rectal examination which is a tactile exam performed by the physician to evaluate the size of the prostate. The latter approach depends on physician skill and judgment.

When prostate cancer is suspected, a biopsy is obtained to confirm. In rare circumstances, a biopsy can lead to infection or other medical complications. The biopsy, not the PSA test, is used to establish the type of prostate cancer and its severity.

Although PA 11-225 refers to three sets of official guidelines on prostate cancer, only two of them pertain to best clinical practices of treatment (NCCN and ASCO). These two are both silent on when to operate (for example, perform prostatectomy and remove the prostate) versus when to wait (postpone surgery and periodically evaluate the development of the disease). For this reason, it is expected that the reference to the guidelines will not affect the percentage of men who are treated for prostate cancer after having been diagnosed subsequent to a PSA test that indicated an elevated level leading to biopsy. That is, the reference to the guidelines in the new mandate is not expected to overtly affect cost.

SCREENING → DIAGNOSIS → TREATMENT PATH



MANDATES 6 – 8, Autism Spectrum Disorder:

History: There has been relatively recent recognition of various types of autism in US society at large and by the medical community in the DSM. Even more recent is the payment of claims for autism treatment by insurers. ASD affects less than 2% of the population and is not as widely known and well understood as are many other medical conditions or diseases that affect a larger portion of the population. Methods to treat ASD were initially developed and tried in experimental settings on small numbers of children; new methods are still being developed, and existing methods are being refined and improved and extended to a larger number of children with ASD.

Three existing CT mandates directly address the diagnosis and treatment of autism. These are a) the Birth to Three mandate, b) Treatment of Autism, and c) Diagnosis and Treatment of ASD. The first two apply to individual and group health insurance policies; the third applies to group only

- (a) The Birth to Three program is a CT public health measure created to provide early intervention (EI) services for children 0 to 3 years of age. (38a-516a for Group, and 38a-490a for Individual policies.) EI involves the diagnosis and habilitation of young children with physical and mental conditions that causes developmental delay. The mandate became effective in 1996, and it provides early intervention services as part of an individualized family service plan. Prior to 2010, annual spending for EI was limited up to $3,200 per year; effective 2010, it is $6,400 per year. For 2012, a public act, PA 11-44, raises the annual spending limit of Birth to Three from $6,400 to $50,000 for children with ASD covered by group policies. (Those with Individual policies remain at $6,400.) PA 11-44 has not been evaluated as part of this phase four mandate review.

  Birth to Three covers a wide range of developmental disabilities, more than ASD alone. Initially, the financial responsibility for the Birth to Three program was public. Some financial responsibility was later shifted to the private sector by requiring health insurers to cover Birth to Three EI services through the mandate. In 2011, it applies to both group and individual health insurance coverage. As described above, in 2012, PA 11-44 will apply to group only and increase the annual spending limit from $6,400 to $50,000.

- (b) The autism mandate became effective in 2009 and covered only PT/OT/ST services throughout 2009, as long as PT/OT/ST services were also covered for other medical conditions under the policy. (38a-514b for Group, and 38a-488b for Individual.) When it became effective in 2009, it applied to group and individual health insurance coverage. Today, the original 2009 version continues to apply to individual only since 38a-514b for group has been superseded by a newer version of

the ASD mandate, also called 38a-514b, as a result of PA 09-115. This public act applies to group coverage only; this is discussed next.

- (c) In 2010, the autism mandate for group policies, 38a-514b, was expanded by PA 09-115 to cover diagnosis and treatment of autism spectrum disorders (ASD); this affected only those with group coverage, not those with individual. The 2010 version of 38a-514b includes various forms of behavioral therapy, such as applied behavioral therapy (BT), which was expected to increase the cost roughly ten-fold relative to 2009. In addition to behavioral therapy, this mandate also contained verbiage that prevents insurers from excluding coverage for pharmacy, psychotherapy, and psychiatric services for children with autism spectrum disorders (ASD). Although the 2009 medical cost of the autism mandate was examined and projected to be roughly $0.03 PMPM based on the 2009 law, the cost of the ASD mandate in 2010 with the inclusion of behavioral therapy services was not previously researched due to the timing of the mandate project. Below is an excerpt from the current version of mandate 38a-514b, which became effective in 2010; it lists the covered services:

  " (c) Such policy shall provide coverage for the following treatments, provided such treatments are (1) medically necessary, and (2) identified and ordered by a licensed physician, licensed psychologist or licensed clinical social worker for an insured who is diagnosed with an autism spectrum disorder, in accordance with a treatment plan developed by a licensed physician, licensed psychologist or licensed clinical social worker pursuant to a comprehensive evaluation or reevaluation of the insured:

  (A) Behavioral therapy;

  (B) Prescription drugs, to the extent prescription drugs are a covered benefit for other diseases and conditions under such policy, prescribed by a licensed physician, licensed physician assistant or advanced practice registered nurse for the treatment of symptoms and comorbidities of autism spectrum disorders;

  (C) Direct psychiatric or consultative services provided by a licensed psychiatrist;

  (D) Direct psychological or consultative services provided by a licensed psychologist; "

In analyzing the cost of the current ASD mandate, 38a-514**b**, under PA 09-115, it was determined that prescription drugs, psychological, and psychiatric services are already covered by CT's mental health mandate, even for children with ASD. This mental health mandate is yet a fourth mandate that is indirectly related to ASD; it does not, however, specifically reference ASD. CT's mental health mandate has evolved through multiple

iterations of revisions over the past two decades; it is 38a-514 for Group and 38a-488a for Individual. This mandate involves the diagnosis and treatment of mental or nervous conditions, but it specifically excludes treatment for seven types of conditions, and these effectively rule out coverage of PT/OT/ST, BT, and DRBT for children with ASD. However, these exclusions do not rule out the coverage of pharmacy, psychological, or psychiatric services for children with ASD. These treatments are generally the result of symptoms arising from co-occurring conditions, such as anxiety, depression, seizures, etc. These comorbidities also affect children without ASD, and it would be discriminatory and in violation of the ADA to deny these services to children with ASD but to require them for all others.

B. Two new aspects to ASD coverage under the current mandate, PA 09-115, are proposed for 2012—a) In addition to the types of Behavioral Therapy currently covered, the new bill, SB 974, provides coverage of an alternative therapy, **DRBT, (Developmental Relationship Based Therapy)**; as previously, it is for group insurance policies only; and b) SB 978 proposes to **apply the ASD mandate extra-territorially**, also for to group coverage only, such that children with ASD in CT are covered even if their group insurance contract is issued by an out-of-state insurer (an insurer domiciled outside CT).

Background Information:

ASD is associated with developmental delay. Research, such as the Lovaas study, shows that when ASD is recognized early in a child's life and EI services are then provided to habilitate the child, as well as subsequent therapy past the age of two, it can make a significant difference in the trajectory of the child's development as well as his or her independence and functional capability later in life. There is a range of different services and types of treatment approaches that seem to work, all with the common intent of drawing the inwardly fixated child outward into the larger world in which learning and development can occur at a faster rate and more in line with the child's age. Children with ASD who have self-injurious or other perseverating behaviors are led away from them toward higher functioning lives. Although there is debate about the type and extent of services that work best, nonetheless, there is evidence in medical and educational literature that such treatment is generally beneficial to children with ASD. There is also agreement that children benefit more when they receive these services earlier in life and thereby mitigate developmental delay sooner. Earlier treatment tends to put children with ASD on a trajectory of improvement that leads to a higher level of functional capacity by the time the child reaches their late teens. It also improves their personal productivity and reduces society's cost for their care later in life. The lifetime cost of caring for an institutionalized person with severe autism is in the millions of dollars.

There are several types of ASD, and the severity varies with the individual child. In the same way that medical treatment varies with condition and severity, ASD treatment is similarly tailored by the provider to fit the needs of the individual. Some children with ASD have more severe developmental delay, and their treatment plan may be different and more intensive than the treatment for children whose disability and delay are milder. Some children may need full-time treatment; others need less. Thus, the cost per child per year will vary widely, and children with more severe conditions and forms of ASD will generally require more services.

Context of Treatment

In evaluating the costs and effects of the proposed ASD mandate, SB 974, there are a number of dynamic forces to consider:

- First, the latest version of the ASD mandate that covers BT for children with ASD has been in place only one full year. The utilization of BT services is still increasing and has not reached its ultimate level. Utilization is expected to continue to increase in time. Provider supply is also increasing as new practitioners meet the certification guidelines in order to meet growing demand.
- Second, in response to ASD mandates, some insurers have established medical necessity criteria and guidelines that may reduce the hours of BT services that a child would have received in the absence of such criteria. (Such an "inside limit" on utilization potentially creates a de facto maximum dollar limit that the patient can spend; this inside limit could be below the BT dollar limits in the existing ASD mandate—$50,000; $35,000; and $25,000, depending on age.)
- Third, BT is a treatment that insurers have not historically paid, and it may be coded in different ways by BT providers submitting bills to insurers for payment; this confounds claims cost analysis.
- Four, BT is already provided to children with ASD by the public education system (schools) as part of the individual education plan for children with disabilities as required under the FDA.
- Five, Developmental Relationship Based Therapy (DRBT) is currently a less frequently utilized mode of treatment in CT than BT. There are fewer providers of DRBT than of BT both nationally and in CT.
- Six, from 2004 through 2010, the prevalence rate for children diagnosed with ASD in CT increased by roughly 16% per year according to data provided by the CT Department of Social Services.

FINDINGS (Optum Data):

An examination of diagnosis codes in medical claims was conducted using Optum data. It showed a lower percentage of children with ASD claims in the insured population than the prevalence rate itself. However, the claims data does not represent an actual prevalence rate.

ASD PREVALENCE IN OPTUM DATA:

All the CT medical claims with diagnosis codes for ASD in either the first, second, or third positions were examined. This is not a prevalence rate per se; it is a utilization rate for ASD services for those diagnosed with ASD and should be less than the true prevalence rate. The utilization rate for ASD services in the Optum data is 0.2%, which is significantly lower than the 0.67% prevalence rate used in the modeling. Again, this 0.2% represents the percentage of children who had claims that were associated with ASD, not a true prevalence rate or proxy for a prevalence rate. If a child with ASD has a claim for an unrelated medical condition, such as a sprained ankle, the diagnosis for ASD would not typically occur on the claim. There will be children with ASD for whom no services are performed during the data collection year.

II.3 FURTHER EXPLANATION OF THE MEDICAL COST OF THE MANDATES:

The PMPM medical costs presented in this section are for group coverage. Individual data and costs will be presented later in Section II.4.

Note: We have used the term PMPM (per member per month) and per insured person per month to mean the same thing in the following projections. The latter term is meant to convey that the cost of the mandated benefit has been spread to the entire insured population.

In examining the cost of the mandates, we looked at the frequency (or utilization) of the mandates separate from the unit cost per service. The PMPM cost is the product of the monthly frequency per member times the unit cost. Utilization may be expressed on a per person or per thousand people basis. Utilization is usually expressed on an annual basis but may also be on a per month basis. Appropriate conversion was used to obtain a PMPM cost.

1. Mandates 1 and 2: Breast Ultrasound and Breast MRI Subsequent to Screening Mammogram—Eliminate Member Cost-Sharing

Optum Data:

1. **NATIONAL DATA**

Study population with one or more months of coverage in 2009. Same for 2010.

2009:

- 4,317,134 women from age 40 through 65; 1,515,991 had one (or more) screening mammograms during year—35.1 % is equivalent to 70.2 % biennial compliance (excludes diagnostic mammograms).
- 251,219 had a breast Ultrasound (one or more, not necessarily as follow-up to a screening mammogram). 5.8%
- 27,364 had a breast MRI (one or more, not nec. follow-up). 0.6%
- In the 35 – 39 age bracket, 8.2% of women had a screening mammogram.

2010:

- 4,339,619 women from age 40 through 65; 1,490,823 had one (or more) screening mammograms during year—34.4 % is equivalent to 68.8 % biennial compliance (excludes diagnostic mammograms).
- 248,349 had a breast Ultrasound (one or more, not necessarily follow-up). 5.7%
- 25,482 had a breast MRI (one or more, not necessarily follow-up). 0.6%
- In the 35 – 39 age bracket, 6.0% of women had a screening mammogram

NATIONAL SCREENING MAMMOGRAPHY RATES—**2009 vs. 2010**

Age	**2009**	**2010**
35 – 40	8.2%	6.0%
40 – 65	35.1%	34.4%

NATIONAL Longitudinal Data Study:

Study population that had coverage in 2009 and full 12 months of coverage in 2010.

- 2,754,140 women from 40 through 65 had coverage in 2009 and 12 full months of coverage in 2010. 1,070,816 had a screening mammogram in 2009 (38.9%). This is equivalent to 77.8 % biennial screening compliance and does not include diagnostic mammography.
- Of these 1,070,816 women, 100,376 had a subsequent breast ultrasound (one or more) within 12 months of the date of service (DOS) of the mammogram (**9.4%**). Average wait time between dates of service for mammogram and ultrasound was **52 days**.
- Of these 1,070,816 women, 8,791 had a subsequent breast MRI (one or more) within 12 months of DOS of mammogram (**0.8%**). Average wait time was **100 days**.
- Of these 1,070,816 women, 5,656 had **both** a subsequent MRI (one or more) and subsequent ultrasound (one or more) both within 12 months of DOS of mammogram (0.53%).

SCREENING MAMMOGRAPHY RATES for National Longitudinal Cohort

Age	# Women	#w/ Mammogram	%
35 -40	520,198	51,494	9.9%
40 - 65	2,754,140	1,070,816	38.9%

CT Only DATA

Study annual utilization of services for all women with one or more months of coverage in 2009. Perform same study for 2010.

2009:

- 52,164 women 40 through 65; 20,330 had one (or more) screening mammograms during year—39% is equivalent to 78% biennial compliance.
- 4,594 had a Breast Ultrasound (one or more). 8.8 %
- 663 had a Breast MRI (one or more). 1.3%

2010:

- 53,766 women 40 through 65; 20,447 had one (or more) screening mammograms during year—38% is equivalent to 76% biennial compliance.
- 7,226 had Ultrasound (one or more). **13.4 %**
- 701 had MRI (one or more). 1.3%

CT Only SCREENING MAMMOGRAPHY RATES—2009 vs. 2010

AGE	2009	2010
35 – 40	11.6%	8.3%
40 – 65	39.0%	38.0%

CT Longitudinal Data Study:

- 37,340 women from 40 through 65 had coverage in 2009 and 12 full months of coverage in 2010. 15,757 had a screening mammogram in 2009. 42.2% is equivalent to 84.4% biennial compliance.
- Of these 15,757 women, 2,515 had a subsequent ultrasound (one or more) within 12 months of DOS of mammogram (**16.0%**). Average wait time was **41 days**.
    - The follow-up ultrasound utilization is 16% on average, but it decreases with age. It is 20% for women 40 through 44, but 9.5% for women 60 through 65. It decreases in each 5 year age bracket from 40 to 65.
    - Due to the design of the study which is based on women who had a screening mammogram in 2009, the vast majority of the follow-up breast ultrasounds occurred in 2009. The general (non-longitudinal) data for 2009 and 2010, however, shows a significant utilization increase in breast ultrasound. If we apply the increase from 8.8% to 13.4% to the 16.0%, and if we adjust for the 41 day average wait time, we obtain a breast ultrasound follow-up rate of **23.4%** for the period one year later.
- Of these 15,757 women, 242 had a subsequent MRI (one or more) within 12 months of DOS of mammogram (**1.5%**). Average wait time was **121 days**.
    - The follow-up MRI data does not show a steady decrease in utilization by 5 year age bracket.
- Of these 15,757 women, 151 had both a subsequent MRI (one or more) and subsequent ultrasound (one or more) both within 12 months of DOS of mammogram (0.96%).

The following table shows the PMPM cost of these three types of breast cancer screening in CT in 2010:

OPTUM Data, CT Only, 2010

	(A)	(B)	(C) = (A) - (B)
	Total Allowed PMPM	**Total Paid PMPM**	**Member Cost Shr PMPM**
Females Only, Age 65 or less			
Members w/ 1 or more screening **mammograms**	**$2.46**	**$2.42**	**$0.04**
Members w/ 1 or more breast **ultrasounds**	**$0.72**	**$0.59**	**$0.13**
Members w/ 1 or more breast **MRIs**	**$0.67**	**$0.59**	**$0.09**
2010 Member Months, all Males and Females	2,383,119		

FINDINGS (Optum Data):

In order to understand the data, a brief explanation of medical claims coding for mammograms, breast ultrasounds, and breast MRIs is provided. First, mammograms distinguish between "screening" mammograms and "diagnostic" by the use of separate service codes. Neither breast ultrasound nor breast MRI does the same, however; both screening and diagnostic use the same service code. For this reason, it is impossible to distinguish between a screening breast ultrasound and a diagnostic one in the medical claims data. The same is true of breast MRIs.

Based on longitudinal Optum data:
Nationally, about 39% of women from 40 through 65 in the longitudinal cohort had a screening mammogram in 2009. Of these women, about 10% (9.4%) had at least one subsequent breast ultrasound within a year; the average wait time was 52 days. And roughly 1% (0.8%) had at least one subsequent MRI, with average wait time of 100 days.
In **CT**, a higher percentage of women in the longitudinal cohort had a screening mammogram as well as subsequent breast ultrasound and or MRI. About 42% of women from 40 through 65 in the longitudinal cohort had a screening mammogram in 2009. **Of these women, about 16% had at least one subsequent breast ultrasound within a year**; the average wait time was 41 days. And roughly 1.5% had at least one subsequent MRI, with average wait time of 121 days.
Since the longitudinal data is based on screening mammograms that occurred in 2009, it does not reflect the full utilization increase in breast ultrasounds that occurred in CT in 2010. When the 16.0% is adjusted to the period one year later to reflect the ultrasound

utilization increase, a follow-up ultrasound rate of 23.4% is projected for screening mammograms that occurred in 2010 in CT for women from 40 through 65 years of age.

$$23.4\% = 16\% \times \{ [(13.4\% - 8.8\%) / 8.8\%] \times [(365 - 41) / 365] + 1\}$$

Based on general one year data for each of 2009 and 2010 (non-longitudinal):
Nationally, the screening mammography rate dropped slightly from 2009 to 2010 for 40 through 65 year old women (from 35.1% to 34.4%). It dropped more noticeably for 35 through 39 year old women (from 8.2% to 6.0%).
For each of 2009 and 2010, CT had a higher rate of screening mammography, breast ultrasound and or MRI than the national average. **Moreover, in CT, the rate of breast ultrasounds in general increased from 8.8% in 2009 to 13.4% in 2010**. Breast MRI was roughly the same at 1.3%.

The most significant change in the Optum data is the increase in the percentage of CT women 40 through 65 who had a breast ultrasound from calendar year 2009 to 2010. (These breast ultrasounds are not necessarily subsequent to a screening mammogram.) This increase from 8.8% to 13.4% is more than a 50% increase. Relative to the national average, the data suggests that 40 through 65 year old women in CT are more likely to have a screening mammogram, breast ultrasound, and or breast MRI. This same phenomenon is apparent in the National vs. CT longitudinal data. Moreover, women in CT are significantly more likely to have a subsequent ultrasound following a screening mammogram.

In an earlier phase of mandate review for CT, the Optum data showed a significant increase in the utilization of breast MRI both nationally and in CT. It roughly doubled from 2006 to 2008. From 2009 to 2010, however, the data show a utilization rate that appears to be stable. The significant increase in breast ultrasound in 2010 in CT (but not nationally) is likely attributable to the mammogram notification letter and the effect that it has had on follow-up breast ultrasounds. (The mammogram notification letter became public law in October 2009.) Given the increase in breast ultrasound utilization but not breast MRI utilization, the data suggest that the mammogram results letter has caused an increase in follow-up ultrasounds without a similar increase in follow-up breast MRI. An average breast MRI in CT has about $200 to $250 of member cost-sharing, whereas a breast ultrasound has approximately $40. If the cost-sharing is removed from both breast ultrasound and MRI, there may be a greater increase in breast MRI utilization as a follow-up breast cancer screening approach subsequent to a mammogram. As a result of receiving the mammogram notification letter, many women call their doctor and ask to schedule a follow-up screening. The data suggests that physicians are currently far more likely to recommend a follow-up ultrasound than a MRI.
The following tables summarize the key points above concerning breast ultrasound, breast MRI, and each of them as a follow-up screening approach to a screening

mammogram. They are based on the Optum data in CT vs. National for 40 to 65 year old females:

	All Breast ULTRASOUNDs	
	2009	2010
CT	8.8%	**13.4%**
National	5.8%	5.7%

	All Breast MRIs	
	2009	2010
CT	1.3%	1.3%
National	0.6%	0.6%

40 to 65 Year Old Females with a screening mammogram in 2009 and follow-up breast ultrasound or MRI or both within one year of the mammogram

	Follow Up	
	Ultrasound	MRI
CT	16%	1.5%
National	9.4%	0.8%

Carrier Data:

The carriers submitted estimates of the cost of thermography, as well as the elimination of cost-sharing on breast ultrasound and breast MRI as a follow-up to mammogram under certain conditions. The results varied widely. The PMPM for thermography ranged from $0.04 to $0.32 for allowed medical cost for groups, and half that on a paid basis, which is reasonably consistent with the Optum estimate of approximately $0.05 PMPM. The cost estimates for eliminating cost-sharing on breast ultrasound and MRI were reasonable for most carriers and consistent with the Optum data. For other carriers, they were less reasonable and exceeded the current allowed cost of both breast ultrasound and MRI combined based on the Optum data.

Carriers do not provide coverage for thermography. Many expressed that it is an unproven method for breast cancer screening. Some pointed to the fact that a number of medical authorities have stated that thermography has no proven medical value for breast cancer screening. Most carriers did not anticipate any changes in the utilization of services due to this mandate.

All the carriers have some form of cost-sharing as part of their breast cancer screening/treatment benefit. Some carriers expressed concern about the elimination of cost-sharing on breast ultrasound and MRI as would be required by the proposed mandate. They expect it will result in higher health insurance premiums to cover the cost of the increased utilization of these services. One carrier expects the mandate will increase the level of coverage they provide for breast MRIs. Another carrier provided the following statement:

> "The mandate is consistent with current guidelines (NCCN, 2011) regarding use of ultrasound as an adjunct to mammography in women with dense breasts or who are at increased genetic risk. However, the mandate also requires coverage for any other indications that are recommended by the provider, which would require health plans to cover indications for breast ultrasound that are not supported by current evidence-based guidelines, including use for breast cancer screening in lieu of mammography in women without dense breasts or increased genetic risk."

It should be pointed out that the current breast cancer screening mandate does not require or otherwise support or recommend any screening method in lieu of mammography. Neither does the proposed mandate. The current mandate requires breast ultrasound or breast MRI as a follow-up supplemental screening approach to a screening mammogram for women who meet certain conditions. Medical authorities widely concur that screening mammography is the first and best screening approach for breast cancer.

Finally, the state of CT employees plan reported that it does not impose cost sharing on any MRI or ultrasound service in general.

Breast Cancer Prevalence
OPTUM Data:
In the Optum data, about 0.84% of women 65 years of age or less had a diagnosis of breast cancer in the first or second position on a medical claim in 2009. The ICD-9 diagnosis code used was 174 and all one and two decimal digit variations thereof. This is not a true prevalence rate, but rather a utilization rate of breast cancer services for women with invasive breast cancer. It should be less than the true prevalence rate. ICD-9 diagnosis code 174 is specific to invasive breast cancer. It does not include breast cancer in situ, which is denoted by a different ICD-9 diagnosis code, 233.0.

National US (non-Optum) Data:
Estimated breast cancer prevalence in the United States as of January 1, 2008:

Total	Males	Females
2,646,000	14,000	2,632,000

There were 155 million women in Jan 2008. 2,646,000 / 155,000,000 = 1.7% prevalence of invasive breast cancer for all women of all ages in the US. This includes women over 65, who have a significantly higher prevalence rate than those 65 and younger.
The numbers on the chart below come from the US National Cancer Institute's Surveillance Epidemiology and End Results (**SEER**) database for the year 2008, the most recent year for which incidence data are available. These estimates are based on a sampling of the US population. The data also show that women age 40 to 50 have a lower prevalence rate than those of age 50 to 65. That is, the prevalence of breast cancer increases with age.

Estimated New Female Breast Cancer Cases and Deaths by Age, US, 2011*

Age	In Situ Cases	Invasive Cases	Deaths
Under 40	1,780	11,330	1,160
Under 50	14,240	50,430	5,240
50-64	23,360	1,970	11,620
65+	20,050	98,080	22,660
All ages	57,650	230,480	39,520

*Rounded to the nearest 10.
Source: Total estimated cases are based on 1995-2007 incidence rates from 46 states as reported by the North American Association for Central Cancer Registries. Total estimated deaths are based on data from US Mortality Data, 1969-2007, National Center for Health Statistics, Centers for Disease Control and Prevention.
American Cancer Society, Surveillance Research, 2011

The term "invasive cancer' does not include Lobular Carcinoma In Situ (LCIS) or Ductal Carcinoma In Situ (DCIS). Roughly one third of the lesions detected on screening mammograms are In Situ (non-invasive breast cancer). Of the 230,480 cases (above) of invasive cancer in the US in 2011 for women of all ages, some are initially detected by physical examination by the patient or their physician, others are detected by screening mammogram, and yet others by ultrasound or MRI. As explained above, in situ breast cancer has a different diagnosis code than invasive breast cancer.

Cost Conclusions re 2012 Breast Cancer Screening Mandates:

The elimination of cost sharing on Breast **Ultrasound** subsequent to Mammogram is expected to cost approximately **$0.20 PMPM** in 2012 when cost-sharing is no longer permitted. (Expressed as a range, this is $0.14 to $0.22.) That is, it will add about $0.20 to the monthly per member cost of medical care when spread to all members. Most of this cost results from "shifting" the burden of cost-sharing away from women who have

breast ultrasounds to all the other members who are insured. Essentially, the cost-sharing paid by women today will be shifted to all other members in the insured population. In calculating the $0.20 PMPM, it is assumed that women in high deductible plans will also be subject to the no cost-sharing mandate, even though the mandate explicitly excludes high deductible fully insured plans. Insurers are expected to favor this one-size-fits-all approach for expedience. If such a distinction is made between high deductible plans and those that are not, it could reduce the medical cost of the mandate slightly. However, it would add roughly the same amount to each insurer's administrative cost because insurers would then need to distinguish the high deductible plans and separate them when adjudicating claims for breast ultrasound subsequent to mammogram. If high deductible plans are excluded, the $0.20 PMPM medical cost would be reduced to about $0.16 PMPM.

The mandate defines high deductible plan by referencing a definition in an existing mandate, 38a-493:

> "A "high deductible health plan", as defined in Section 220(c)(2) or Section 223(c)(2) of the Internal Revenue Code of 1986, or any subsequent corresponding internal revenue code of the United States, as from time to time amended, used to establish a "medical savings account" or "Archer MSA" pursuant to Section 220 of said Internal Revenue Code or a "health savings account" pursuant to Section 223 of said Internal Revenue Code shall not be subject to the deductible limits set forth in this subsection."

Over the next several years, it is also expected that the utilization of ultrasound will increase as a follow-up (supplemental) approach to screen for breast cancer; this too adds to the cost of medical care, and it is entirely separate from the cost-shifting. Several drivers will cause this to increase over the next several years in CT:

1) Utilization of breast ultrasound as a supplemental screening method subsequent to a screening mammogram will continue to increase as a result of the mammogram results notification letter mandated beginning Oct 2009 and the effect it continues to have on both a) member demand, and b) physician practice.
2) The elimination of breast ultrasound cost-sharing itself would likely increase the utilization of breast ultrasounds somewhat since the medical service would become free to the member. However, since a breast ultrasound costs about $220 (unit cost, allowed basis), the amount of cost-sharing today is not a major deterrent to utilization.

As the utilization of breast ultrasound subsequent to mammogram increases, these additional ultrasound services will also add to the overall cost of medical care. From 2009 to 2010, the overall cost of medical care in CT increased by $0.11 PMPM due solely to the increase in breast ultrasound utilization. This is the incremental cost that occurs when the paid cost of the additional ultrasounds is spread to all insured members;

it is entirely separate from the cost-shifting that occurs when women 40 through 65 no longer have to pay any coinsurance or copays when they have a breast ultrasound.
The elimination of cost sharing on Breast **MRI** subsequent to Mammogram is expected to cost about **$0.10 PMPM** in 2012 when cost-sharing is no longer permitted. That is, it will add about $0.10 to the monthly per member cost of medical care when spread to all members. As a range, this is $0.07 to $0.14. As in the cost estimate for breast ultrasound above, this also assumes that the elimination of cost sharing would apply to high deductible plans, even though the mandate excludes it. If high deductible plans are excluded, the $0.10 PMPM medical cost would be reduced to about $0.08. Several drivers will cause this to increase over the next several years in CT:

1) As for breast ultrasounds, the utilization of breast MRI as a supplemental screening method subsequent to a screening mammogram will continue to increase as a result of the mammogram results notification letter mandated beginning Oct 2009 and the effect it has on both a) member demand, and b) physician practice.
2) The elimination of breast MRI cost-sharing will likely increase the utilization of breast MRI somewhat since the medical service would become free to the member. Unlike ultrasound, breast MRI is an expensive service; it costs about $2,000 (unit cost, allowed basis); this is about 10 times as much as an ultrasound. Cost sharing for breast MRI is roughly $200 to $250, which is 10 to 12%. If cost-sharing is eliminated for MRI, a greater percentage increase in utilization could be expected than for ultrasound. If the rate of breast MRI subsequent to a screening mammogram hypothetically increases to the same utilization level as subsequent ultrasound, the incremental cost from the removal of cost-sharing would be $1.00 PMPM, not $0.10. This is the cost that would be shifted from the member to the HMO or health insurer. However, a much greater incremental medical cost would arise from the increased utilization of breast MRIs. The following illustrative example explains this point: At about $2,000 of allowed cost per MRI, a 100% increase in the utilization of breast MRI would add about $0.60 PMPM to the average monthly cost of medical care. If the utilization of breast MRI hypothetically increased to the same utilization level as ultrasounds, it would add about $6 PMPM to the overall cost of medical care when spread to all insured members. While the previous example is extremely unlikely in the short term, it illustrates that there is a significant unintended cost consequence that could potentially arise from removing all cost-sharing on breast MRI subsequent to a mammogram. Using recent CT data, only 1.5% of women between 40 and 65 have a breast MRI as a follow-up procedure to a screening mammogram. This is a low utilization level, which means there is ample room for it to increase if cost were no longer a consideration. If breast MRI utilization increases significantly, so would the cost of health insurance.

> Breast ultrasound costs much less than MRI; ultrasound costs about $220 on an allowed basis. Thus, even if the follow-up utilization rate of breast ultrasound doubles from 16% to 32% in CT, it would only add about $0.60 PMPM to the overall cost of medical care when spread to all members.

It is important to emphasize that the actuarial estimation of the cost of removing member cost-sharing from breast ultrasound and MRI subsequent to screening mammograms is complicated by the dynamics of several forces currently at play. As explained earlier, these forces currently affect the utilization of mammography, as well as follow-up breast ultrasound and MRI for women 40 through 65, and they will continue to do so into the future. The Optum data show that the utilization of breast ultrasound in CT has increased over the past several years. In particular, the data show a significant increase in 2010 relative to 2009. The most likely primary driver of this increase is the mammogram notification letter mandated by PA 09-41 as of October 1, 2009. The language in that letter encourages women to speak with their physician about a follow-up breast ultrasound or MRI. This patient demand can cause physicians to alter their practice patterns. Physicians may also feel an increased need to practice defensive medicine in order to insulate themselves from lawsuits. In an increasingly litigious society, physicians may feel compelled to utilize these additional diagnostic tools and procedures in order to mitigate the risk and distracting ordeal of a medical malpractice lawsuit.

Another important consideration is the effect the mandate would have on administrative cost. Carriers do not have the means today to distinguish between screening breast ultrasounds and diagnostic breast ultrasounds. The same is true for screening vs. diagnostic breast MRIs. There is no reason for insurers to make the distinction today. There is no financial incentive for them to do so. Having to make that distinction as a result of the proposed mandate would impose a burden on insurers. They could either distinguish between the two, or simply pay for all breast ultrasounds and MRIs as screening. Either way, it would add somewhat to the cost of the mandate. The service codes for breast ultrasound and MRI are silent on the distinction and so is the proposed mandate.

The current mandate that requires coverage of breast ultrasound and MRI subsequent to a mammogram for certain women also poses an administrative and legal burden on physicians. This has not been widely discussed. The additional administrative work involves follow-up calls from women with questions about their results reports. Should the physician schedule another office visit to discuss this with the patient? That service could be billed, thereby adding to cost. Sometimes an ultrasound is simply ordered based on a post-results report phone call. This is less expensive than the additional office visit. There is also a medical liability issue to consider. If a doctor refuses to order the breast ultrasound or MRI and the woman later develops breast cancer, is the physician exposed

to malpractice? These may seem like subtle points, but they can affect the utilization of services and alter standards of practice. These issues complicate the analysis required to determine the true medical cost of the eliminated cost-sharing on breast ultrasound and MRI.

EXPECTED 2012 PMPM MEDICAL and ADMINISTRATIVE COSTS (Mandates 1 & 2)
(SB 848) Eliminate Cost-Sharing on:

	Medical	Administrative	**TOTAL**
Ultrasound	$0.20	$0.03	$0.23
MRI	$0.10	$0.02	$0.12
TOTAL	**$0.30**	**$0.05**	**$0.35**

This is cost that will be shifted from the member to the insurer. It will increase the paid medical cost of coverage and health premiums. At present, all these costs are paid by the insured, not the insurer.

2. Mandate 2 Only:

EXPECTED 2012 PMPM MEDICAL and ADMINISTRATIVE COSTS
Eliminate Cost-Sharing on:

	Medical	Administrative	**TOTAL**
Breast MRI	$0.10	$0.02	$0.12

3. Mandates 3 and 4: Thermography for Breast Cancer Screening

The proposed mandate requires insurers to pay for breast thermography as a follow-up treatment subsequent to a mammogram for those women whose mammograms shows dense or heterogeneous breast tissue, or any of the other high-risk conditions for which breast ultrasound and or MRI would be permitted.

Less is known about the future utilization and cost of breast thermography than breast ultrasound or breast MRI because breast thermography is not covered by health insurance today. In order to model the cost of the breast thermography mandate, it was necessary to establish a reasonable starting point for cost in 2012. The unit cost of breast thermography is known to be roughly similar to the cost of breast ultrasound. In order to model the 2012 PMPM cost of covering breast thermography for breast cancer screening, a starting point 2012 utilization for thermography was established using 10% of the known 2010 utilization rate for breast ultrasound. This utilization level is roughly equivalent to the utilization of breast MRI. This 2012 PMPM cost was then projected forward to 2013 through 2016 based on the assumption that the thermography utilization rate would increase annually by 50%. If breast thermography is mandated in CT, it is expected that providers would enter the region to provide these services. Since thermography may be performed without a physician's license, and since none is paid by

insurance today, it is assumed that thermography utilization would increase at a faster annual rate than ultrasound or MRI. For multiple reasons, the future PMPM cost of breast thermography cannot be projected with as much confidence as ultrasound and MRI.

Using the 2012 starting point assumption of 10% of ultrasound utilization, the 2012 paid cost of breast thermography is expected to be **$0.05 PMPM**. A reasonable range would be $0.00 to $0.07 PMPM. It was also assumed that member cost-sharing would be 20% of allowed. So, an additional average $0.01 PMPM of cost burden is added for all as a result of those who have breast thermography. In actuality, the cost-sharing applies only to those who have a breast thermogram. In 2012, the cost burden for those who have a breast thermogram is assumed to be about 20% of an allowed unit cost of $220; thus the member's cost-sharing would be $44 per breast thermogram. Both the paid cost and member cost-sharing are new cost added to the system since breast thermography is generally not performed today.

Going forward, the cost in 2013 and beyond is expected to ratchet upward as the utilization of breast thermography increases and thermography providers establish practice in CT to capture the new demand for their services from a captive clientele.

The coverage of thermography is also addressed from a second perspective:

With no cost-sharing on thermography subsequent to a mammogram, it is expected that the paid medical cost would increase an additional $0.01 or $0.02 PMPM over and above the $0.05 PMPM already noted.

If cost-sharing is not permitted for thermography following a mammogram, similar to the way the mandate applies to ultrasound and MRI, then utilization of thermography would likely be greater due to the fact that it is essentially a "free good" with a questionable potential medical advantage and a disadvantage that is mainly loss of time. Even if there is no additional utilization resulting from no member cost-sharing, which is unlikely, it would still increase the paid medical cost by one or two cents PMPM. Essentially, the member cost-sharing would then be shifted to the insurers' premiums, and all insurers' premiums would rise accordingly.

Zero cost-sharing is typically applied to services of the highest value, such as preventive services with a grade of A or B assigned by the US Preventive Services Task Force. The principle behind this type of Value Based Benefit Design is that members will be more compliant with obtaining the preventive services they need or maintenance services for chronic diseases. If there is no cost-sharing for the member who utilizes the service, in this case thermography following a mammogram, there is expected to be higher utilization.

It is difficult to definitively determine whether a mandate for breast thermography in CT would reduce the utilization of breast ultrasound or breast MRI, but it is unlikely. New

diagnostic medical technology typically adds to overall cost. The fact remains that thermography is considerably less costly than an MRI, but about the same as breast ultrasound. Neither ultrasound, thermography, nor MRI involves radiation exposure. If breast thermography had all the same clinical advantages as breast MRI and could hypothetically become a replacement technology for MRI, the overall cost of medical care would be reduced as a result of replacing every $2,000 MRI service with a $220 thermography service. In reality, however, new diagnostic tools are almost invariably cost-additive because 1) no diagnostic tool is 100% accurate, and 2) the typical historical precedent has been that four different imperfect diagnostic tests are better than three, at least in matters pertaining to the life and death of the patient, when the patient has some say in the medical decision, and especially when the services is free. Similar to the increase in the utilization of breast ultrasound and MRI, thermography may be used increasingly, even in marginal situations in which it is less likely to benefit the patient. In an increasingly litigious society, physicians may feel compelled to utilize thermography as yet another additional screening or diagnostic tool. If a physician's prescription is required in order to order a thermogram, the physician will feel pressure to do so. Some may capitulate and simply order the thermogram against their better judgment, especially in borderline situations. Such defensive medicine serves to protect the physician from the risk of medical malpractice. It also increases utilization of lower-value services of marginal necessity or benefit to the patient.

4. Mandate 4: Thermography without Member Cost Sharing

As stated above, with no cost-sharing on thermography subsequent to a mammogram, it is expected that the paid medical cost would increase an additional $0.01 or $0.02 PMPM over and above the $0.05 PMPM already noted.

If cost-sharing is not permitted for thermography following a mammogram, similar to the way the mandate applies to ultrasound and MRI, then utilization of thermography would likely be greater. Even if there is no additional utilization resulting from no member cost-sharing, which is unlikely, it would still increase the paid medical cost by one or two cents PMPM. Essentially, the member cost-sharing would then be shifted to the insurers' premiums, and all insurers' premiums would rise accordingly.

5. Mandate 5: Prostate Cancer Treatment

A simple evaluation for the expected cost of this mandate is $0 because there is already a general cancer mandate in place in CT already that requires PC treatment. By adding a PC treatment requirement to the current PSA testing mandate that currently covers PSA screening only, no new benefit is added because prostate cancer treatment is already covered by the different existing CT cancer mandate. Like breast cancer screening, however, the clinical recommendations concerning both prostate cancer screening (PSA testing) and treatment are in dynamic transition that affects their utilization. Should the guidelines that are specified in PA 11-225 change over time, this could affect cost.

The PC treatment mandate contained in PA 11-225 (SB 396) goes one step further than the existing mandate requiring PSA testing only (38a-518g for group and 38a-492g for individual health insurance). It specifically requires coverage of PC treatment, and that treatment must be in accordance with the three sets of guidelines specified. As explained earlier, PC treatment is already required under another CT cancer mandate (38a-542), which requires coverage for the treatment of all types of cancer and tumors, prostate cancer included. As such, PA 11-225 will not add cost to the system. There is yet another cancer mandate (or series of mandates) that affects PA 11-225; it is 38a-542a through 38a-542g for cancer clinical trials. PA 11-225 does not extend coverage to any service that is not already covered by the general cancer mandate or the cancer clinical trials mandate.

Recent developments and conclusions about the effectiveness of PSA testing reveal that it is not as effective a screening tool as previously believed. For this reason, it is anticipated that utilization of PSA testing and also subsequent treatment could actually decrease nationwide. Since CT has a mandate requiring PSA testing for men, CT might not experience the same level of future decrease in PSA testing and subsequent prostate cancer treatment as states that do not have this mandate. That is, the decrease in utilization of PSA testing and treatment (due to the emerging research reports) would be greater elsewhere than in CT.

In an earlier phase of this project, it was estimated that prostate cancer screening alone (PSA testing) adds $0.20 PMPM to the medical cost of group health insurance in CT in 2011, and $0.21 PMPM in 2012.

Coverage for the treatment of prostate cancer adds to the overall medical cost underlying group health insurance. Even when the medical cost is spread to all members, the 2010 cost of treating prostate cancer was roughly $2.50 PMPM in CT. In the earlier phase two report on existing CT mandates, it was reported that the 2011 medical cost for the mandate covering all cancers was projected to be about $11.50 PMPM and in 2012 would cost $12 PMPM for group health insurance. This was by far the most expensive existing CT mandate. Today in the USA, however, it would be unthinkable not to cover cancer in a comprehensive health insurance policy or HMO plan of benefits. There may be some ambiguity with the necessity of a very small fraction of one percent of prostate cancer treatment claims. Some carriers may limit or deny payment for some cancer treatments considered medically unnecessary or cosmetic. By and large, all carriers selling comprehensive health insurance or HMO benefits in the US today cover prostate cancer treatment as they do all accepted treatment for all other types of cancer.

Therefore, the addition of PC treatment to the PSA testing mandate is not expected to add to the PMPM cost of medical care. It is impossible to say this with 100% confidence since it is possible there may be some unanticipated cost effect stemming from the explicit statement requiring prostate cancer treatment or the reference to the guidelines. At this time, however, any such cost is expected to be *de minimis*.

As a result of leaving the requirement for PSA testing in place in 2012 and beyond during a future period when its perceived clinical value is decreasing, CT might not experience the same slight decrease in cost that other states see due to the decreasing utilization of PSA testing and the associated drop in subsequent treatment. More of these cost savings would result from reduced or postponed treatment than reduced PSA testing. Even if the utilization of PSA testing decreases by 25%, the reduced cost to the system from foregone PSA testing would only be $0.05 PMPM. If the reduction in PC treatment utilization were also 25%, that would reduce medical cost about $0.63 PMPM—more than ten times as much. It is not likely that treatment utilization would reduce by the same amount as PSA testing, but the point is this: A reduction in the utilization of PSA testing reduces cost slightly, but a reduction in PC treatment reduces medical cost by far more, at least in terms of the immediate costs of screening and treatment services. If all of the reduced PC treatment utilization is for unnecessary treatment, public health will not suffer. If the rate of undetected prostate cancer increases, it would undermine public health. It is unclear whether a reduction in PSA testing would have a detrimental effect on men's health and increase the number of deaths caused by prostate cancer. It is also unclear to what extent unnecessary or premature surgical intervention for prostate cancer occurs in CT today.

OPTUM DATA:

1. **National Optum Data**

2010:

Estimated Allowed and Paid Cost PMPM

The following analysis is based on all claims with the ICD-9 diagnosis code for prostate cancer in the primary, secondary, or tertiary diagnosis position.

Allowed PMPM	Paid PMPM	$ Cost Sharing	%
$2.02	**$1.83**	**$0.19**	**9.6%**

2. **CT Only Optum Data**

2010:

Estimated Allowed and Paid Cost PMPM

Allowed PMPM	Paid PMPM	$ Cost Sharing	%
$2.67	**$2.43**	**$0.24**	**9.0%**

FINDINGS (Optum Data):

PROSTATE CANCER <u>PREVALENCE</u> IN OPTUM DATA:
Based on the unique number of men with an ICD-9 diagnosis code for prostate cancer in first, second, or third diagnosis position, or any combination thereof (with no double-counting). This is not a true prevalence rate since it omits men with prostate cancer who did not seek services associated with prostate cancer. In men 65 years of age or younger, the following rates were observed:

About **1.7% in CT**
About **1.1%** nationally.

Cost Conclusions re Prostate Cancer Treatment:
It is expected that PA 11-225 will not create additional medical cost. However, it could prevent some of the small future reduction in cost ($0.00 to $0.20 PMPM) that could occur naturally as a result of recent expert recommendation against PSA testing and treatment in certain situations.

Prostate cancer is a major cause of death for men, but its prevalence is far greater in men 65 years of age and older, the population covered by Medicare, than it is in the population of commercially insured men younger than 65. The incidence rate for prostate cancer for men 65 years of age or older is more than ten times the rate for men younger than 65. And the death rate from prostate cancer is about 100 times greater for men 65+ than for younger men.

In terms of cost-shifting from one health insurance pool to another, a delay in prostate cancer treatment for men younger than age 65 could add to the cost of Medicare when the same men are 65 or older and enrolled in Medicare. The postponement of treatment would reduce the total cost for commercial insurers and increase cost for Medicare by the same amount. The difference is that Medicare pays providers less than commercial payers do for the same services. In the meantime, the patient who can wait may enjoy a higher quality of life free from urinary incontinence, impotence, and other post-treatment complications; however, the apprehension caused by living with cancer and watchfully waiting until surgery is necessary may present its own difficulty, particularly for men who do not understand their individual severity and simply rely reluctantly on their physician's advice.

Carrier Data:
PMPM COST and PREVALENCE in the CARRIER DATA:

The carriers submitted estimates of the cost impact of implementing PA 11-225, which requires treatment for prostate cancer. All the carriers, except two, provided allowed cost and paid cost PMPMs, the number of people with claims for prostate cancer, and the number of services provided for prostate cancer treatment.

In the carrier data, there was no specific data for the number of members whose claims were marked with the diagnosis code for prostate cancer. Some carriers provided the number of people with medical claims for prostate cancer. Overall, the carrier data could not be used to establish prevalence rates. The estimated cost impact of the mandate varied considerably by carrier and seemed to reflect a difference of interpretation of the survey question. One carrier reported they were already complaint with the prostate cancer mandate, PA 11-225, and hence there would be no additional cost impact.

It was also observed that each of the PMPM cost impacts on allowed and paid costs, as estimated by the carriers for implementing P.A. 11-225, were in most cases equal or approximately equal to each of their current actual allowed and paid PMPM costs for treatment of prostate cancer (prior to the 2012 effective date of PA 11-225. That is, carriers provided the 2010 actual allowed and paid PMPM costs instead of the estimated 2012 cost of the mandate, which should have been evaluated as an incremental cost above and beyond their 2010 spending level.

MANDATES 6, 7, and 8. Autism Spectrum Disorder

There are two new aspects to ASD coverage under the current mandate, PA 09-115, that are proposed for 2012: A) In addition to the types of Behavioral Therapy currently covered, the new bill, SB 974, provides coverage of an alternative therapy, **DRBT, (Developmental Relationship Based Therapy)**; as previously, it is for group insurance policies only; and B) SB 978 proposes to **apply the ASD mandate extra-territorially**, also for to group coverage only, such that children with ASD in CT are covered even if their group insurance contract is issued by an out-of-state insurer (an insurer domiciled outside CT).

- (a) Concerning the utilization of either or both BT and DRBT, in the first year of DRBT services for the child, the caregiver can choose concurrent treatment of BT and DRBT. After year one, however, a choice must be made of either BT or DRBT. The annual maximum spending limits differ for BT and DRBT as shown in Table 1. The annual limits are lower for DRBT. For BT, the annual spending limits are age-related through age 15. For DRBT alone, only 5 total years of

service are allowed under the mandate and the spending limits decrease each year. For the sake of comparison, the maximum amounts permitted under each of the two therapies can be compared. Theoretically, a child who receives the maximum cost of services every year for all eligible years beginning at age 3 could incur $515,000 of BT. The maximum DRBT permitted over the 5 year duration, however, is only $32,000. It is important to note that, in actuality, no child is expected to receive BT services costing the maximum amount of BT over that 13 year period. This comparison illustrates that the total childhood cost for DRBT would likely be less than BT due to the lower annual spending limits and the shorter duration it is available. (Although the mandate begins at age 0, we assumed BT begins at 3 since children less than 3 are in EI, and in 2012, will be eligible for up to $50,000 of behavioral therapy treatment annually through that program as a result of PA 11-44.)

TABLE 1

Maximum Annual Spending per Child for ABT and DRBT (per SB 974)

Age	Current **ABT** Limit		Proposed **DRBT** Limit				
			Yr 1	**Yr 2**	**Yr 3**	**Yr 4**	**Yr 5**
0 - 8	$50,000						
9 - 12	$35,000	>	$10,000	$8,000	$6,000	$4,000	$4,000
13 - 15	$25,000						

Note: ABT limits are by age up to age 15. DRBT limits depend on duration, not age, but like ABT, DRBT is available only to children 15 years of age or younger.

(b) This is the first time a CT mandate has been proposed to apply extra-territorially. No CT health insurance mandate is extra-territorial at this time. It is expected that this extraterritorial application of the ASD mandate would slightly expand the number of fully insured people to whom the ASD mandate applies by 0% to 1%, which will be discussed at greater length later in this report.

COST ASSESSMENT for ASD Mandates:

The revision to the ASD mandate in SB 974 is expected to add about **$0.08 PMPM** to the paid medical cost of group coverage in 2012. It is unlikely that will add more than $0.15 PMPM. The mandate language stipulates that the child may have BT and DRBT concurrently in the first year of DRBT, but the child cannot have both BT and DRBT concurrently after the first year. The child's caregiver must choose one or the other at the end of the first year of DRBT. Moreover, the mandate specifies that DRBT will be covered at a lower maximum amount of annual spending than BT services, as shown in Table 1. Due to these proposed cost limits, this mandate is expected to reduce future medical cost of children with ASD in future years as more services shift from BT to DRBT. If the mandate becomes effective in 2012, all children currently receiving BT will theoretically be eligible to concurrently receive DRBT for one year. If every child in BT hypothetically chose the additional DRBT services concurrently, the incremental PMPM medical cost for the DRBT treatment is expected to be substantially less than the current cost of BT for two reasons:

- The annual spending limit for DRBT is much lower than for BT
- The provider supply for DRBT is more limited than for BT.

In 2012 itself, it is expected that the ASD mandate could add some DRBT services and cost to the system since the child may receive both BT and DRBT in year one. After year one, the proposed mandate would shift some BT services to DRBT, which has a lower annual maximum. The option to choose DRBT coverage in and of itself, however, is not expected to substantially increase the total number of children with ASD seeking treatment. There may be some children with ASD who do not receive BT today, but who will receive DRBT. It is not expected that there will be a large cohort of children seeking DRBT who do not receive BT currently due to their caregiver's opposition to BT. DRBT is less intensive than BT and some may favor it over BT, however, caregivers have not expressed strong opposition to one in favor of the other. The key difference in the two treatment approaches is that BT is more intensive and focused on the child's behavior, whereas DRBT is less intensive and it focuses on the child's emotions and behaviors; DRBT also brings the child's caregiver(s) and family into the process of the child's treatment and development. DRBT also serves as treatment for the child's caregivers in the sense that it first teaches the caregivers how to better cope and interact with the developmentally delayed child. It also teaches the caregiver to assist the child in his development and supplement the therapist in teaching the child to interact with his environment. Through repetition practiced in daily living, the caregiver also reinforces what the child has learned from her therapist and thereby mitigates developmental delay.

Given the much lower annual cost limit on DRBT, however, DRBT is not expected to cost more over the full course of the child's treatment period. If the lower spending limit

on DRBT were not in place, it could cost more. Since DRBT has the lower limit, it is expected to cost less. All things being equal, however, the cost of BT and DRBT may be greater in future years as the utilization of both BT and DRBT increase along with intensity of service.

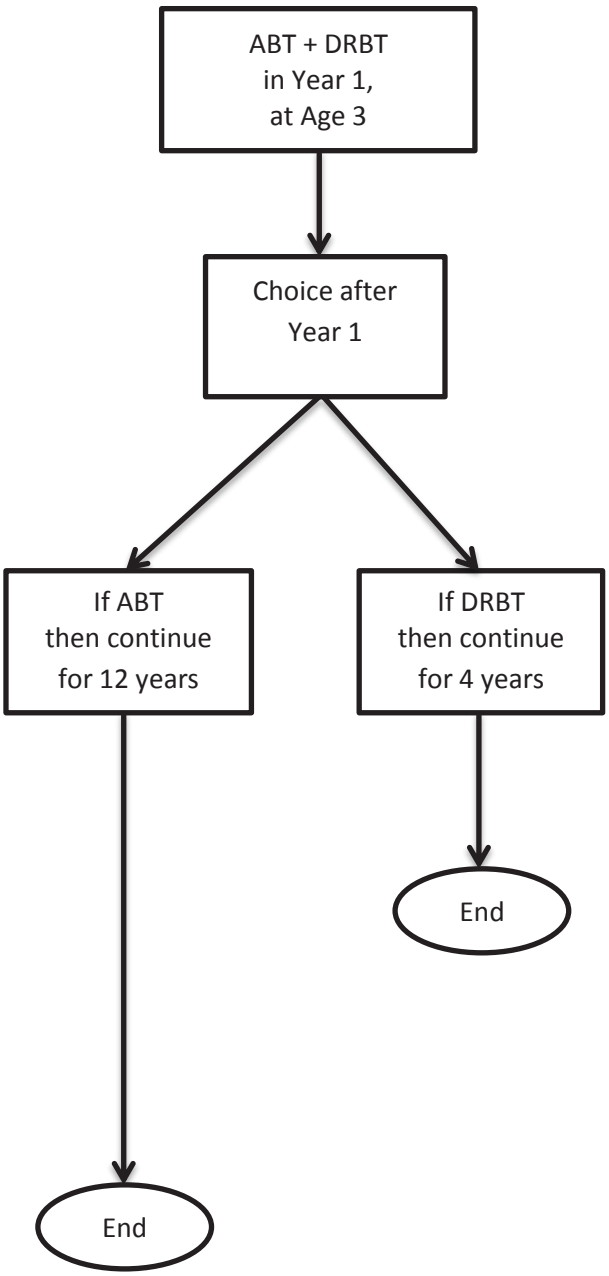
Flowchart of Treatment Path and Decisions under SB 974:
The following flowchart explains the caregiver's decision process under the proposed ASD mandate. In this example, called Option 1, a three year old child begins BT and DRBT treatment after receiving EI Services through the Birth to Three program. (This implies the child was diagnosed with ASD prior to age 3.) The child receives both BT and DRBT services throughout Year One in the flowchart. At year-end, the child's caregiver(s) must decide on one or the other approach—either BT or DRBT, no longer both. If BT is chosen, the maximum permitted annual amount is $50,000 for year two at age four. If DRBT is chosen, the maximum is $10,000. When both BT and DRBT are chosen in year one at age three, the total year one spending remains limited to $50,000 for both therapy approaches combined. Again, it is unlikely that all children would incur the maximum—each child's annual cost would be somewhere in the range between $0 and $50,000. For some children, the concurrent use of DRBT could reduce the utilization and cost of BT in year one.

Option 2—some caregivers might choose DRBT from the outset, in which case the child would remain with DRBT for no more than the next five years and could not receive BT services unless funded by a source other than health insurance.

Option 3—the three year old child with ASD in this example could receive BT in year one, and then switch to BT plus DRBT in year two; at the end of year two, a choice of either DRBT or BT would have to be made in order for health insurance to be financially responsible for the chosen services.

Finally, consider also that the same process depicted below could begin for children first diagnosed with ASD after age two—at age 3, 4, 5, etc. One more consideration is that the BT dollar maximums decrease with age, and this reduces the total possible financial cost for those first diagnosed later.

Others may interpret these options differently based on their reading of the mandate. The language in the mandate is clear about applying to children who are newly diagnosed with ASD; but it is ambiguous with regard to children who already have an ASD treatment plan in place. Also, the term "treatment plan" is not well defined in the mandate.



Modeling of DRBT Cost:

In order to model the incremental cost of the proposed ASD mandate, SB 974, relative to the existing one, 38a-514b, a model was developed to estimate the cost differential resulting from the choice of DRBT. In year one, there is likely to be additional cost for those children who receive both BT and DRBT treatment concurrently (rather than BT only as is covered under the current mandate). Some children may also choose DRBT who do not receive behavioral therapy today. However, in year two, there is likely to be

a cost decrease because all the children receiving both BT and DRBT in year one may receive only one of them in year two. More precisely, health insurance under the proposed mandate would pay for only one or the other in year two, not both. The other could still be purchased out of pocket or provided through the educational system.

This model was calibrated to an expected 2011 ASD mandate paid medical cost of $0.40 PMPM for group policies in CT under the current 2011 version of 38a-514b, which was effective in 2010 as a result of PA 09-115. The $0.40 PMPM reference was based on the submitted carrier data and outside references; this cost projection for the existing mandate 38a-514b involves some actuarial judgment and will be discussed in more detail later in this report. The model shows an incremental cost of approximately $0.08 PMPM for DRBT due to SB 974. This calculation is based on several simplifying assumptions:

- 17.32% of the insured population is from 3 through 15 years of age,
- the prevalence rate for ASD is 0.67%,
- 36.5% of children with ASD will receive BT,
- 15% of 3 through 15 year olds currently receiving BT will additionally choose to receive DRBT services in 2012--they will receive both BT and DRBT,
- none will reduce their current level of BT services when they receive DRBT in addition to BT,
- an additional 3.65% of children with ASD who do not receive BT will choose DRBT--they will receive DRBT only; (this is one additional child for every ten that already receive BT),
- the average total 2012 cost of DRBT services will be 90% of the maximum $10,000 per child, and
- there will be a sufficient supply of DRBT providers to meet the 2012 demand.

{ 17.32% x 0.667% x [(36.5% x 15%) + 3.65%] x ($10,000 * 90%) } / 12 =
$0.08 PMPM for DRBT

To the extent that the actual experience differs from any of the assumptions shown above, the actual average DRBT annual treatment cost will differ from the projected $0.08 PMPM. See table below:

2012 PROJECTED PAID MEDICAL COST Of DRBT RESULTING From SB 974

(A)	(B)	[C]	(D)	(E)	(F)	(G)	(H)	Projected PMPM
17.32%	0.667%	36.5%	15%	3.65%	90%	$10,000	12	**$ 0.08**

ASSUMPTIONS UNDERLYING PROJECTION:

(A) Portion of insured population from 3 through 15 years of age
(B) ASD Prevalence Rate
[C] Portion of children with ASD who currently seek BT
(D) Portion of children with ASD receiving BT who will choose DRBT
(E) Portion of children with ASD who do not receive BT currently but will choose DRBT
(F) Expected portion of maximum $10,000 annual limit that will be used on average Maximum annual spending on
(G) DRBT
(H) Number of months per year (Transforms annual cost per member into monthly cost).
Calculation of PMPM is { A x B x [(C x D) + E] x (F x G) } / H

As an illustration of the upper bound of what the cost could be if every child with ASD from 3 through 15 received the full $10,000 of DRBT treatment in 2012, the cost would be $0.96 PMPM. It would be impossible for this to occur. Even the $0.08 PMPM best estimate may be somewhat conservative, but it is a much more realistic projection than $0.96 PMPM as calculated below:

$0.96 PMPM = (17.32% x 0.667% x $10,000) / 12

As a point of comparison, if every child with ASD from 3 through 15 incurred the maximum dollar amount of BT services permitted under the existing ASD mandate, it would add $3.90 PMPM to the cost of medical care.

$3.90 PMPM = (17.32% x 0.667% x $40,540) / 12

The $40,540 is the weighted average annual maximum based on the mandates age-bracketed limits of $50,000 through age 8; $35,000 from 9 through 12; and $25,000 from 13 through 15. This is also an entirely hypothetical calculation; and it is totally unrealistic to expect that total spending would be at this level. It is presented solely as a hypothetical calculation to illustrate the maximum expense as an upper bound. The more detailed calculation of the $3.90 PMPM below shows the percent of the insured population represented by 3 to 15 year olds times the ASD prevalence rate times the maximum permissible dollar amount by year divided by 12 months:

Age	(A) % of Insrd Pop	(B) Prev Rate	(C) Max Cost	(D) = [(A X B X C) / 12] = PMPM Cost
Age 3-8	8.40%	0.67%	$50,000	$2.33
Age 9-12	5.92%	0.67%	$35,000	$1.15
Age 13-15	3.00%	0.67%	$25,000	$0.42
Total	**17.32%**	**0.67%**	**$40,541**	**$3.90**

Again, the above calculation is not intended to be realistic, but it shows the upper bound of maximum possible BT spending. Actual spending will be considerably less because:

- Not all children with ASD seek treatment, (the treatment rate behind the $0.40 is a 36.5% "take-up" rate for those children with ASD who do in fact receive BT services),
- Some who seek treatment might experience delay or not receive it at all,
- Most will not receive the annual maximum dollar amount—only the children with the most severe conditions will; it is expected that the average child with ASD will spend less than the maximum,
- Some who begin BT will decrease or discontinue treatment in later years, through age 15.

In order to sensitivity test the projected $0.08 PMPM cost of the mandate in 2012, the following grid shows the projected cost when the factors are varied one at a time. For example, if the ASD prevalence rate in column B is 1% rather than 0.667%, the cost shown is $0.12 PMPM in the following table:

(A)	(B)	[C]	(D)	(E)	(F)	(G)	(H)	Projected PMPM
17.32%	0.667%	36.5%	15%	3.65%	90%	$10,000	12	$ 0.08
	1%							$ 0.12
		50%						$ 0.10
			20%					$ 0.09
				7.3%				$ 0.11
					100%			$ 0.09

ASSUMPTIONS UNDERLYING PROJECTION:

(A)	Portion of insured population from 3 through 15 years of age
(B)	ASD Prevalence Rate
[C]	Portion of children with ASD who currently seek BT
(D)	Portion of children with ASD receiving BT who will choose DRBT
(E)	Portion of children with ASD who do not receive BT currently but will choose DRBT
(F)	Expected portion of maximum $10,000 annual limit that will be used on average
(G)	Maximum annual spending on DRBT
(H)	Number of months per year (Transforms annual cost per member into monthly cost)

Calculation of PMPM is { A x B x [(C x D) + E] x (F x G) } / H

COST OF EXISTING ASD MANDATE 8, 38a-514b, As Revised By PA 09-115, Effective January 1, 2010

Based on Optum data, outside reports, carrier data, and actuarial judgment, we expect that the current version of ASD mandate, 38a-514b, produces a paid medical cost of approximately **$0.40 PMPM** in CT in 2011. We can obtain this PMPM amount using the calculation process below.

COST CALCULATION For Current Version of 38a-514b, ASD Mandate which requires BT, Group Only

(A)	(B)	[C]	(D)	(E)	(F)	Projected PMPM
17.32%	0.667%	36.5%	28%	$40,541	12	**$ 0.40**

ASSUMPTIONS UNDERLYING PROJECTION:

(A)	Portion of insured population from 3 through 15 years of age
(B)	ASD Prevalence Rate
[C]	Portion of children with ASD who seek BT & other services under 38a-514b
(D)	Expected portion of annual limit that will be used on average
(E)	Maximum age-weighted annual spending under 38a-514b
(F)	Number of months per yr. (Converts annual cost per member into monthly).

Calculation of PMPM is: (A x B x C x D x E) / F

PMPM COST and ASD PREVALENCE IN THE CARRIER DATA:

In the carrier data, there was no information about the number of children diagnosed with ASD. Some carriers provided the number of children with BT claims; however, other carriers did not submit any claims for BT services for children with ASD. Overall, the carrier data was not sufficiently reliable for prevalence rate purposes. The projected PMPM cost of the 2010 ASD mandate, 38a-514b as required by PA 09-115, varied by carrier. Excluding those carriers that did not submit BT data, the average paid PMPM cost for BT services was $0.40 PMPM. This is reasonably consistent with other estimates. It can be replicated using the census data, a prevalence rate of 0.667% (1 in 150), a BT treatment rate of 36.5%, and an average cost of 28% of the maximum permissible for that age group. See appendix 3.H.

ASSESSMENT OF COST OF EXTRA-TERRITORIALITY ASPECT OF PROPOSED ASD MANDATE 7:

In a meta-study of reports from other states on their extraterritorial mandates, estimates range from 0% to 2% for the approximate portion of additional state residents who will be affected by the extra-territorial extension of existing mandates. That is, when a health insurance mandate is made extra-territorial, it can increase the number of people to whom the mandate applies by 0% to 2%, depending on the mandate. The exact percentage of the increase will also vary by state, and it will be affected by the presence of large cities, towns, and metropolitan statistical areas (MSA) in the vicinity of the state's borders. CT has two cities across the border that will have a bearing on extra-territoriality. The first is New York City, a major metropolitan center. The second is Springfield, MA. Based on the 2010 census, the five boroughs of NYC have 8.4 million residents, but the larger MSA called the NY/NNJ/LINY/NY-NJ-PA Combined Statistical Area is 19 million lives. The city of Springfield, MA has a population of about 150,000, but the MSA consisting of three western MA counties (Hampden, Hampshire, and Franklin) is 690,000.

Given that this is one mandate of relatively low cost, it does not make sense to conduct a major cost study for extraterritoriality. If it were to apply to more mandates, it might. Essentially, the extra-territoriality mandate will only increase premiums on health insurance sold to groups in other states (outside CT) that have members residing in CT. Since CT members represent less than half the members of the out of state group, it will not increase the insurance premium cost for affected groups by as much as the in state mandate. If a group in Springfield purchases a group policy from a MA domiciled insurer, and if more than half of the group resides in CT, the MA insurer must comply with the CT mandates. This is the 50% rule (mandate 38a-531) and affects policies sold in MA or NY to groups covering CT residents. If less than 50% of the group's covered members reside in CT, the CT mandates need not be covered if it is an insurance plan. For CT HMOs, the CT law requires them to have a companion HMO set up in each contiguous state to handle cross-border members; the cross-border members must already receive the CT mandates.

In November 2011, New York enacted an autism mandate requiring critical autism therapies for adults and children. MA also enacted an autism mandate in the summer of 2010 for children and adults with autism. The existence of autism mandates already in these two states reduces the interstate difference in coverage and diminishes the incremental cost of the extraterritorial aspect of the mandate.

The paid medical costs added to the out of state group plans are expected to be approximately **$0.04 PMPM** or less since the pooled cost would be shared with members who reside outside CT, and there would be at least as many out of state residents as in state, due to the 50% rule. Not all plans with less than 50% of members in CT will have 50% of their members in CT. The average will be lower. 20% was used as an assumption in the calculation below of the $0.04 PMPM. Effectively, the extraterritoriality cost is *de minimis*. It is calculated as follows:

(A)	x	(B)	x	(C)	=	(D)
$0.40	**x**	**50%**	**x**	**20%**	**=**	**$0.04 PMPM**

A is the PMPM paid medical cost of 38a-514b in CT.
B is the factor that excludes members in groups whose CT membership is greater than 50% of total, since mandate already applies to those members due to 50% rule.
C is the assumed percentage of members in the out of state group that reside in CT for those plans with less than 50% of members in CT. (Of these out of state group plans with less than 50% of their members in CT, 20% of the total group members are assumed to be in CT; the remaining 80% to reside in the state of the insurer's domicile or elsewhere outside CT.

This cost is not paid by CT insurers and does not add to the cost of insurance issued by CT domiciled carriers, which is about 99% of the insured coverage for CT residents. For this reason, the $0.04 PMPM is not added into the total cost of these mandates.

Cost Conclusions re 2012 ASD Mandates:

Addition of DRBT Coverage for Group Insurance:
It is expected that this proposed mandate will increase overall insured medical cost by **$0.08 PMPM** in 2012, the first year it is effective. This implies a premium increase of **$0.09 or $0.10 PMPM**. Over time, it alone is not expected to create additional medical cost. In fact, it may help reduce total spending on treatment for children with ASD primarily because the annual spending limit is considerably lower for DRBT than BT, and because DRBT is available for a maximum of 5 years, whereas BT is available through age 15 for children with ASD. No attempt has been made in this report to evaluate the expected difference in the quality of life outcomes for the two different approaches to treating ASD.

In terms of cost-shifting from one health insurance pool to another, many evaluative and therapeutic services are currently the financial responsibility of the public educational

system for children diagnosed with ASD who have individual education plans. Under the existing (2010) version of the ASD mandate which covers BT but not DRBT, it is unclear how much of the public cost has been shifted to private insurers, or what will happen in the future.

In assessing the cost of the ASD mandates proposed under SB 974 and SB 978, no effort was made to determine which model, agency, or conduit best serves the needs of children with ASD—the state educational system, the private health insurance approach, or a combination of both. The cost presented herein pertains to the cost under the health insurance approach in CT given that the state educational system already provides some of these services. It cannot be assumed that the cost would be equivalent if all of these services were shifted over and became entirely the state's operational and financial responsibility.

Extraterritoriality for Group Insurance:
De minimis.

Note: Mandate 8, the existing ASD mandate, became effective January 1, 2010 and is not discussed here. It is not a new mandate that will become effective in 2012. The expected cost is approximately $0.40 PMPM for group policies; it does not apply to Individual policies.

II.4 DIFFERENTIAL EFFECT OF THE MANDATES ON INDIVIDUAL vs. GROUP INSURANCE COVERAGE:

It should be pointed out that the ASD mandates do not apply to individual plans. The breast cancer screening and prostate cancer mandates do apply.

The individual market is characterized by a larger percentage of leaner benefit plans that involve greater member cost-sharing, often in the form of a high deductible or higher copays. Based on the carrier data, the average cost sharing for individual plans was determined to be 25%; (it is 13% for group plans). All else equal, higher cost-sharing is associated with lower overall utilization. This may translate into lower utilization and cost for some of the mandates. The leaner benefit plans in the individual market are used to help control cost since the populations enrolled in individual plans often have more medical conditions, on average, than those in group plans, especially large group plans in which everyone is covered. The individual insurance market is known for a higher rate of adverse selection since those who need health insurance and do not have it, must generally buy an individual plan.

Individual insurance is not inexpensive, however, and the policy-holder must bear the entire premium cost alone. This also helps explain why individual policies are subject to more adverse selection than group policies. As long as applicants can pass initial underwriting for coverage, individuals can purchase individual health insurance for themselves and their family when they think they will need it. More importantly, people may drop coverage when the economic value diminishes; and they may renew coverage when their health deteriorates and they know they need to retain it. The average cost of an individual health policy in CT is less than a group policy, and it typically provides less benefit, on average, than a group policy. For example, the cost-sharing on an individual plan may be higher—this means higher deductibles, copays, and more coinsurance. This is an important consideration when assessing the financial burden for those covered by individual plans, especially less healthy people. People with individual coverage pay for their entire premium, as well as all the cost-sharing associated with their plan. Those with plans that have an out of pocket maximum have some assurance that their personal financial burden will not exceed that maximum and lead to personal bankruptcy.

The medical cost of group plans in the CT data was significantly higher than individual plans both on an allowed and especially on a paid basis. There was also a significant difference between the Allowed Cost and Paid Cost for Group vs. Individual. For group plans, paid cost was about 87% of the allowed cost based on the CT data provided by all six carriers domiciled in CT. For individual plans, paid cost was 75% of allowed. (This restates the cost sharing statistics of 13% and 25% presented above.) Thus, as a

percentage of allowed cost, the member cost-sharing in individual plans is about twice as much as it is in group plans.

In 2012, it is assumed that the medical cost for group policies will be $340 PMPM and the premium will be $400 PMPM.

In 2012, the medical cost for individual policies is assumed to be $240 PMPM and premium is $300 PMPM. As a result of health reform regulations under the Affordable Care Act (ACA), the medical cost ratio for Individual is expected to be 85%.

During phase two of this project, the six insurance carriers domiciled in CT submitted claims and membership data. They reported that there were more than twelve times as many group members as individual in the 2007 carrier data submitted. There were about 1.2 million group members but only about 92,000 individual members in the 2007 medical. Of these members, only 829,000 and 79,000 also had RX coverage.

The total 2012 projected paid medical cost for all seven proposed mandates excluding mandate 4 was $0.43 PMPM for group coverage, which is 0.1% of total medical cost. (The $0.43 is paid medical cost only and excludes administrative cost and profit.) This includes $0.08 PMPM for the ASD mandate of DRBT, which does not apply to Individual policies. Excluding this $0.08, the total medical paid cost is $0.35 PMPM.

Since individual plans generally require more member cost-sharing for most services, the removal of member cost-sharing for breast ultrasound, MRI, and possibly thermography also, could be a slightly greater relief of cost-burden to members with individual coverage than group. This would be more noticeable on a percent of premium basis. It should be noted that the breast cancer screening mandates do not apply to high deductible health plans, and there tend to be more HDHPs in the individual market than group.

Since prostate cancer is of *de minimis* cost, it does not affect individual policies differently than group.

For individual health insurance, for mandates 1 to 3 plus mandate 5, the 2012 projected paid cost is expected to be about the same as for group. (Note—mandate 5 has no cost.) During the earlier phases of this mandate project, it was observed that there i**s** the same level of spending on cancer diagnosis and treatment in individual policies as in group. Since it is only mandates 1 – 3, the breast cancer screening mandates, that are applicable here, the paid medical cost is expected to be the same for individual and group; and so is the non-benefit expense.

One last point to note regarding individual coverage is that conversion policies fall into this category. These policies help provide access to insurance for those who lose group coverage. (This includes those whose COBRA coverage has run out.) Conversion policies tend to be purchased by those that need continued coverage, and they can experience significant adverse selection as the small pool acquires an increasing percentage of higher risk individuals with known health conditions. Conversion policies are sold to those singles, couples, and families who wish to maintain individual coverage after they lose group status. Unlike the vast majority of group policy holders, conversion policy holders pay the full cost of their coverage. If someone expects to have large medical costs, they are more likely to purchase conversion coverage than someone who is healthy and expects no upcoming medical expenses other than routine care.

II.5 DIFFERENTIAL EFFECT ON LARGE GROUP vs. SMALL GROUP

As explained above, the elimination of member cost-sharing for breast ultrasound, MRI, and possibly thermography, would be of greater economic benefit to those whose insurance is provided through a small group employer than a large group. Small group plans tend to have more member cost-sharing than large group plans; this is similar to the way that individual policies have more cost-sharing than group. Since prostate cancer is of *de minimis* cost, it does not affect large groups differently than small.

Since the health insurance reforms in the early 1990's, a small group has been defined in CT as an employer with 50 employees or less. Small groups tend to purchase lower cost, leaner plans than large groups. "Lean" plans shift more cost to the insured in the form of higher copays, deductibles, and coinsurance. Employees of small business also tend to pay a larger share of the premium. In this respect, the cost burden of the mandates will be somewhat greater for those whose insurance is provided through a small group employer for two reasons:

- Insured employees in small groups pay a larger percentage of the overall premium, on average, and
- Insured employees in small groups and their dependents pay more in cost-sharing than those in large groups.

Like individual coverage, there is typically more adverse selection of benefits among small groups than large groups. Seen from another perspective, there are more uninsured people that work for small employers than large employers. These proposed mandates do not invite adverse selection in the sense that formerly uninsured people with costly medical conditions will rush to buy coverage as a result of the passage of these mandates.

The small group market is more sensitive to the cost of health insurance. A significant increase in premium cost, all else equal, is expected to cause more small groups than large ones to drop health insurance coverage. In general, mandates push up the cost of health insurance for small and large groups alike, but a somewhat higher percentage of small groups may drop coverage as a result. This is driven in part by the fact that there is generally more variation in the annual premium increases of small groups relative to large. The small groups with the largest increases tend to lapse coverage first.

For the smallest employer groups, the owner who purchases group health insurance on behalf of the group may know more about the health conditions of the employees and their dependents. This may cause the employer to purchase a richer plan or to renew coverage when they might have otherwise terminated it.

One consequence of additional mandates is that some groups may switch to a self-funded approach, which enables them to avoid complying with the mandates if they wish. Most of the larger employers in the US have already switched to a self-funded approach, and thus state mandates do not apply to them. There are other reasons for them to switch beyond the minor freedom of not having to comply with state mandates. This will be discussed further in the next section. There is emerging evidence that more mid-size groups are switching to self-funding as a result of the ACA.

II.6 EFFECT OF MANDATES ON THE AVAILABILITY AND COST OF HEALTH INSURANCE:

In total, the mandates that have been proposed to become effective on January 1, 2012 are not high cost. There are single mandates, such as infertility, that cost more than all these combined. The most costly mandate is not a new mandate; it is mandate 8, which is the current version of the ASD mandate that became effective in 2010. It applies to group policies only. This mandate is unique in that some of the behavioral therapy and other habilitative services provided under 38a-514b are also covered by the state through its public education programs and obligations under the ADA to provide educational assistance to children with ASD who have Individual Educational Plans.

Traditionally, the function of insurance, health insurance included, has been to provide financial security to those who are faced with economic uncertainty due to premature death, disease, accident, disability, loss of property, and the like. People who buy insurance believe there is greater utility in paying a certain monthly premium than potentially sustaining the uncertain loss that could occur. Because of group coverage and the fact that most insured people are insulated from most of the cost of health insurance,

which is largely borne by the employer, health insurance is different than life insurance. It is increasingly perceived as fundamental to the health, commonwealth, and productivity of the nation. Those without access to health insurance, however, have difficulty maintaining the same level of health as the insured. They also must pay more for many services because they do not have access to the discounts of large payers. Although the uninsured rate is lower in CT than the national average, it was estimated that there were approximately 340,000 people in CT under the age of 65 without health insurance at the end of 2010. This number has been increasing over the past ten years as the cost of coverage (premium) has increased at a rate about double that of inflation. It is unlikely that that number decreased in 2011. A significant number of the uninsured are undocumented immigrants. In a September 1, 2010 article, "Number of Undocumented Immigrants in State Levels Off" in the "Hartford Courant," a Pew Hispanic Center study was referenced that estimates that there were about 110,000 undocumented immigrants in CT in 2007, which represented a leveling off of an increasing rate during the prior two decades. In 1990, there were an estimated 20,000 undocumented immigrants in CT.

Although the data shows that the cost of the health insurance mandates has been significant, it would be false to conclude that the mandates in isolation are the primary driver behind the growth in the cost of health insurance or the sole reason for an increase in the number of the uninsured.

In this section of the report, the increase in total insurance premium cost caused by the mandates is discussed in the context of the expected consumer decision whether or not to renew health insurance coverage. Some actuarial evaluations of new and revised mandates now consider not only the effect of the mandate on health insurance premiums, but also the number or percentage of policy holders that will choose not to renew coverage due to the premium cost increase. This may be more an issue at the time a mandate is first introduced or revised, but less so once its cost has been embedded in the cost of coverage for several years. An incremental cost increase of 0.1% is not likely to be noticed during a period when health plans increase in premium cost approximately 8% to 10% per year. These mandates will continue to increase in cost each year for the next few years, but their effect on health insurance premium levels will not be highly conspicuous.

In the last section, the difference in the termination rates between small and large groups that results from the same-sized annual premium increase was mentioned. The likelihood of disenrollment due to cost increase is not easily calculated; it depends on the economic environment and other factors. Disenrollment tends to occur more often as a result of an abnormally large increase to a specific policy-holder. It is self-evident that as the cost of health insurance premiums rises, fewer residents of CT can afford coverage.

If normal medical trend is about 8%, and if an annual premium increase can be reduced to around 4% with some moderate increase in copays, coinsurance, and or deductible (benefit "buy-downs"), such a small cost increase is less likely to cause disenrollment. Groups may choose to "buy-down" their benefit plan somewhat further rather than lapse coverage altogether. If termination occurs as a result of a mandate, it would tend to occur in the year the mandate is introduced because the price increase would be noticed then. An increase of 0.1% will not be noticed.

As employer groups reduce the level of coverage by shifting more cost to the insureds year after year (in the form of increased member cost-sharing), two things happen. One is that members pay a larger portion of the total plan cost, and the other is that members might forego some medically important services to avoid the personal expense of higher copays, deductibles, or coinsurance. Mandates generally increase the cost of insurance and, in conjunction with medical trend, individuals and groups will respond at time of renewal by purchasing a lower level of coverage with increased member cost-sharing. The end-game of all these buy-downs is a plan in which considerably more expense is shifted to the insured. Unless the plan makes high-value services available for reduced or no copays, under-insured people might forego some necessary services because the member cost-sharing acts as a barrier to access. Many carriers have shifted to plans that cover certain preventive services (or other high value services) at low or no cost to the member. This is intended to discourage underutilization of important care. The reforms to health care under the Patient Protection and Affordable Care Act of 2010 will also require insurers to offer plans that cover more preventive services with no member cost-sharing. (This report does not cover the effect of the PPACA on the CT health insurance system.)

The first two breast cancer screening mandates essentially eliminate cost-sharing for breast ultrasound and breast MRI respectively. This is intended to mitigate the financial burden of all cost-sharing for the member.

On an ongoing basis, the group or individual insurance consumer tends not to notice the cost of mandates buried in the plan. Although actuaries have estimated lapse rates as a function of premium increases, there is not a great deal of hard data to work with. As a result, many of the expected lapse rate estimates tend to be approximate and directionally correct, but imprecise The level of cost of health insurance plans is high enough today, however, that some groups simply cannot afford coverage. This is especially true for individuals who are not eligible for group coverage, since they personally bear the full premium cost.

The other group reaction to increasing premium cost that should be considered is that some groups, especially larger ones, will choose to move to a self-funded approach as a result of additional mandates that add to the cost of health insurance. This will be especially true if they perceive the mandates to be of low value. By switching to self-funding, groups can avoid mandates. More than half the commercial health coverage in CT is already self-funded.

In phase two of this project, there was little evidence to support the assertions that groups are leaving the fully insured sector on account of mandates. Self-funded groups pay less in profit charges, and the largest self-funded groups are able to exert considerable leverage on the level of administrative fee that the insurer charges them to administer their self-funded business. It is likely that these large group economies of scale play a much more important role in the growth and size of the self-funded sector than does opposition to mandates. Self-funded groups also do not pay state premium tax as do fully insured groups and individuals. This tax is considered part of administrative cost, and it is 1.75% of premium.

When all carriers in CT are subject to the mandates, the playing field is level and affects all insurers equally in the sense that all must provide at least a minimum standard of coverage. Mandates one and two of the breast cancer screening mandates are not the type of mandates that are subject to variation from insurer to insurer due to varying precertification standards or medical necessity criteria. By adopting a minimum, insurers are not prevented from offering a richer benefit than the mandated minimum.

It should be noted that above and beyond the availability of insurance, the substantial increases in health care cost over the past decade have left employers with less and less money to spend on other employee benefits and on wages and salaries. In addition to the cost of health insurance, employees must also pay for the entire member cost-sharing.

The last point to cover in this section pertains to the cost of health insurance. When health insurance is priced, it is broken into cost categories depending on the "tier" that is purchased. A single person buys a single policy. A couple that wishes coverage will purchase a couple policy, also known as the employee plus dependent tier. A single parent with one or more children will purchase an employee plus children policy. And a couple with a child or children will purchase a family policy. Based on a paid medical cost of $315 PMPM and insurance premium of $378 PMPM in 2011 for group coverage, the following health insurance premium costs by tier are approximated: (Employee is EE)

	MONTHLY	ANNUAL (rounded)
Single EE	$475	$5,550
EE + Spouse	$1,030	$12,250
EE + Child(ren)	$950	$11,100
Family	$1,400	$16,650

(Note that the Single Employee cost is different than the PMPM because the average member is a mix of adults and children, and the average medical costs for children are roughly half that of adults.)

Note that these premium amounts do not include the additional spending on health care that people pay in the form of member cost-sharing—deductibles, coinsurance and copays. Nor do premium amounts include the cost of non-covered services.

An objection to mandates that is raised by some organizations is that the cost of mandated services, when added to the overall cost of care, adds a substantial increment to the cost of health insurance. This argument is often raised more forcefully when mandates are for services that are perceived to be non-essential or of lesser value. It may also be raised against benefits that are vital but only for a small minority of insured people, such as those affected by rare "orphan" diseases. There is no easy answer to the question of which services to include in the essential benefits package of a health plan.

In the national discussions through the end of 2011 concerning the Affordable Care Act, there has been no resolution on exactly which health benefits will be part of the "essential benefit package" for the exchange plans. Depending on their type, these plans must have an actuarial value of 60%, 70%, 80%, or 90%. This means that the member cost-sharing can be 40%, 30%, 20%, or 10% respectively. The 100% package, however, has not been decided yet for any of the four plans, and a December 2011 announcement gave states greater flexibility in determining their essential benefit package.

Excluding some benefits from the package of essential benefits covered by the health plan is a complex problem. Furthermore, if insured people are allowed wide-ranging choice to pick and choose the benefits they wish to include in their coverage, they will tend to select those they expect to best meet their medical needs. Too much self-selection of benefits can defeat the underlying insurance principle of pooling. At the other extreme, an insurance plan that covers all possible services for all insured members could become prohibitively expensive. Such a "rich" plan would need to impose substantial member cost-sharing in order to make it a reasonably priced insurance product. This describes the two-edged problem of covered benefits vs. member cost-sharing. As health technology evolves and increasingly expensive services are added to health insurance plans, there needs to be a trade-off established between covered benefits and cost-sharing,

otherwise plans become prohibitively expensive. This is a bigger issue for individual plans in a world in which some members can add or drop coverage as their medical condition and personal finances change over time. It is less an issue for group plans because employers substantially subsidize the premium cost of these plans on behalf of their employees, and the employer receives a tax benefit for doing so. Whereas the cost burden for individual plans includes 100% of the premium cost, for group plans, employees may pay roughly anywhere from 5% to 50% of the premium cost of the group coverage—the average is approximately 25%. For both group and individual coverage, the cost-sharing is also a significant part of the cost-burden.

II.7 EFFECT OF MANDATES ON PUBLIC HEALTH:

The public health gains resulting from the mandates will be discussed in this section. Depending on the nature of the mandate, their positive medical effect occurs over a continuum ranging from those that affect everyone to those that affect only a vulnerable minority. Mandates that serve to improve the health of individuals also increase their productivity. Due to the small number of individuals affected by the narrow focus of some mandates, their overall effect on the public health of the entire insured population will not be as sweeping as a mandate that affects all.

Most studies of the cost of disease, illness, and injury include not only the direct cost of medical care but also the cost of lost productivity and other costs to society. This is relevant to the 2012 mandates for autism spectrum disorder since the cost of habilitation can be offset by reduced cost later in the child's life, especially if lifelong institutionalization averted. Although it affects less than two percent of the insured population, the most severe cases of autism are a significant economic burden to the child's family.

II.8 EFFECT OF MANDATES ON THE DELIVERY OF HEALTH CARE INCLUDING THE UTILIZATION AND UNIT COST OF HEALTH CARE SERVICES, MEDICAL SUPPLIES, AND DEVICES (Includes provider and supplier reactions as well as individuals' reactions):

One of the consequences of any benefit mandate is reactionary change elsewhere in the system for the finance and delivery of health care. Sometimes the consequence is anticipated and intended; at other times, it is not. If the evolution of Medicare over the past forty plus years is observed, similar actions and reactions can be seen as the package of benefits, provider reimbursement methods, and eligibility standards changed over time.

Any mandate that adds to the list of things health insurers must cover generally adds to the cost of medical care and insurance. Although there is often initial hope that certain advances produce savings elsewhere, most mandates as well as advances in medical technology are additive in cost. Sometimes expensive illnesses are avoided or postponed with increased emphasis on health maintenance, but these savings are difficult to measure, especially in a true experimental situation.

The market reacts to a new mandate in many ways. The mandate may induce utilization, and providers may increase the rate at which the service is performed. It may increase the unit cost of medical goods and services as increased demand increases price. For complex surgeries, the price can also decrease over time, and as more are performed, the success rate increases.

One of the aspects of the mandates that must be addressed is the effect on public-private cost-shifting. Generally, the public sector, due to its authority and purchasing power, is able to establish lower provider reimbursement rates for its programs, especially Medicare and Medicaid, than private sector insurers pay for the same services. Historically, Blue Cross Blue Shield plans had larger market share and were able to negotiate somewhat lower rates than their competitors in the private sector, but both paid more than public payers. Health care experts argue that private payers generally pay more for most medical services because public payers (Medicare and Medicaid) reimburse providers at cost or less than cost. The shortfall, it is argued, must be made up by charging commensurately more to those with private coverage.

In general, because the vast majority of private insurance is group coverage provided through employers that pay for the majority of the premium, most people are buffered from the true cost of health care. Employers are tax-subsidized to provide insurance to employees and their dependents. Some policy experts argue that this situation contributes to the high and increasing cost of health care. Part of this high cost stems from the unnecessarily high utilization of services that is, in part, caused by the fact that insured people with employer coverage are buying those services with the help of "other people's money." Without the employer subsidy for the cost of health insurance premiums, the member cost-sharing would have to be much greater; it is also likely that many services would have to be cut out of the insurance coverage to keep premiums affordable. The same experts argue that this induced demand in group coverage drives up the unit cost per service. This affects all medical care—not only the care covered by the mandates. If that is the case, some marginally necessary services may be deemed to be more essential than they would be if individuals had to pay the full cost of care entirely out of their own pockets.

Especially in the private health insurance market, healthcare is not a pure market-based system, so it is difficult to apply the usual laws of supply and demand to health care when so much is paid for with what seems to be other people's money. Nonetheless, it is likely that the employer subsidy in the group market helps to drive up the demand for care and the overall cost of care. The presence of mandated benefits in conjunction with that employer subsidy also pushes cost in the same upward direction.

For the 2012 breast cancer screening mandates, if they are made effective, cost-sharing alone could not prevent a woman who meets the conditional criteria from receiving a breast ultrasound or MRI after a screening mammogram. However, clinicians do not unanimously assert that these are high value services or that cost-sharing on these services has been a deterrent to their use when medically necessary. Cost sharing on breast ultrasound is a high-frequency, low severity expense. For breast MRI, it is low frequency and low to medium severity.

If thermography is mandated, it is likely that thermography providers will move into the state; retail centers will be established in new or existing locations. Chiropractors, for example, may choose to add thermography in their offices. Like stand-alone MRI and CT scan radiology centers, thermography centers would also crop up.

For the ASD mandates, the individual cost-burden is a different matter. The cost of behavioral therapy and development relationship-based therapy can exceed $50,000 per year for a child with severe autism. This is a large cost that affects a very small percentage of families. It is a low frequency, high severity expense. If DRBT is mandated, the supply of DRBT providers in CT will likely increase quickly. As for any other service, the insurers operations will need to apply to the new mandate. Fraud and abuse must be managed, etc.

III. LONG-TERM COST IMPLICATIONS OF THE PROPOSED MANDATES

Appendix Three and the table below present a five-year pro forma of mandate costs for group coverage from 2012 through 2016. For each mandate, it contains paid medical cost only. This is projected out over a five year horizon according to the assumptions listed at the bottom of the spreadsheet. Below is a summary of the five year paid medical cost of the new 2012 mandates that will affect the cost of health insurance in CT:

The 2012 (year one) cost is based on the assumption that the mandates becomes effective on January 1, 2012. In order to project to future years, assumptions of increased utilization formed the basis of cost increases in addition to 6% "normal" annual trend increases. This is shown in Appendix Three.

It should be noted that only one of the two mandates, 3 and 4, can be enacted, not both. Only mandate three is included in the totals. If mandate four is selected instead of mandate three, the total paid medical cost is expected to be $0.01 PMPM greater. Mandate 7 is excluded since it does not apply to CT premiums as do the other mandates. Mandate 8 is excluded since it was effective in 2010. The following table shows best estimates of expected paid medical costs. This is referred to as the medium cost scenario later in Appendix Three.

MANDATE	2012	2013	2014	2015	2016
1. Breast Ultrasound--No CS	$0.20	$0.23	$0.27	$0.32	$0.37
2. Breast MRI--No CS	$0.10	$0.12	$0.15	$0.18	$0.22
3. Breast Thermog w/ CS	$0.05	$0.06	$0.08	$0.10	$0.12
4. Breast Thermog and no CS *	$0.06	$0.08	$0.10	$0.13	$0.16
5. Prostate Cancer Treatment * *	$0.00	$0.00	$0.00	$0.00	$0.00
6. DRBT for ASD, Grp Only	$0.08	$0.07	$0.07	$0.07	$0.05

In Appendix Three, the 5 year projection of each mandate is developed using two additional scenarios in addition to the best estimate approach (medium cost scenario) used throughout this report. These other two represent a low cost and high cost scenario. For these two alternative projections, low and high, the starting point was adjusted down or up respectively; the year-over-year trend factors were also adjusted to reflect less or more increase than shown in the best estimate approach of the medium cost scenario. It should be noted that the difference between the high cost and low cost scenarios is less significant for 2012 than it is for 2016. After 5 years of different trend, the PMPM cost difference between low and high is much greater and more noticeable in 2016.

IV. Financial and Economic Analysis of Phase Four 2012 Mandates

INTRODUCTION:
In phase three, the prior phase of this CT mandate project, this section containing financial and economic analysis began with a summary of the state of health coverage in the state of CT. Most of that same summary is incorporated here with minor revisions and some updating consistent with the 2012 mandates. The original was completed in early 2011 by Tanvir Khan and Krista King with assistance from Dr. Tom Knabel and Dan Bailey.

The expected financial burden and socioeconomic aspects of the 2012 mandates are discussed in this section of the report. Cost-burden to the individual and family is discussed later in this report, both in the presence and absence of the 2012 mandates. A broader interpretation of financial burden was considered; it includes socioeconomic factors, such as lost productivity, in addition to other cost burden considerations.
To understand health coverage in CT, first the entire CT population should be considered; then, two smaller subsets:

First, health coverage for all people of all ages is considered—this includes everyone residing in CT. According to the 2010 census, that is 3,574,097 people. This includes people of all ages. It includes people who have any type of health coverage whether fully insured or not, whether private or public. It also includes people who have no health coverage—the uninsured. This is shown below in the table of percentages by coverage type and Table 1(a).

A second group includes only those with "commercial health coverage." This view excludes those 65 years of age or older. It also excludes anyone with any type of public coverage through any government program, such as Medicare, Medicaid, Husky (the State Children's Health Insurance Program), the Department of Defense TriCare, or the Veterans Health Administration.

The third group is a yet smaller subset and includes only those with fully insured commercial coverage—both group and individual policies. In addition to all excluded in the second group, this third group also excludes everyone with self-funded employer coverage. It is the only population legally subject to CT's health insurance mandates.

ALL CT RESIDENTS, 2010,
TYPE OF HEALTH COVERAGE

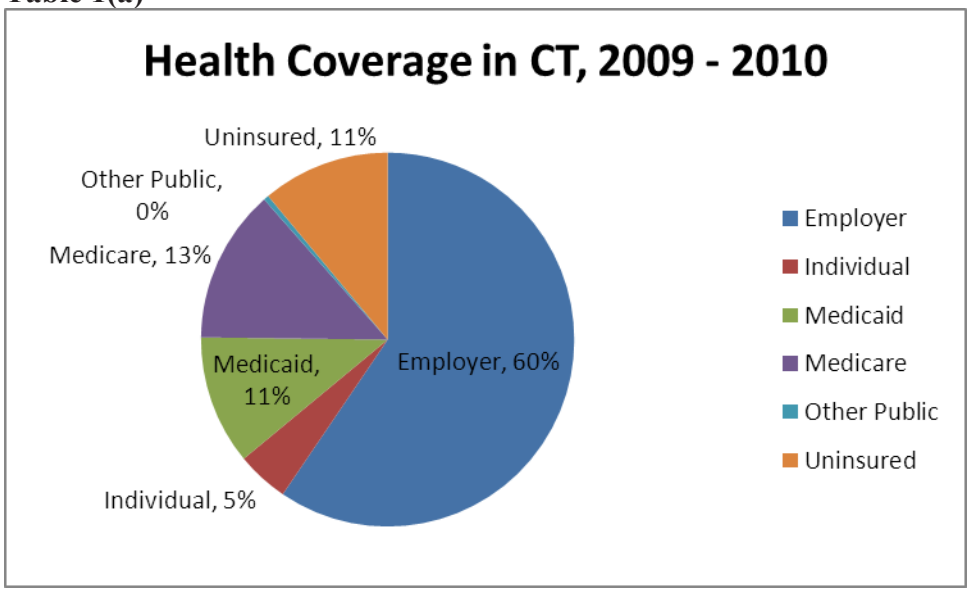
Group, Fully Insured	**20%**
Individual, Fully Insured	**5%**
Self-Funded Group	**40%**
Medicaid	**11%**
Medicare	**13%**
Uninsured	**11%**
Other Public	**0%**

The term "employer based coverage" consists of two non-overlapping subsets:

1. Fully insured groups, and
2. Self-funded groups

The pie chart in Table 1(a) below depicts the statistics above for all people in CT. The data comes from the Kaiser Family Foundation and represents 2009 to 2010.

Table 1(a)

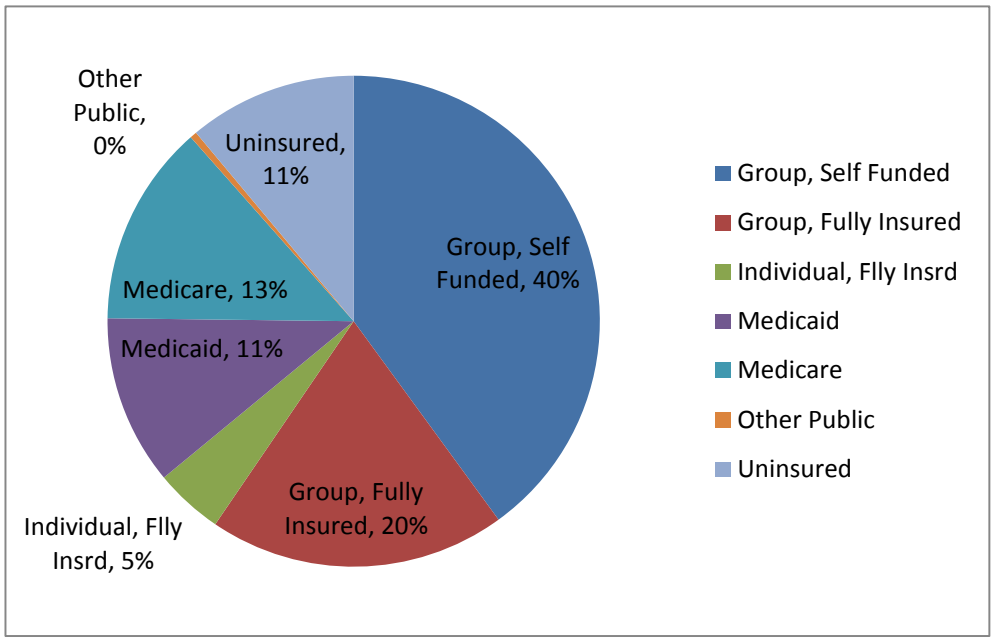


Although about 60% of CT residents have private, employer-based group coverage, most is self-funded (not fully insured) and is thus not subject to the state health insurance mandates. Many authors on the subject of health care use the terms coverage and insurance as if they mean the same thing. Technically, self-funded health coverage is not health insurance; that distinction is maintained here because state health mandates do not apply to self-funded coverage. The 60% with employer coverage is 2/3 self-funded and 1/3 fully insured. That is, the 60% employer-based coverage breaks down further into 40% self-funded group and 20% fully insured group. In mid-year 2010, the state of CT

employees health plan converted from a fully insured to self-funded arrangement; they are included in the self-funded 40%. The state EEs and their dependents are 5% of the CT population and are the largest commercial group in the state.

The next chart, table 1(a2) takes the KFF chart above and further splits the employer-based coverage into fully insured vs. self-funded based on 2010 membership data submitted by CT carriers and reconciled to the KFF data.

Table 1(a2)



The two charts that follow next provide the demographics of the uninsured in CT. They are based on KFF 2010 data, and they view only the "non-elderly population," that is, people less than 65 years of age. Since the vast majority of elderly citizens are covered by Medicare, most studies of the uninsured analyze the uninsured as a subset of the non-elderly population rather than the entire population as shown in Table 1(a). If we exclude the elderly, the uninsured non-elderly in CT are 13% of the non-elderly population. Although males are 48.3% of the total population in CT, there are almost 50% more uninsured adult non-elderly males than females.

FIGURE 1(b)—By Age and Gender

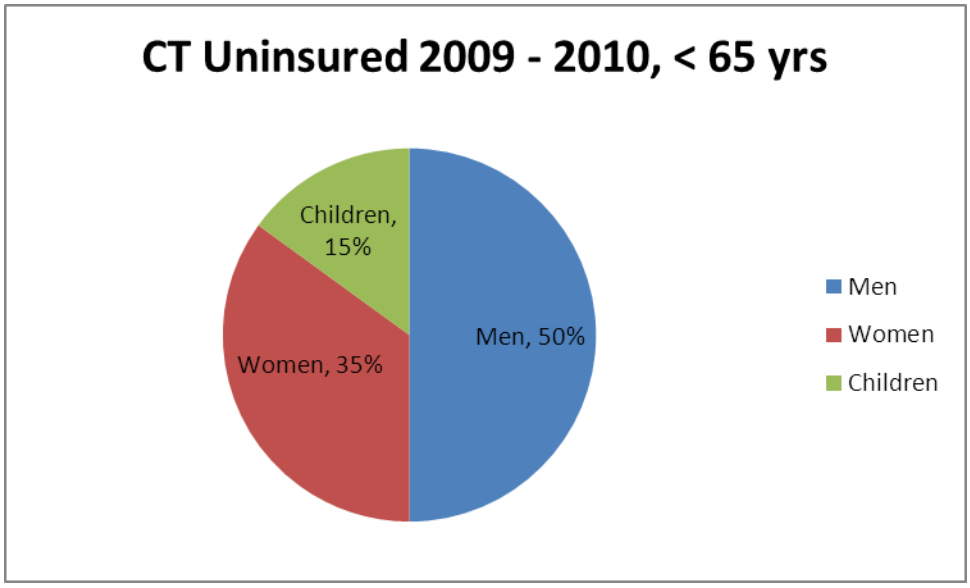
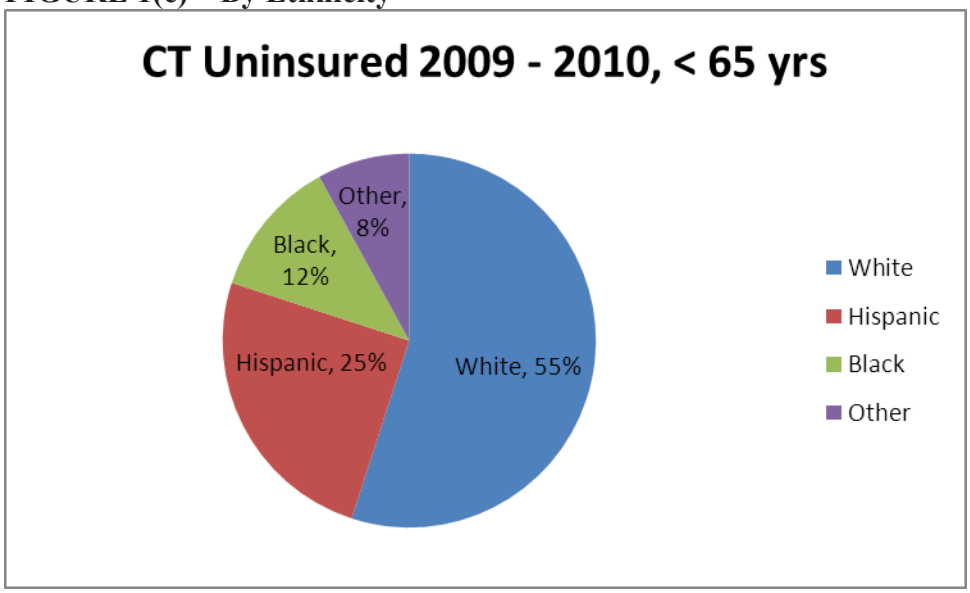


FIGURE 1(c)—By Ethnicity



Source: Urban Institute and Kaiser Commission on Medicaid and the Uninsured estimates based on the Census Bureau's March 2009 and 2010 Current Population Survey (CPS: Annual Social and Economic Supplements). Accessed February 20th, 2011 and January 12, 2012.
http://www.statehealthfacts.org/profileind.jsp?ind=125&cat=3&rgn=8

The healthcare landscape has changed significantly over the last several years. High deductible health plans are increasingly common, especially in the individual and small group markets. America's Health Insurance Plans (AHIP) estimates that over ten million

lives were covered in 2010 under Health Savings Account/High-Deductible Health Plans (HSA/HDHP).

In Connecticut, over 7% of the lives covered by commercial health insurance have an HSA/HDHP plan. Per IRS rules, these plans have an inflation indexed minimum deducible for individual and family coverage (for 2010, the minimum family deductible is $2,400). Without some modification of benefit design, the high deductible in such plans can be a deterrent to services that are of high value and much needed. For example, if one had to wait until a $2,400 deductible is satisfied in order to get a medically necessary service, the tendency might be to wait rather than pay. As a result of the Affordable Care Act (ACA), however, crucial preventive services are now provided by health insurance plans with no member cost-sharing. For higher value services that do involve member cost-sharing, the tendency to wait is greater for people at a lower income level. It is possible that due to the increasing deductibles in particular, some other pre-2012 mandates may be less readily accessed. That affects primarily the ASD mandate in this 2012 report. The breast cancer screening mandates involve the elimination of member cost-sharing, except for high-deductible plans. For members in HDHPs, their member cost-sharing will not be reduced to $0.

Even prior to the passage of the ACA, insurers recognized this member propensity to delay care and countered with new and improved plan designs designed to encourage access to benefits that bring higher value for cost. Preventive benefits are often covered without satisfying the deductible or even requiring any cost-sharing at all. Certain high value services may be made available in high deductible plans, with or without copay, prior to satisfying the deductible. The idea is that the benefit design should help the member obtain high-value needed services with minimal economic barriers to access. Health insurers may refer to these as wellness or preventive benefits. The mandate for MRI for Breast Cancer screening is not categorized as a preventive benefit under the federal Affordable Care Act (ACA) at this time, but could be in the future. Under the ACA, preventive services must be covered with zero cost-sharing for the patient.

COST-BURDEN:
In prior reports during the previous three phases of this mandate project, OptumInsight commented on the cost-burden to individuals and families in this section of the report. The mandates were examined with respect to how much individuals must pay out of pocket for existing mandates (phase two) or proposed mandates (phases one, three, and four). Additional commentary was provided on other socio-economic considerations. All the mandates reviewed in this phase four report were already examined in the financial economic reports produced in the prior three phases of this mandate project. While the content was not specifically focused on these phase four mandates, the general

substance covers these proposed 2012 mandates. The treatment costs of the associated diseases were also examined. For this reason, this section containing financial and economic analysis has been abbreviated in Phase Four.

Breast cancer screening was already covered in Phase Two and Phase Three. Screening mammography and breast ultrasound were covered in the workgroup report for Phase Two, Volume Two, Chapter 1. Breast MRI was reviewed in Phase Three, and the maximum on copays for MRI was handled in Phase Two, Volume Four, Chapter 9. PSA screening for prostate cancer was already covered in Phase Two, Volume One, Chapter 2. The existing mandate for cancer treatment was reviewed in Phase Two, Volume One, Chapter 11.

Mandates pertaining to autism and autism spectrum disorders were reviewed in:

- Phase Two, Volume One, Chapter 8 (Birth to Three), and
- Phase Two, Volume Two, Chapter 6 (ASD—PT/OT/ST only, not BT).

The provider mandate to cover occupational therapy affects the ASD Mandates less directly. It is reviewed in the workgroup report for Phase Two, Volume Four, Chapter 6.

HOW THE PHASE FOUR MANDATES AFFECT INDIVIDUAL COST BURDEN

The breast cancer screening mandates in this phase four report pertain to two aspects that affect individual cost burden:

1. Removal of all member cost-sharing from breast ultrasound and MRI subsequent to a screening mammogram (this is tantamount to the removal of all cost-burden for these services), and
2. Coverage of breast thermography, with or without cost sharing. (Anyone who wants breast thermography today in CT must pay for it out of pocket since health insurance does not cover it.)

The phase four prostate cancer mandate is a reiteration of the phase two mandate for PSA screening for prostate cancer with two new variations:

1. An additional requirement for prostate cancer treatment (which already existed due to the general cancer mandate), and
2. Reference to three sets of medical guidelines.

The previous commentary on cost burden in phase two covers this mandate in phase four.

The ASD mandate in phase four is an extension of the phase two ASD mandate. The cost burden discussion in phase two similarly covers phase four. The ASD mandate is a more complicated mandate with respect to individual and family cost burden because the

same treatments are covered and paid for through state educational programs for children with individual educational plans, which include pre-kindergarten children who have been diagnosed with an ASD. Some families pay for some ASD services out of pocket. The tables below show the member/family cost burden of member cost-sharing for ASD services. Note that it is based on both fully insured and self-funded data. It reflects all types of mental health and developmental services for children with ASD. The member cost-sharing amount shown is on a per person per year basis for each child based on all their 2010 medical claims showing any of the diagnosis codes for ASD. It includes children who have any type of service related to ASD, and thus does not include routine medical care for children with ASD. It includes children with only one service during the year and others with many services. One child might have had only one office visit with a psychologist, for example. Another child may have had many ASD-related services with different provider types. Note that 11% of the children in the CT data had no cost-sharing, and 58% of the children had cost-sharing of $200 or less. About 85% had cost-sharing of $1,000 or less for these ASD-related services.

2010 Member Cost-Share Distribution For ASD Diagnosis, Fully Insured and Self Funded

National ASD Data

Cost-Share Amount	Member Distribution
equal to $0	10.3%
$0 to $200	53.4%
$200 to $400	11.2%
$400 to $600	6.1%
$600 to $800	4.0%
$800 to $1000	3.1%
$1000 to $2000	7.2%
$2000 to $3000	2.4%
More than $3000	2.3%

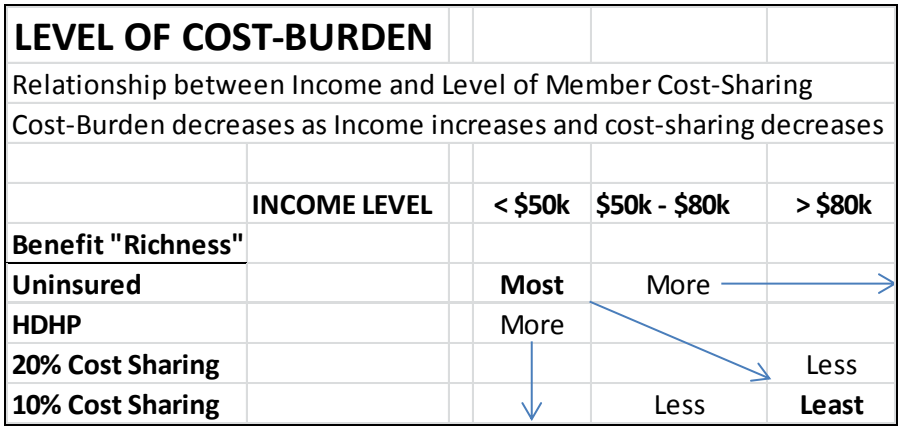
Connecticut ASD Data

Cost-Share Amount	Member Distribution
equal to $0	11.4%
$0 to $200	46.8%
$200 to $400	10.6%
$400 to $600	7.6%
$600 to $800	3.8%
$800 to $1000	4.6%
$1000 to $2000	11.1%
$2000 to $3000	2.8%
More than $3000	1.3%

REVIEW OF PHASE FOUR MANDATES USING THE SAME COST BURDEN MODEL EMPLOYED DURING ALL THREE PRIOR PHASES OF THIS MANDATE PROJECT

In the reports for earlier phases, individual/family cost burden was modeled along two axes: Family Income Level vs. Member Cost-Sharing paid by the individual or family. The portion of cost paid by the individual or family reflects the adequacy of the benefit. This is also called "actuarial value." If there is no cost-sharing, the paid cost equals the

allowed cost; such a plan would have an actuarial value of 100%. If the mandated service, or some aspect of it, is not a covered service, however, then the individual or family must bear 100% of the non-covered cost. Essentially, the families with the lowest income and highest cost-sharing have the greatest cost-burden. Thus, the poorest uninsured people have the greatest cost-burden. Additionally, the poorest uninsured people do not have access to the substantial discounts on provider reimbursement that payers have, thus increasing their cost-burden. In general, there is little transparency in hospital charges in the US, and so this fact is often overlooked.



Not everyone is uninsured, however, and not all the uninsured are poor. Those who have health insurance or self-funded health coverage may have varying levels of member cost-sharing. In general, some people are covered by "rich" health plans that cover health services with very little cost-sharing. Others may have "lean" plans with high deductibles, and or significant coinsurance and copays. Along this continuum, the model evaluates cost-burden for those with varying levels of member cost-sharing. Although mandates do not apply to the uninsured or self-funded plans, it is also a consideration here, especially for the uninsured person who must pay all medical cost out of pocket. For these 2012 mandates, member cost-sharing is less an issue than it was for mandates examined in earlier phases of this project, so the chart above has not been developed for any of the 2012 mandates. All the 2012 mandates represent a reduction in cost burden to the utilizers of these services with a commensurate increase in overall medical cost that increases insurance premium. For the breast cancer screening mandates, the cost-burden issue is relatively minor. For prostate cancer mandate, it does not apply. And for the ASD mandates, the mandate grants coverage of BT and DRBT treatments that were not previously covered by health insurance.

Along the continuum of family income, the model examines cost burden with respect to the family's means to pay. Obviously, someone as wealthy as Bill Gates can afford to pay for any health insurance he wants; he could also afford to go without insurance and pay for care entirely out of pocket. Moreover, even if a very wealthy person has health

coverage, a $20 copay for a physician office visit does not serve as a deterrent to marginally necessary care as it would for an individual at the other end of the income continuum. For this reason, the model looks at combinations of income and health benefit plan richness to assess cost burden. Due to their nature, the examination of cost-burden is less relevant to these 2012 mandates than it was to the mandates reviewed in earlier phases of this CT mandate project.

Many of the mandates covered by fully insured plans are also covered by self-funded plans in CT. Historically, self-funded plans have covered larger groups, which tend to offer "richer" health benefit coverage than smaller groups. CT residents covered by self-funded plans enjoy coverage of many mandates, and they often have lower cost-sharing than individual plans and small group plans that are fully insured.

As more smaller-size employer groups also migrate into self-funded coverage, the average benefit level of their self-funded plans will be less than that of the larger groups with richer benefits that moved to self-funded arrangements much earlier. Like fully insured group employers, many self-funded employers require their employees to share an increasing portion of overall annual cost. They require employees to contribute an increasing amount annually to pay for the coverage itself. Fully insured plans refer to this cost as the health insurance premium, and the average fully insured employee also pays an increasing portion of it annually. Self-funded plans do not have premiums per se, but they have costs that are essentially equivalent to premiums. Self-funded plans refer to this cost as "contributions", and they split it into the employer contribution and employee contribution. The average employee contribution has been rising annually for employees in self-funded groups at a rate faster than the employer contribution. Due to the annual increase in medical costs at a rate greater than general CPI, employers are moving toward a "defined contribution" approach to health coverage. The employer sets a maximum annual dollar amount it will pay toward their employees' health coverage, and the employee pays the remainder. The employer can increase this amount annually at a rate that does not keep pace with medical trend. This forces an increasing percentage of total health coverage cost onto the employee.

The portion of insurance premium that must be paid by the employee in a group plan is not incorporated into the cost-burden chart above. This is a price that must be paid before any services are incurred. The more the employee must pay for this, however, the less will remain for member cost-sharing. This is especially true for those individuals and families at lower income levels.

Breast Cancer Screening Mandates

On January 13, 2012, after this actuarial report was written, the Hartford Courant posted an article by William Weir titled "Ultrasounds Detect Cancers That Mammograms Missed, Study Finds. " This actuarial report has been revised to include mention of the newspaper article. It includes the story of a CT woman with dense breast tissue who was diagnosed with stage 3c breast cancer in 2004 based on a breast ultrasound following a mammogram that "had given her a clean bill of health." She then went on to lobby state legislators, and in 2009, CT became the first state to require health insurers to cover breast ultrasound subsequent to a screening mammogram for women with dense breast tissue and other conditions indicating elevated risk. The article refers to a radiologist at the Hospital of Central CT, Dr. Jean Weigert, who gathered data from over 70,000 cases, about 8,600 of which involved ultrasound. She concluded that ultrasound screenings detected 3.25 cases of breast cancer per 1,000 that would have gone undetected otherwise. The age group of the women was not stated in the article. The reader should note that although Dr. Weigert's study endorses the value and benefit of the mandate, and it was accepted for publication in "The Breast Journal," it is not yet an accepted scientific study in the medical literature. Until such time, the study should be viewed in that context.

In phase four, the member cost-sharing for breast ultrasound and breast MRI subsequent to a screening mammogram is proposed to be eliminated in 2012. These two mandates are the most expensive phase four mandates, and their cost entirely reflects shifting the member cost-sharing back to the insurance plan itself, whereby the cost must be financed by all members in the insurance plan in the form of increased premiums. As regards these two Phase Four mandates, the cost that is shifted from utilizing members to all members represents the relatively small portion of cost paid by utilizing members at time of service or after.

Although member cost-sharing serves as a disincentive to utilize unnecessary care, based on the explanation of the model above, it is clear this disincentive is an uneven one in actual practice, and it depends on member income and the amount of member cost for the service. Some emergency services are of life and death importance, and their utilization is unaffected by cost burden. Other services, however, are of marginal necessity, and the member may utilize them less if their financial burden is significant. By eliminating all cost-sharing on breast ultrasound and MRI subsequent to MRI, the utilization of these two services is likely to increase. This is a result of the service being "free" to the member. Utilization is said to be "induced" by a reduction in member cost-sharing. These two breast cancer screening services are examples of services whose utilization would be induced by reduced or eliminated cost-sharing. They are screening services not treatments.

Breast MRI has the greater potential to increase medical cost and insurance premiums since the unit cost is high and current utilization is low. (In phase two, it was reported that medical cost and the cost of insurance premiums attributable to complex imaging (MRI, CAT, and PET scans) had increased significantly over the past 20 years.)
As a result of mandates 38a-511 and 38a-550, fully insured plans already have a reduced level of cost-sharing that applies to all MRIs, including breast MRIs subsequent to screening mammograms. These two mandates (one for individual and the other for group coverage) limit member cost-sharing to $75 per MRI and $375 per year for all MRIs and CAT scans combined.

This MRI mandate works to the benefit of providers of complex radiology because it increases demand for their services. It also comes with a cost because it bends the ongoing curve of medical cost and health insurance premiums in an upward direction at an accelerating rate for these services. It reduces the cost sharing affecting a small portion of CT residents with lower income and lean plans (but not HDHPs), in order to make these services more affordable to them. It does so at the expense of making all medical cost and health insurance premium somewhat less affordable to a much greater number of insured CT residents.

This is one of the essential problems of increasing cost in the US health system today. The metaphor of the health care balloon is sometimes used to describe this phenomenon—the cost for some is decreased by pressing on the balloon in one location. But the cost for others is instantaneously increased by an equal and opposite bulging elsewhere on the balloon. The health care balloon metaphor, however, is deceptive because it understates the ultimate market reaction. Over time, the volume of the balloon itself is increasing at a rate faster than the gross domestic product.

The US Preventive Services Task Force has designated certain preventive services according to letter grade levels. Under the Affordable Care Act, A and B-level services must be provided to members in fully insured plans with no member cost-sharing. The intent of this legislation is to encourage members to utilize high value services upstream in the health care cycle in order to reduce the likelihood of downstream catastrophic illness and disease whose "pound of cure" is inevitably more costly than the "ounce of prevention." Screening mammography is such a preventive service. As of the time this report was written, breast ultrasound and MRI have not been deemed A or B level preventive services by the USPSTF.

For women 40 and older in CT, there is no cost-sharing for screening mammograms at this point in time. Mammography is often available for free, even for women who are

uninsured and could not otherwise afford it. As described above, under the federal Affordable Care Act, mammography is now classified as a service for which cost-sharing cannot be applied for women 40 years of age and older. That is, the mammogram must be free to the insured member because it is deemed a high-value service. It is called a "zero cost-sharing" service.

Both breast ultrasound and breast MRI are not currently deemed zero cost-sharing services by the Affordable Care Act whether subsequent to a mammogram or not. Also, there is no distinction in the medical coding of breast ultrasound or MRI that allows a screening service to be distinguished from a diagnostic one.

The 2010 Optum CT data gathered for this 2012 mandate study showed the following PMPM levels of cost-sharing for all screening and diagnostic breast ultrasounds and MRIs, not those following a screening mammogram only:

- Breast ultrasound was valued at $0.13 PMPM.
- Breast MRI was valued at $0.09 PMPM.

The cost-sharing for breast ultrasound is less a deterrent to utilization than that for breast MRI. In order to slow the quickly escalating utilization and PMPM medical costs attributable to "complex imaging" (MRIs, PET scans, and CT scans) over the past 10 to 20 years, many health insurers and HMOs began to charge a larger copay for complex imaging than for regular x-rays, such as broken bone and chest x-rays. Insurers that charge coinsurance instead of copays, like Medicare with its 20% coinsurance, are effectively doing the same by asking members to pay more cost-sharing for higher cost services. Twenty years ago, complex imaging was less frequently used and the copay for MRI under commercial health insurance was the same as that for a regular x-ray. By the year 2000, MRI utilization had increased significantly. After the increased copayment amounts for MRI, CT, and PET scans were established, the use of these services began to involve a more serious financial decision for the utilizing member. Later, CT introduced a mandate (38a-511 for Individual insurance and 38a-550 for Group) that limits the amount of cost-sharing the member must pay for an MRI. The member cost-sharing for each MRI is limited to $75, not to exceed $375 per year for all MRIs combined. This mandate does not apply to high deductible plans. The intent and effect of this mandate is to insulate members who use MRIs from some of the cost burden associated with MRI utilization. (The same insulating effect also applies to CT scans and PET scans, positron emission tomography.) Mandates 38a-511 and 38a-550 work to the benefit of women who have breast MRIs after a screening mammogram by limiting the amount of cost-sharing they must pay. The 2012 mandate goes one step further and limits that cost-sharing to nothing.

In addition to the "inside limit" of $375 per year for all MRI copays, health insurance benefit plans often include a feature called an out of pocket maximum. This feature limits the insured members annual personal spending on all medical services in total, MRI included. Once a member or family reaches their annual maximum in cost-sharing, every covered service is paid by the insurer at 100% thereafter.

The rationale for member cost-sharing in medical plans goes back to the original design of Medicare, which began in 1965, and to the commercial health insurance plans that preceded Medicare prior to the era of self-funding. (Self-funding was brought about by the passage of ERISA, the Employee Retirement Income Security Act of 1974.) The concept of member cost-sharing in Medicare and commercial coverage was that the insurer (payer) should bear most of the risk and financial responsibility, but the member needs to retain some cost-sharing as a financial disincentive to over-utilize services, especially services of marginal necessity. Since that time, payers have come to better differentiate the value of services and reflect that in the health plans they market to individuals and groups. Depending on the size of their cost, mandates that eliminate or reduce member cost-sharing on lesser value services may actually reduce the value of the total health coverage to all members more than they increase the value of coverage to the subset of members affected by the mandate. This is the fundamental problem of determining cost-sharing and actuarial value in health plans.

The other aspect which must be considered for the phase four breast cancer mandates is the coverage of breast thermography, with or without cost-sharing. Breast thermography is not currently covered by insured or self-funded plans in the US, nor is it deemed a level A or B preventive benefit by the USPSTF. As discussed earlier in this phase four actuarial report, screening mammography saves a limited number of lives relative to the number of women regularly screened over a ten year period. Breast thermography as a supplemental screening approach will save fewer lives than screening mammography.

Prostate Cancer Mandate

As regards the phase four prostate cancer screening and treatment mandate, there is not expected to be any change in member cost-sharing. The opinion of the medical community about this mandate will likely decrease in the short term because PSA screening is no longer recommended for asymptomatic men by the USPSTF.

Autism Spectrum Disorders Mandates

As regards the phase four ASD mandates, the coverage of DRBT (Developmental Relationship-Based Therapy) may decrease the cost burden for the relatively small number of families in group policies that currently pay for these services out of pocket. Since the CT educational system covers some ASD treatment costs already, it is difficult to determine what the future relief in cost-burden would be as a result of the mandate for group health insurance plans to cover DRBT services. As regards the territorial aspect of the ASD mandate, it would affect only those group plans insured by payers outside CT selling non-HMO health insurance. CT HMOs must already cover out of state members for any CT mandates. Similarly, HMOs in contiguous states do the same for CT residents. As such, the extraterritoriality provision affects the relatively few CT residents who are covered by out of state insurers.

A significant aspect of the ASD mandate to consider is the lifetime savings and increase in productivity that result from providing behavioral therapy and DRBT to children with ASD. To the extent that such treatment early in life produces enhanced development and improved functional capacity later in life, these services generate offsetting savings to society. It is unclear whether this is truly a medical benefit or an educational one. Regardless, society as a whole benefits if children with ASD mature into more capable and independent adults as a result of treatment. In the prior financial economic report on the ASD mandate, a 2006 study by the Harvard School of Public Health was cited; this study indicates that caring for a person with autism can cost up to $3.2 million over his or her lifetime. To the extent that BT and or DRBT could make the difference between independent living and lifetime institutionalization, cost savings would certainly arise. The evidence base for ASD treatment is expanding, but at this time, the effectiveness has not been time-tested in the way the Salk and Sabin vaccines, for example, have been proven to prevent polio.

Finally, developmental and mental health conditions are more difficult to define, diagnose, and treat than tangible physical ailments, such as a ruptured appendix or broken arm. In terms of defining and diagnosing, they are not as easily identified as a simple fracture, for example, which can be diagnosed with a physical exam and X-ray. The evidence basis for the treatment of a bone fracture is also stronger because it is a simpler and more easily understood ailment and has been for many years. In terms of treatment, whereas the bone fracture typically involves a one-time temporary cast and six weeks of inactivity, ASD generally involves a longer-term treatment period with a range of various possible treatment methods that have not been subjected to testing for a long historical period. In another hundred years, the treatment for a condition as relatively complex as ASD could be as straightforward as the proven approach for a simple fracture today. In the meanwhile, medical science must necessarily subject current and evolving methods to

the test of time and continued review in order to produce better methods and improved medical outcomes.

[END OF FINANCIAL AND ECONOMIC SECTION]

V. CONCLUSION

For group coverage, the 2012 paid medical cost of mandates 1 – 3 and 5 – 7 is projected to be $0.43 PMPM. Non-benefit expense is expected to be an additional $0.08 PMPM for a total of $0.53 PMPM, which is about 0.1% of premium. The paid medical cost of only mandates 1 – 3 plus mandate 5, which is zero cost, is $0.35.

For individual coverage, mandates 1 – 3 plus 5 are also projected to be $0.35 PMPM. They will add about 0.1% to the cost of health insurance. The cost of the mandate for prostate cancer treatment is *de minimis*.

There is variance around these cost estimates because various factors could drive the 2012 cost higher or lower.

VI. LIMITATIONS IN USE:

This study was conducted by OptumInsight exclusively for the State of CT and specifically and solely as it applies to the evaluation of the benefit mandates discussed in this report. This statement of opinion is not intended for any other application or purpose.

I, Daniel Bailey, am a consulting health actuary and Director of Actuarial Services with OptumInsight. I am a fellow of the Society of Actuaries and a member of the American Academy of Actuaries, in good standing, and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. Please contact me if you have questions. My e-mail address is Daniel.Bailey@Optum.com, and my office phone is 860-221-0245.

Daniel Bailey, FSA, MAAA

VII. APPENDICES

APPENDIX 1.A (Mandate 1)

COST CALCULATION - ELIMINATION OF COST-SHARING FOR ULTRASOUND SUBSEQUENT TO MAMMOGRAM

(A)	2009 Allowed Cost	$1,313,853
(B)	2009 Paid Cost	$1,100,292
(C)= (A)-(B)	2009 Member Cost-Share	$213,561
(D)	2009 Total Member Months for All Lives	2,350,834

(E)	2010 Allowed Cost	$1,721,098
(F)	2010 Paid Cost	$1,402,743
(G) = (E)-(F)	2010 Cost-Share	$318,355
(H)	2010 Total Member Months for All Lives	2,383,119

(I)= (C)/(D)	2009 PMPM Cost to Remove Cost-Share	$0.09
(J)= (G)/(H)	2010 PMPM Cost to Remove Cost-Share	$0.13
(K) = (J) + 1.5 X[(J)-(I)]	**2012 PMPM Cost to Remove Cost-Share**	**$0.20**

Note: The pmpm costs have been rounded

APPENDIX 1.B (Mandate 2)

COST CALCULATION - ELIMINATION OF COST-SHARING FOR MRI SUBSEQUENT TO MAMMOGRAM

(A)	2009 Allowed Cost	$1,637,455
(B)	2009 Paid Cost	$1,469,887
(C)= (A)-(B)	2009 Member Cost-Share	$167,568
(D)	2009 Total Member Months for All Lives	2,350,834

(E)	2010 Allowed Cost	$1,605,146
(F)	2010 Paid Cost	$1,401,749
(G) = (E)-(F)	2010 Cost-Share	$203,396
(H)	2010 Total Member Months for All Lives	2,383,119

(I)= (C)/(D)	2009 PMPM Cost to Remove Cost-Share	$0.07
(J)= (G)/(H)	2010 PMPM Cost to Remove Cost-Share	$0.09
(K) = (J) + 1.5 X[(J)-(I)]	**2012 PMPM Cost to Remove Cost-Share**	**$0.10**

Note: The pmpm costs have been rounded

APPENDIX 1.C (Mandate 3 and 4)

COST CALCULATION - THERMOGRAPHY COVERAGE

	Allowed Cost (pmpm)	**Paid Cost (pmpm)**	Member Cost-Share (pmpm)
Mandate 3--**With** Member Cost-Sharing	**$0.06**	**$0.05**	**$0.01**
Mandate 4--**NO** Member Cost-Sharing	**$0.06**	**$0.06**	**$0.00**

Assumptions:

Thermography Utilization is 10% of Ultrasound Utilization

For mandate 3, cost-sharing is expected to be 20% of Allowed.

Mandate 3: With Member Cost-Sharing

2012 Cost impact is Paid Cost of $0.05

Member shares 20% of Allowed Cost

Mandate 4: Without Member Cost-Sharing

2012 Cost impact is the Paid Cost of $0.06

Member shares none of Allowed Cost

Note: Either one or the other of these two breast thermography mandates could be implemented in 2012, but not both.

APPENDIX 1.D (Mandate 5)

COST CALCULATION - PROSTATE CANCER TREATMENT

Cost Impact is *de minimis.*

APPENDIX 1.E (Mandate 6)

COST CALCULATION - REQUIRING INSURANCE TO COVER DEVELOPMENTAL RELATIONSHIP BASED THERAPY (DRBT)

(A)	Portion of insured population from 3 through 15 years of age	17.32%
(B)	ASD Prevalence Rate	0.667%
[C]	Portion of children with ASD who currently seek BT	36.5%
(D)	Portion of children with ASD receiving BT who will choose DRBT	15%
(E)	Portion of children with ASD who do not receive BT currently but will choose DRBT	3.65%
(F)	Expected portion of maximum $10,000 annual limit that will be used on average	90%
(G)	Maximum annual spending on DRBT	$10,000
(H)	Number of months per year (Transforms annual cost per member into monthly cost).	12
Calculation of Projected Cost PMPM is: { A x B x [(C x D) + E] x (F x G) } / H		**$0.08**

APPENDIX 1.F (Mandate 7)

Cost Calculation - ASD Extraterritorial Mandate

(A)	PMPM Paid medical cost of Existing ASD Mandate 38a-514b under PA 09-115 in CT	$0.40
(B)	Factor to exclude members in groups whose CT membership is greater than 50% of Total, and out of state insurer issues policy to group.	50.0%
[C]	Percentage of all members in CT for these non-CT plans not meeting 50% rule	20.0%
Calculation of Projected Cost PMPM is: (A x B x C)		**$0.04**

Note: These extraterritorial costs do **NOT** apply to members in group policies issued by CT based insurers.

APPENDIX 1.G (Mandate 8)

COST CALCULATION -EXISTING ASD MANDATE 38a-514b under PA 09-115

(A)	Portion of insured population from 3 through 15 years of age	17.32%
(B)	ASD Prevalence Rate	0.667%
[C]	Portion of children with ASD who seek BT & other services under 38a-514b	36.5%
(D)	Expected portion of annual limit that will be used on average	28%
(E)	Maximum age-weighted annual spending under 38a-514b	$40,541
(F)	Number of months per yr. (Converts annual cost per member into monthly).	12
Calculation of Projected Cost PMPM is: (A x B x C x D x E) / F		**$0.40**

APPENDIX TWO:

ALL MANDATES, PMPM PAID MEDICAL COST

Pro Forma, By Year, Five Year Horizon

NOTE: Mandates 6, 7, and 8 apply to Group policies only
Mandate 8 is already effective--as of January 1, 2010; all
other mandates scheduled to become effective January 1, 2012
See other notes below

MANDATE	2012	2013	2014	2015	2016
1. Breast Ultrasound--No CS	$0.20	$0.23	$0.27	$0.32	$0.37
2. Breast MRI--No CS	$0.10	$0.12	$0.15	$0.18	$0.22
3. Breast Thermog w/ CS	$0.05	$0.06	$0.08	$0.10	$0.12
4. Breast Thermog and no CS *	$0.06	$0.08	$0.10	$0.13	$0.16
5. Prostate Cancer Treatment * *	$0.00	$0.00	$0.00	$0.00	$0.00
6. DRBT for ASD, Grp Only	$0.08	$0.07	$0.07	$0.07	$0.05
7. ExtraTerritoriality for ASD	This cost is NOT borne by those CT residents who are insured by CT domiciled insurers				
8. BT, etc for ASD--38a-514b	$0.40	$0.47	$0.54	$0.63	$0.74
Total of Mandates 1, 2, 3, and 5. Note: Mandates 6, 7, and 8 do NOT apply to Individual.	**$0.35**	**$0.42**	**$0.50**	**$0.60**	**$0.71**

* Only one of the two mandates 3 and 4 could apply. 3 is assumed to apply.

* * Assumes that the three sets of Guidelines do not change during the five year period.

Total of Mandates 1, 2, 3, 5, and 6. Note: Mandates 6, 7, and 8 apply to Group only.	**$0.43**	**$0.49**	**$0.57**	**$0.67**	**$0.76**
Total of Mandates 1, 2, 3, 5, 6, and 8. Note: Mandates 6, 7, and 8 apply to Group only.	**$0.83**	**$0.96**	**$1.12**	**$1.30**	**$1.50**
7. ExtraTerritoriality for ASD--this cost is added only to group plans issued by out of state insurers to CT residents--affects only these plans.	$0.04	$0.05	$0.05	$0.06	$0.07

APPENDIX THREE:

APPENDIX 3.A (Mandate 1)
Breast Ultrasound, Remove Member Cost-Sharing

	MEDIUM COST SCENARIO				
YEAR	**2012**	**2013**	**2014**	**2015**	**2016**
PMPM	$0.20	$0.23	$0.27	$0.32	$0.37
Normal PMPM Trend	6%	6%	6%	6%	
Utilization Increase, in addition to Normal Trend	10%	10%	10%	10%	

	LOW COST SCENARIO				
YEAR	**2012**	**2013**	**2014**	**2015**	**2016**
PMPM	$0.16	$0.17	$0.19	$0.21	$0.23
Normal PMPM Trend	4%	4%	4%	4%	
Utilization Increase, in addition to Normal Trend	5%	5%	5%	5%	

	HIGH COST SCENARIO				
YEAR	**2012**	**2013**	**2014**	**2015**	**2016**
PMPM	$0.24	$0.30	$0.37	$0.46	$0.57
Normal PMPM Trend	8%	8%	8%	8%	
Utilization Increase, in addition to Normal Trend	15%	15%	15%	15%	

APPENDIX 3.B (Mandate 2)
Breast MRI, Remove Member Cost-Sharing

	MEDIUM COST SCENARIO				
YEAR	**2012**	**2013**	**2014**	**2015**	**2016**
PMPM	$0.10	$0.12	$0.15	$0.18	$0.22
Normal PMPM Trend	6%	6%	6%	6%	
Utilization Increase, in addition to Normal Trend	10%	10%	10%	10%	
Additional Utilization due to ACS Recommendation and GAIL Model	5%	5%	5%	5%	

	LOW COST SCENARIO				
YEAR	**2012**	**2013**	**2014**	**2015**	**2016**
PMPM	$0.08	$0.09	$0.10	$0.11	$0.12
Normal PMPM Trend	4%	4%	4%	4%	
Utilization Increase, in addition to Normal Trend	5%	5%	5%	5%	
Additional Utilization due to ACS Recommendation and GAIL Model	2%	2%	2%	2%	

	HIGH COST SCENARIO				
YEAR	**2012**	**2013**	**2014**	**2015**	**2016**
PMPM	$0.12	$0.16	$0.22	$0.31	$0.42
Normal PMPM Trend	8%	8%	8%	8%	
Utilization Increase, in addition to Normal Trend	15%	15%	15%	15%	
Additional Utilization due to ACS Recommendation and GAIL Model	10%	10%	10%	10%	

APPENDIX 3.C (Mandate 3)

THERMOGRAPHY, With Cost Sharing

	MEDIUM COST SCENARIO				
YEAR	**2012**	**2013**	**2014**	**2015**	**2016**
PMPM	$0.05	$0.06	$0.08	$0.10	$0.12
Normal PMPM Trend	6%	6%	6%	6%	
Utilization Increase, in addition to Normal Trend	20%	20%	15%	15%	

	LOW COST SCENARIO				
YEAR	**2012**	**2013**	**2014**	**2015**	**2016**
PMPM	$0.03	$0.03	$0.04	$0.04	$0.04
Normal PMPM Trend	4%	4%	4%	4%	
Utilization Increase, in addition to Normal Trend	5%	5%	5%	5%	

	HIGH COST SCENARIO				
YEAR	**2012**	**2013**	**2014**	**2015**	**2016**
PMPM	$0.07	$0.09	$0.13	$0.17	$0.23
Normal PMPM Trend	8%	8%	8%	8%	
Utilization Increase, in addition to Normal Trend	25%	25%	25%	25%	

APPENDIX 3.D (Mandate 4)

THERMOGRAPHY, With NO Cost-Sharing

	MEDIUM COST SCENARIO				
YEAR	**2012**	**2013**	**2014**	**2015**	**2016**
PMPM	$0.06	$0.08	$0.10	$0.13	$0.16
Normal PMPM Trend	6%	6%	6%	6%	
Utilization Increase, in addition to Normal Trend	20%	20%	15%	15%	
Induced Utilization due to No Member Cost Sharing	3%	3%	3%	3%	

	LOW COST SCENARIO				
YEAR	**2012**	**2013**	**2014**	**2015**	**2016**
PMPM	$0.04	$0.05	$0.06	$0.07	$0.08
Normal PMPM Trend	6%	6%	6%	6%	
Utilization Increase, in addition to Normal Trend	10%	10%	10%	10%	
Induced Utilization due to No Member Cost Sharing	1%	1%	1%	1%	

	HIGH COST SCENARIO				
YEAR	**2012**	**2013**	**2014**	**2015**	**2016**
PMPM	$0.08	$0.12	$0.19	$0.27	$0.39
Normal PMPM Trend	8%	8%	8%	8%	
Utilization Increase, in addition to Normal Trend	30%	30%	20%	20%	
Induced Utilization due to No Member Cost Sharing	10%	10%	10%	10%	

APPENDIX 3.E (Mandate 5)

PROSTATE CANCER TREATMENT

YEAR	2012	2013	2014	2015	2016
PMPM *	$0.00	$0.00	$0.00	$0.00	$0.00

* Assumes that the three sets of Guidelines do not change.

APPENDIX 3.F (Mandate 6)

ASD, Cover DRBT

MEDIUM

YEAR	2012	2013	2014	2015	2016
PMPM	$0.08	$0.09	$0.11	$0.13	$0.15
Estimated offsetting savings to BT	$0.00	$0.02	$0.04	$0.06	$0.10
NET COST OF DRBT with BT SAVINGS	**$0.08**	**$0.07**	**$0.07**	**$0.07**	**$0.05**
Normal PMPM Trend	6%	6%	6%	6%	
Utilization Increase, in addition to Normal Trend	10%	10%	10%	10%	

LOW

YEAR	2012	2013	2014	2015	2016
PMPM	$0.06	$0.07	$0.07	$0.08	$0.09
Estimated offsetting savings to BT	$0.00	$0.03	$0.06	$0.09	$0.15
NET COST OF DRBT with BT SAVINGS	**$0.06**	**$0.04**	**$0.01**	**-$0.01**	**-$0.06**
Normal PMPM Trend	4%	4%	4%	4%	
Utilization Increase, in addition to Normal Trend	5%	5%	5%	5%	

HIGH

YEAR	2012	2013	2014	2015	2016
PMPM	$0.10	$0.12	$0.15	$0.19	$0.24
Estimated offsetting savings to BT	$0.00	$0.01	$0.02	$0.03	$0.05
NET COST OF DRBT with BT SAVINGS	**$0.10**	**$0.11**	**$0.13**	**$0.16**	**$0.19**
Normal PMPM Trend	8%	8%	8%	8%	
Utilization Increase, in addition to Normal Trend	15%	15%	15%	15%	

APPENDIX 3.G (Mandate 7)

ASD, Extra-Territoriality

MEDIUM					
YEAR	**2012**	**2013**	**2014**	**2015**	**2016**
PMPM	$0.04	$0.05	$0.05	$0.06	$0.07
Represents 10% of cost of ASD 2010 Reg 38a-514b					

LOW					
YEAR	**2012**	**2013**	**2014**	**2015**	**2016**
PMPM	$0.04	$0.04	$0.04	$0.05	$0.06
Represents 10% of cost of ASD 2010 Reg 38a-514b					

HIGH					
YEAR	**2012**	**2013**	**2014**	**2015**	**2016**
PMPM	$0.05	$0.06	$0.07	$0.09	$0.11
Represents 10% of cost of ASD 2010 Reg 38a-514b					

APPENDIX 3.H (Mandate 8)

ASD, 2010 Reg 38a-514b (Effective 1/1/2010)

	MEDIUM				
YEAR	**2012**	**2013**	**2014**	**2015**	**2016**
PMPM	$0.40	$0.47	$0.54	$0.63	$0.74
Normal PMPM Trend	6%	6%	6%	6%	
Utilization Increase, in addition to Normal Trend *	10%	10%	10%	10%	
(* this assumes more new entrants annually than those aging out)					

	LOW				
YEAR	**2012**	**2013**	**2014**	**2015**	**2016**
PMPM	$0.35	$0.39	$0.44	$0.50	$0.56
Normal PMPM Trend	4%	4%	4%	4%	
Utilization Increase, in addition to Normal Trend *	8%	8%	8%	8%	
(* this assumes more new entrants annually than those aging out)					

	HIGH				
YEAR	**2012**	**2013**	**2014**	**2015**	**2016**
PMPM	$0.45	$0.56	$0.69	$0.86	$1.07
Normal PMPM Trend	8%	8%	8%	8%	
Utilization Increase, in addition to Normal Trend *	15%	15%	15%	15%	
(* this assumes more new entrants annually than those aging out)					

APPENDIX FOUR:

TOTAL COSTS, EACH MANDATE, GROUP VS. INDIVIDUAL

INDIVIDUAL COVERAGE PLANS
PROJECTED 2012 COSTS (PMPM)

	PROJECTED 2012 PMPM AMOUNTS					
			= A - B		=C + D	
	A	B	C	D	E	F
MANDATE	ALLOWED	COST SHARE	PAID	RETENTION	PAID + RETENTION	% of PREMIUM
No out of pocket (Mandate 1,2)	$0.30	$0.00	$0.30	$0.05	$0.35	0.12%
Thermography (Mandate 3)	$0.06	$0.02	$0.04	$0.01	$0.05	0.02%
Prostate cancer screening (Mandate 5)	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
Total	$0.36	$0.02	$0.34	$0.06	$0.40	0.13%

GROUP COVERAGE
PROJECTED 2012 COSTS (PMPM)

	PROJECTED 2012 PMPM AMOUNTS					
			= A - B		=C + D	
	A	B	C	D	E	F
MANDATE	ALLOWED	COST SHARE	PAID	RETENTION	PAID + RETENTION	% of PREMIUM
No out of pocket (Mandate 1,2)	$0.30	$0.00	$0.30	$0.05	$0.35	0.09%
Thermography (Mandate 3)	$0.06	$0.01	$0.05	$0.01	$0.06	0.01%
Prostate cancer screening (Mandate 5)	$0.00	$0.00	$0.00	$0.00	$0.00	0.00%
P.A 09-115 (Mandate 8)	$0.47	$0.07	$0.40	$0.07	$0.47	0.12%
Alternative therapy (Mandate 6)	$0.09	$0.01	$0.08	$0.01	$0.09	0.02%
Extra-territorial (Mandate 7)	$0.05	$0.01	$0.04	$0.01	$0.05	0.01%
Total	$0.97	$0.10	$0.87	$0.15	$1.02	0.26%

APPENDIX FIVE:

TOTAL COSTS, EACH MANDATE

Group Plus Individual combined for Mandates 1, 2, 3, and 5;
and Group Only for Mandates 6, 7, and 8 since they do NOT apply to Individual policies

TOTAL COST CALCULATION
PROJECTED 2012 COSTS

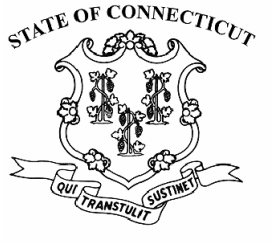
GROUP + INDIVIDUAL	All Insured Excluding State Employees			State Employees	
MANDATE	PAID COST	ALLOWED	ALLOWED + RETENTION	PAID COST	ALLOWED
No out of pocket (Mandate 1,2)	$3,278,790	$3,278,790	$3,857,400	$639,432	$639,432
Thermography (Mandate 3)	$546,465	$655,758	$752,193	$106,572	$127,886
Prostate cancer screening (Mandate 5)	$0	$0	$0	$0	$0
GROUP ONLY					
P.A 09-115 (Mandate 8)	$3,727,944	$4,385,816	$5,043,689	$852,576	$1,003,031
Alternative therapy (Mandate 6)	$745,589	$877,163	$1,008,738	$170,515	$200,606
Extra-territorial (Mandate 7)	$372,794	$438,582	$504,369	$85,258	$100,303

NOTE: The State Employees' Plan already covers breast ultrasound and breast MRI without any cost-sharing to the member. The paid cost and allowed cost of $639,432 for No Out of Pocket (Mandates 1 and 2) reflect an estimated current 2012 cost of this benefit. It is not an incremental future cost to the State Employees' Plan since it is already a covered service with no member cost-sharing.

Appendix IV

Connecticut General Assembly Public Acts and Bills Evaluated in this Report

- Public Act 09-115
- Senate Bill 974
- Senate Bill 978
- Public Act 11-225
- Senate Bill 848
- House Bill 5448



Substitute Senate Bill No. 301

Public Act No. 09-115

AN ACT CONCERNING HEALTH INSURANCE COVERAGE FOR AUTISM SPECTRUM DISORDERS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. Section 38a-514b of the general statutes is repealed and the following is substituted in lieu thereof (*Effective January 1, 2010*):

(a) As used in this section:

(1) "Applied behavior analysis" means the design, implementation and evaluation of environmental modifications, using behavioral stimuli and consequences, including the use of direct observation, measurement and functional analysis of the relationship between environment and behavior, to produce socially significant improvement in human behavior.

(2) "Autism services provider" means any person, entity or group that provides treatment for autism spectrum disorders pursuant to this section.

(3) "Autism spectrum disorders" means the pervasive developmental disorders set forth in the most recent edition of the American Psychiatric Association's "Diagnostic and Statistical Manual of Mental Disorders", including, but not limited to, Autistic Disorder,

Rett's Disorder, Childhood Disintegrative Disorder, Asperger's Disorder and Pervasive Developmental Disorder Not Otherwise Specified.

(4) "Behavioral therapy" means any interactive behavioral therapies derived from evidence-based research, including, but not limited to, applied behavior analysis, cognitive behavioral therapy, or other therapies supported by empirical evidence of the effective treatment of individuals diagnosed with an autism spectrum disorder, that are: (A) Provided to children less than fifteen years of age, and (B) provided or supervised by (i) a behavior analyst who is certified by the Behavior Analyst Certification Board, (ii) a licensed physician, or (iii) a licensed psychologist. For the purposes of this subdivision, behavioral therapy is "supervised by" such behavior analyst, licensed physician or licensed psychologist when such supervision entails at least one hour of face-to-face supervision of the autism services provider by such behavior analyst, licensed physician or licensed psychologist for each ten hours of behavioral therapy provided by the supervised provider.

(5) "Diagnosis" means the medically necessary assessment, evaluation or testing performed by a licensed physician, licensed psychologist or licensed clinical social worker to determine if an individual has an autism spectrum disorder.

(b) Each group health insurance policy providing coverage of the type specified in subdivisions (1), (2), (4), (11) and (12) of section 38a-469 that is delivered, issued for delivery, renewed, amended or continued in this state **[**on or after January 1, 2009,**]** shall provide coverage **[**for physical therapy, speech therapy and occupational therapy services**]** for the diagnosis and treatment of autism spectrum disorders. **[**, as set forth in the most recent edition of the American Psychiatric Association's "Diagnostic and Statistical Manual of Mental Disorders", to the extent such services are a covered benefit for other diseases and conditions under such policy.**]** For the purposes of this

section and section 38a-513c, an autism spectrum disorder shall be considered an illness.

(c) Such policy shall provide coverage for the following treatments, provided such treatments are (1) medically necessary, and (2) identified and ordered by a licensed physician, licensed psychologist or licensed clinical social worker for an insured who is diagnosed with an autism spectrum disorder, in accordance with a treatment plan developed by a licensed physician, licensed psychologist or licensed clinical social worker pursuant to a comprehensive evaluation or reevaluation of the insured:

(A) Behavioral therapy;

(B) Prescription drugs, to the extent prescription drugs are a covered benefit for other diseases and conditions under such policy, prescribed by a licensed physician, licensed physician assistant or advanced practice registered nurse for the treatment of symptoms and comorbidities of autism spectrum disorders;

(C) Direct psychiatric or consultative services provided by a licensed psychiatrist;

(D) Direct psychological or consultative services provided by a licensed psychologist;

(E) Physical therapy provided by a licensed physical therapist;

(F) Speech and language pathology services provided by a licensed speech and language pathologist; and

(G) Occupational therapy provided by a licensed occupational therapist.

(d) Such policy may limit the coverage for behavioral therapy to a yearly benefit of fifty thousand dollars for a child who is less than nine

years of age, thirty-five thousand dollars for a child who is at least nine years of age and less than thirteen years of age and twenty-five thousand dollars for a child who is at least thirteen years of age and less than fifteen years of age.

(e) Such policy shall not impose (1) any limits on the number of visits an insured may make to an autism services provider pursuant to a treatment plan on any basis other than a lack of medical necessity, or (2) a coinsurance, copayment, deductible or other out-of-pocket expense for such coverage that places a greater financial burden on an insured for access to the diagnosis and treatment of an autism spectrum disorder than for the diagnosis and treatment of any other medical, surgical or physical health condition under such policy.

(f) (1) Except for treatments and services received by an insured in an inpatient setting, an insurer, health care center, hospital service corporation, medical service corporation or fraternal benefit society may review a treatment plan developed as set forth in subsection (c) of this section for such insured, in accordance with its utilization review requirements, not more than once every six months unless such insured's licensed physician, licensed psychologist or licensed clinical social worker agrees that a more frequent review is necessary or changes such insured's treatment plan.

(2) For the purposes of this section, the results of a diagnosis shall be valid for a period of not less than twelve months, unless such insured's licensed physician, licensed psychologist or licensed clinical social worker determines a shorter period is appropriate or changes the results of such insured's diagnosis.

(g) Coverage required under this section may be subject to the other general exclusions and limitations of the group health insurance policy, including, but not limited to, coordination of benefits, participating provider requirements, restrictions on services provided

by family or household members and case management provisions, except that any utilization review shall be performed in accordance with subsection (f) of this section.

(h) (1) Nothing in this section shall be construed to limit or affect (A) any other covered benefits available to an insured under (i) such group health insurance policy, (ii) section 38a-514, or (iii) section 38a-516a, (B) any obligation to provide services to an individual under an individualized education program pursuant to section 10-76d, or (C) any obligation imposed on a public school by the Individual With Disabilities Education Act, 20 USC 1400 et seq., as amended from time to time.

(2) Nothing in this section shall be construed to require such group health insurance policy to provide reimbursement for special education and related services provided to an insured pursuant to section 10-76d, unless otherwise required by state or federal law.

Approved June 9, 2009

General Assembly

Raised Bill No. 974

January Session, 2011

LCO No. **3037**

03037_____INS

Referred to Committee on Insurance and Real Estate

Introduced by:
(INS)

AN ACT CONCERNING GROUP HEALTH INSURANCE COVERAGE FOR AN ALTERNATIVE THERAPY IN THE TREATMENT OF AUTISM SPECTRUM DISORDERS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. Section 38a-514b of the general statutes is repealed and the following is substituted in lieu thereof (*Effective January 1, 2012*):

(a) As used in this section:

(1) "Applied behavior analysis" means the design, implementation and evaluation of environmental modifications, using behavioral stimuli and consequences, including the use of direct observation, measurement and functional analysis of the relationship between environment and behavior, to produce socially significant improvement in human behavior.

(2) "Autism services provider" means any person, entity or group that provides treatment for autism spectrum disorders pursuant to this section.

(3) "Autism spectrum disorders" means the pervasive

developmental disorders set forth in the most recent edition of the American Psychiatric Association's "Diagnostic and Statistical Manual of Mental Disorders", including, but not limited to, Autistic Disorder, Rett's Disorder, Childhood Disintegrative Disorder, Asperger's Disorder and Pervasive Developmental Disorder Not Otherwise Specified.

(4) "Behavioral therapy" means any interactive behavioral therapies derived from evidence-based research, including, but not limited to, applied behavior analysis, cognitive behavioral therapy, or other therapies supported by empirical evidence of the effective treatment of individuals diagnosed with an autism spectrum disorder, that are: (A) Provided to children less than fifteen years of age; **[**,**]** and (B) provided or supervised by (i) a behavior analyst who is certified by the Behavior Analyst Certification Board, (ii) a licensed physician, or (iii) a licensed psychologist. For the purposes of this subdivision, behavioral therapy is "supervised by" such behavior analyst, licensed physician or licensed psychologist when such supervision entails at least one hour of face-to-face supervision of the autism services provider by such behavior analyst, licensed physician or licensed psychologist for each ten hours of behavioral therapy provided by the supervised provider.

(5) "Developmental/relationship-based therapy" means a therapy for individuals diagnosed with an autism spectrum disorder, that: (A) Is provided to children less than fifteen years of age; (B) uses the parent-child or caregiver-child relationship as the means to remediate core deficits of autism spectrum disorders, including, but not limited to, lack of (i) interpersonal focal attention, (ii) social communication, (iii) empathy, (iv) emotional regulation, (v) self-awareness, (vi) flexible thinking, and (vii) adaptability to change; (C) uses persons (i) certified as consultants in such therapy, or (ii) training to be certified as consultants in such therapy, provided such persons are supervised by a certified consultant set forth in subparagraph (C)(i) of this subdivision, to systematically train parents or caregivers to plan interactions, interact and communicate with such children; and (D)

includes a curriculum of developmentally staged objectives that target core deficit areas of autism spectrum disorders. For the purposes of this subdivision, developmental/relationship-based therapy is supervised by a certified consultant when such supervision entails at least one hour of face-to-face supervision of a person training to be certified as a consultant by such certified consultant for each ten hours of developmental/relationship-based therapy provided by such person.

[(5)**]** (6) "Diagnosis" means the medically necessary assessment, evaluation or testing performed by a licensed physician, licensed psychologist or licensed clinical social worker to determine if an individual has an autism spectrum disorder.

(b) Each group health insurance policy providing coverage of the type specified in subdivisions (1), (2), (4), (11) and (12) of section 38a-469 that is delivered, issued for delivery, renewed, amended or continued in this state shall provide coverage for the diagnosis and treatment of autism spectrum disorders. For the purposes of this section and section 38a-513c, an autism spectrum disorder shall be considered an illness.

(c) (1) Such policy shall provide coverage for the **[**following**]** treatments **[**, provided such treatments are (1) medically necessary, and (2) identified and ordered by a licensed physician, licensed psychologist or licensed clinical social worker for an insured who is diagnosed with an autism spectrum disorder, in accordance with a treatment plan developed by a licensed physician, licensed psychologist or licensed clinical social worker pursuant to a comprehensive evaluation or reevaluation of the insured:**]** set forth in subsection (d) of this section as one option for covered benefits and the treatments set forth in subsection (e) of this section as an alternative option for covered benefits.

(2) Prior to commencing a treatment plan, the insured, in consultation with a licensed physician, licensed psychologist or

licensed clinical social worker, shall elect (A) the option for covered benefits set forth in subsection (d) of this section, (B) the option for covered benefits set forth in subsection (e) of this section, or (C) both options for the first year and one option for subsequent years in accordance with subsection (f) of this section. The total coverage for both therapy treatments in the first year shall not exceed the applicable limit set forth in subdivision (2) of subsection (d) of this section.

(d) (1) The following treatments shall be medically necessary, and identified and ordered by a licensed physician, licensed psychologist or licensed clinical social worker for an insured who is diagnosed with an autism spectrum disorder, in accordance with a treatment plan developed by a licensed physician, licensed psychologist or licensed clinical social worker pursuant to a comprehensive evaluation or reevaluation of the insured:

(A) Behavioral therapy;

(B) Prescription drugs, to the extent prescription drugs are a covered benefit for other diseases and conditions under such policy, prescribed by a licensed physician, licensed physician assistant or advanced practice registered nurse for the treatment of symptoms and comorbidities of autism spectrum disorders;

(C) Direct psychiatric or consultative services provided by a licensed psychiatrist;

(D) Direct psychological or consultative services provided by a licensed psychologist;

(E) Physical therapy provided by a licensed physical therapist;

(F) Speech and language pathology services provided by a licensed speech and language pathologist; and

(G) Occupational therapy provided by a licensed occupational therapist.

[(d)**]** (2) Such policy may limit the coverage for behavioral therapy to a yearly benefit of fifty thousand dollars for a child who is less than nine years of age, thirty-five thousand dollars for a child who is at least nine years of age and less than thirteen years of age and twenty-five thousand dollars for a child who is at least thirteen years of age and less than fifteen years of age.

(e) As an alternative option to the treatments set forth in subsection (d) of this section for covered benefits, an insured may elect the treatments set forth in this subsection.

(1) The following treatments shall be medically necessary, and identified and ordered by a licensed physician, licensed psychologist or licensed clinical social worker for an insured who is diagnosed with an autism spectrum disorder, in accordance with a treatment plan developed by a licensed physician, licensed psychologist or licensed clinical social worker pursuant to a comprehensive evaluation or reevaluation of the insured:

(A) Developmental/relationship-based therapy;

(B) Prescription drugs, to the extent prescription drugs are a covered benefit for other diseases and conditions under such policy, prescribed by a licensed physician, licensed physician assistant or advanced practice registered nurse for the treatment of symptoms and comorbidities of autism spectrum disorders;

(C) Direct psychiatric or consultative services provided by a licensed psychiatrist;

(D) Direct psychological or consultative services provided by a licensed psychologist;

(E) Physical therapy provided by a licensed physical therapist;

(F) Speech and language pathology services provided by a licensed speech and language pathologist; and

(G) Occupational therapy provided by a licensed occupational therapist.

(2) Coverage for developmental/relationship-based therapy shall not exceed five years' duration. Such policy may limit the coverage for developmental/relationship-based therapy to a yearly benefit of ten thousand dollars for the first year, eight thousand dollars for the second year, six thousand dollars for the third year, four thousand dollars for the fourth year and four thousand dollars for the fifth year.

(f) If an insured elects the option for covered benefits set forth in subparagraph (C) of subdivision (2) of subsection (c) of this section, such insured shall, prior to commencing the second year of the treatment plan and in consultation with a licensed physician, licensed psychologist or licensed clinical social worker, elect either the option for covered benefits set forth in (1) subsection (d) of this section, or (2) subsection (e) of this section. The insured shall make such election only once and in accordance with this subsection.

[(e) Such**]** (g) No policy providing coverage as set forth in subsection (b) of this section shall **[**not**]** impose (1) any limits on the number of visits an insured may make to an autism services provider pursuant to a treatment plan on any basis other than a lack of medical necessity, or (2) a coinsurance, copayment, deductible or other out-of-pocket expense for such coverage that places a greater financial burden on an insured for access to the diagnosis and treatment of an autism spectrum disorder than for the diagnosis and treatment of any other medical, surgical or physical health condition under such policy.

[(f)**]** (h) (1) Except for treatments and services received by an insured in an inpatient setting, an insurer, health care center, hospital service corporation, medical service corporation or fraternal benefit society may review a treatment plan developed as set forth in subdivision (1) of subsection **[**(c)**]** (d) of this section or subdivision (1) of subsection (e) of this section for such insured, in accordance with its utilization review requirements, not more than once every six months

unless such insured's licensed physician, licensed psychologist or licensed clinical social worker agrees that a more frequent review is necessary or changes such insured's treatment plan.

(2) For the purposes of this section, the results of a diagnosis shall be valid for a period of not less than twelve months, unless such insured's licensed physician, licensed psychologist or licensed clinical social worker determines a shorter period is appropriate or changes the results of such insured's diagnosis.

[(g)**]** (i) Coverage required under this section may be subject to the other general exclusions and limitations of the group health insurance policy, including, but not limited to, coordination of benefits, participating provider requirements, restrictions on services provided by family or household members and case management provisions, except that any utilization review shall be performed in accordance with subsection **[**(f)**]** (h) of this section.

[(h)**]** (j) (1) Nothing in this section shall be construed to limit or affect (A) any other covered benefits available to an insured under (i) such group health insurance policy, (ii) section 38a-514, or (iii) section 38a-516a, (B) any obligation to provide services to an individual under an individualized education program pursuant to section 10-76d, or (C) any obligation imposed on a public school by the Individual With Disabilities Education Act, 20 USC 1400 et seq., as amended from time to time.

(2) Nothing in this section shall be construed to require such group health insurance policy to provide reimbursement for special education and related services provided to an insured pursuant to section 10-76d, unless otherwise required by state or federal law.

This act shall take effect as follows and shall amend the following sections:		
Section 1	*January 1, 2012*	38a-514b

Statement of Purpose:

To provide group health insurance coverage for an alternative therapy for the treatment of autism spectrum disorders.

[Proposed deletions are enclosed in brackets. Proposed additions are indicated by underline, except that when the entire text of a bill or resolution or a section of a bill or resolution is new, it is not underlined.]

Senate

General Assembly

File No. 305

January Session, 2011

Senate Bill No. 978

Senate, March 31, 2011

The Committee on Insurance and Real Estate reported through SEN. CRISCO of the 17th Dist., Chairperson of the Committee on the part of the Senate, that the bill ought to pass.

AN ACT EXPANDING GROUP HEALTH INSURANCE COVERAGE FOR THE TREATMENT OF AUTISM SPECTRUM DISORDERS TO CERTIFICATE HOLDERS IN THIS STATE.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. Subsection (b) of section 38a-514b of the general statutes is repealed and the following is substituted in lieu thereof (*Effective January 1, 2012*):

(b) Each group health insurance policy <u>or certificate</u> providing coverage of the type specified in subdivisions (1), (2), (4), (11) and (12) of section 38a-469 that is delivered, issued for delivery, renewed, amended or continued in this state shall provide coverage for the diagnosis and treatment of autism spectrum disorders. For the purposes of this section and section 38a-513c, an autism spectrum disorder shall be considered an illness.

This act shall take effect as follows and shall amend the following sections:

Section 1	*January 1, 2012*	38a-514b(b)

INS *Joint Favorable*

OFA Fiscal Note

State Impact: None, See below for out-years impact.

Municipal Impact: None

Explanation

The bill's provisions do not result in a fiscal impact to the state or municipalities in FY 12 and FY 13, as the bill's provisions do not apply to individuals covered by the state employee health plan or municipal health plans.

The Out Years

It is unclear how the requirements of the bill will be reconciled with the provisions required by the Patient Protection and Affordability Care Act and what the resulting fiscal impact will be to the state. The federal health care reform act requires that, effective January 1, 2014; all states must establish a health benefit exchange, which will offer qualified plans that must include a federally defined essential benefits package. While states are allowed to mandate benefits in excess of the basic package, the federal law appears to require the state to pay the cost of any such additional mandated benefits. The extent of these costs will depend on the mandates included in the federal essential benefit package, which have not yet been determined. However, neither the agency nor mechanism for the state to pay these costs has been established.

It is unclear to what extent the state would be liable for the extension of the state's mandated autism coverage to this new population of certificate holders under federal health care reform.

OLR Bill Analysis

SB 978

AN ACT EXPANDING GROUP HEALTH INSURANCE COVERAGE FOR THE TREATMENT OF AUTISM SPECTRUM DISORDERS TO CERTIFICATE HOLDERS IN THIS STATE.

SUMMARY:

By law, group health insurance policies must provide coverage for the diagnosis and treatment of autism spectrum disorders. This bill extends the coverage requirement to group health insurance certificates. Thus, Connecticut residents insured by out-of-state group health insurance policies must receive this coverage (see COMMENT).

Current law, which the bill extends to group health insurance certificates, applies to group policies delivered, issued, renewed, amended, or continued in Connecticut that cover (1) basic hospital expenses; (2) basic medical-surgical expenses; (3) major medical expenses; and (4) hospital or medical services, including coverage under a health maintenance organization plan. Due to the federal Employee Retirement Income and Security Act (ERISA), this requirement does not apply to self-insured plans.

EFFECTIVE DATE: January 1, 2012

BACKGROUND

Diagnosis of Autism Spectrum Disorders

The law defines "diagnosis" as the medically necessary assessment, evaluation, or testing a licensed physician, psychologist, or clinical social worker performs to determine if a person has an autism spectrum disorder. It specifies that a diagnosis is valid for at least 12 months, unless a licensed physician, psychologist, or clinical social worker decides a shorter period is appropriate or changes the insured's diagnosis.

Coverage and Conditions

Current law requires a group health insurance policy to cover:

1. behavioral therapy for children under age 15;

2. prescription drugs a licensed physician, physician assistant, or advanced practice registered nurse prescribes to treat autism spectrum disorder symptoms and co-morbidities (diseases or conditions existing together), to the extent the policy covers prescription drugs for other diseases and conditions;

3. direct and consultative psychiatric and psychological services; and

4. physical, speech, and occupational therapy services provided by a licensed physical, speech and language, and occupational therapist.

In order for the policy to cover these treatments, they must be (1) medically necessary, (2) identified and ordered by a licensed physician, psychologist, or clinical social worker for an insured person diagnosed with autism; and (3) based on a treatment plan developed by one of those providers following a comprehensive evaluation or reevaluation of the insured. The policy can limit the coverage for behavioral therapy to a yearly benefit of (1) $50,000 for a child who is less than nine years of age, (2) $35,000 for a child between nine and 13 years of age, and (3) $25,000 for a child age 13 or 14.

The coverage the law requires may be subject to the other general exclusions and limitations of the group health insurance policy, including (1) coordination of benefits, (2) participating provider requirements, (3) restrictions on services provided by family or household members, and (4) case management provisions. But any utilization review must be performed in accordance with the law.

Behavioral Therapy

The law defines "behavioral therapy" as any interactive behavioral

therapy derived from evidence-based research. It includes applied behavior analysis, cognitive behavioral therapy, or other therapies supported by empirical evidence that they effectively treat individuals diagnosed with an autism spectrum disorder. Therapist must be provided or supervised by (a) a behavior analyst certified by the Behavior Analyst Certification Board, which is a nonprofit professional credentialing organization, (b) a licensed physician, or (c) a licensed psychologist. Supervision involves at least one hour of face-to-face supervision of the autism services provider for every 10 hours of behavioral therapy provided.

Coverage Prohibitions

The law prohibits a group health insurance policy from:

1. limiting the number of visits to an "autism services provider" (a person, entity, or group that provides treatment for autism spectrum disorders) on any basis other than a lack of medical necessity or

2. imposing a coinsurance, copayment, deductible, or other out-of-pocket expense that places a greater financial burden on an insured for access to the diagnosis and treatment of an autism spectrum disorder than for the diagnosis and treatment of any other medical, surgical, or physical health condition under the policy.

COMMENT

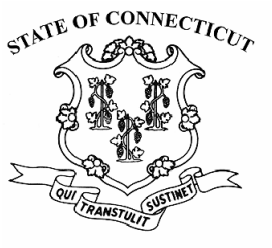
Enforcement

The bill requires an out-of-state employer who employs a Connecticut resident to comply with a Connecticut insurance mandate if the employer provides health insurance coverage through a group policy. It is unclear who would enforce the coverage requirement as the Insurance Department does not have regulatory authority over an out-of-state insurer that is not licensed in Connecticut. Conversely, an insurer licensed in another state is bound by the laws of that state and not Connecticut law.

COMMITTEE ACTION

Insurance and Real Estate Committee

Joint Favorable
Yea 10 Nay 9 (03/17/2011)



Substitute Senate Bill No. 396

Public Act No. 11-225

AN ACT CONCERNING INSURANCE COVERAGE FOR THE SCREENING AND TREATMENT OF PROSTATE CANCER AND PROHIBITING DIFFERENTIAL PAYMENT RATES TO HEALTH CARE PROVIDERS FOR COLONOSCOPY OR ENDOSCOPIC SERVICES BASED ON SITE OF SERVICE.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. Section 38a-492g of the general statutes is repealed and the following is substituted in lieu thereof (*Effective January 1, 2012*):

Each individual health insurance policy providing coverage of the type specified in subdivisions (1), (2), (4), (11) and (12) of section 38a-469 delivered, issued for delivery, renewed, amended or continued in this state **[**on or after January 1, 2000,**]** shall provide coverage for: **[**laboratory**]**

(1) Laboratory and diagnostic tests, including, but not limited to, prostate specific antigen (PSA) tests, to screen for prostate cancer for men who are symptomatic **[**,**]** or whose biological father or brother has been diagnosed with prostate cancer, and for all men fifty years of age or older; **[**.**]** and

(2) The treatment of prostate cancer, provided such treatment is medically necessary and in accordance with guidelines established by

the National Comprehensive Cancer Network, the American Cancer Society or the American Society of Clinical Oncology.

Sec. 2. Section 38a-518g of the general statutes is repealed and the following is substituted in lieu thereof (*Effective January 1, 2012*):

Each group health insurance policy providing coverage of the type specified in subdivisions (1), (2), (4), (11) and (12) of section 38a-469 delivered, issued for delivery, renewed, amended or continued in this state **[**on or after January 1, 2000,**]** shall provide coverage for: **[**laboratory**]**

(1) Laboratory and diagnostic tests, including, but not limited to, prostate specific antigen (PSA) tests, to screen for prostate cancer for men who are symptomatic **[**,**]** or whose biological father or brother has been diagnosed with prostate cancer, and for all men fifty years of age or older; **[**.**]** and

(2) The treatment of prostate cancer, provided such treatment is medically necessary and in accordance with guidelines established by the National Comprehensive Cancer Network, the American Cancer Society or the American Society of Clinical Oncology.

Sec. 3. (NEW) (*Effective October 1, 2011*) Each insurer, health care center, hospital service corporation, medical service corporation or fraternal benefit society that delivers, issues for delivery, renews, amends or continues an individual or group health insurance policy providing coverage of the type specified in subdivisions (1), (2), (4), (11) and (12) of section 38a-469 of the general statutes in this state, and contracts directly with a physician or physician group or physician organization to provide medical services under such policy shall, at such contracted physician's or physician's group's or physician's organization's request, establish a payment amount for the physician's professional services component of colonoscopy or endoscopic services

covered under such policy, that is the same regardless of where the physician's professional services are performed. Such payment amount for the physician's professional services shall not be less than the amount that would otherwise be paid to such contracted physician or physician group or physician organization if the services are performed at a facility other than an outpatient surgical facility, as defined in section 19a-493b of the general statutes. Nothing in this section shall prohibit a contracted physician or physician group or physician organization from agreeing to a different payment methodology for colonoscopy or endoscopic services.

Approved July 13, 2011

Senate

General Assembly

File No. 12

January Session, 2011

Senate Bill No. 848

Senate, February 22, 2011

The Committee on Insurance and Real Estate reported through SEN. CRISCO of the 17th Dist., Chairperson of the Committee on the part of the Senate, that the bill ought to pass.

AN ACT CONCERNING BREAST ULTRASOUND SCREENINGS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. Section 38a-503 of the general statutes is repealed and the following is substituted in lieu thereof (*Effective January 1, 2012*):

(a) Each individual health insurance policy providing coverage of the type specified in subdivisions (1), (2), (4), **[**(6),**]** (10), (11) and (12) of section 38a-469 delivered, issued for delivery, renewed, amended or continued in this state **[**on or after October 1, 2001,**]** shall provide benefits for mammographic examinations to any woman covered under the policy which are at least equal to the following minimum requirements: (1) A baseline mammogram for any woman who is thirty-five to thirty-nine years of age, inclusive; and (2) a mammogram every year for any woman who is forty years of age or older.

(b) Such policy shall:

[provide**]** (1) Provide additional benefits for comprehensive

ultrasound screening of an entire breast or breasts if a mammogram demonstrates heterogeneous or dense breast tissue based on the Breast Imaging Reporting and Data System established by the American College of Radiology or if a woman is believed to be at increased risk for breast cancer due to family history or prior personal history of breast cancer, positive genetic testing or other indications as determined by a woman's physician or advanced practice registered nurse; and

(2) Not impose a coinsurance, copayment, deductible or other out-of-pocket expense for such ultrasound screening, except that a high deductible health plan, as that term is used in subsection (f) of section 38a-493, shall not be subject to this subdivision.

[(b) Benefits**]** (c) Except as specified under subdivision (2) of subsection (b) of this section, benefits under this section shall be subject to any policy provisions that apply to other services covered by such policy.

[(c)**]** (d) On and after October 1, 2009, each mammography report provided to a patient shall include information about breast density, based on the Breast Imaging Reporting and Data System established by the American College of Radiology. Where applicable, such report shall include the following notice: "If your mammogram demonstrates that you have dense breast tissue, which could hide small abnormalities, you might benefit from supplementary screening tests, which can include a breast ultrasound screening or a breast MRI examination, or both, depending on your individual risk factors. A report of your mammography results, which contains information about your breast density, has been sent to your physician's office and you should contact your physician if you have any questions or concerns about this report.".

Sec. 2. Section 38a-530 of the general statutes is repealed and the following is substituted in lieu thereof (*Effective January 1, 2012*):

(a) Each group health insurance policy providing coverage of the

type specified in subdivisions (1), (2), (4), (11) and (12) of section 38a-469 delivered, issued for delivery, renewed, amended or continued in this state **[**on or after October 1, 2001,**]** shall provide benefits for mammographic examinations to any woman covered under the policy which are at least equal to the following minimum requirements: (1) A baseline mammogram for any woman who is thirty-five to thirty-nine years of age, inclusive; and (2) a mammogram every year for any woman who is forty years of age or older.

(b) Such policy shall:

[provide**]** (1) Provide additional benefits for comprehensive ultrasound screening of an entire breast or breasts if a mammogram demonstrates heterogeneous or dense breast tissue based on the Breast Imaging Reporting and Data System established by the American College of Radiology or if a woman is believed to be at increased risk for breast cancer due to family history or prior personal history of breast cancer, positive genetic testing or other indications as determined by a woman's physician or advanced practice registered nurse; and

(2) Not impose a coinsurance, copayment, deductible or other out-of-pocket expense for such ultrasound screening, except that a high deductible health plan, as that term is used in subsection (f) of section 38a-520, shall not be subject to this subdivision.

[(b) Benefits**]** (c) Except as specified under subdivision (2) of subsection (b) of this section, benefits under this section shall be subject to any policy provisions that apply to other services covered by such policy.

[(c)**]** (d) On and after October 1, 2009, each mammography report provided to a patient shall include information about breast density, based on the Breast Imaging Reporting and Data System established by the American College of Radiology. Where applicable, such report shall include the following notice: "If your mammogram demonstrates that you have dense breast tissue, which could hide small

abnormalities, you might benefit from supplementary screening tests, which can include a breast ultrasound screening or a breast MRI examination, or both, depending on your individual risk factors. A report of your mammography results, which contains information about your breast density, has been sent to your physician's office and you should contact your physician if you have any questions or concerns about this report.".

This act shall take effect as follows and shall amend the following sections:		
Section 1	*January 1, 2012*	38a-503
Sec. 2	*January 1, 2012*	38a-530

INS *Joint Favorable*

OFA Fiscal Note

State Impact:

Agency Affected	Fund-Effect	FY 12 $	FY 13 $
Comptroller Misc. Accounts (Fringe Benefits)	GF & TF - Cost	Potential	Potential

Note: GF=General Fund, TF = Special Transportation Fund

Municipal Impact:

Municipalities	Effect	FY 12 $	FY 13 $
Various Municipalities	STATE MANDATE - Cost	Potential	Potential

Explanation

As of July 1, 2010, the State Employees' Health plan went self-insured. Pursuant to current federal law, self-insured health plans are exempt from state health mandates, however in previous self funded arrangements the state has traditionally adopted all state mandates. To the extent the state continues this practice of voluntary mandate adoption, the following impacts are anticipated.

It is estimated the state's cost will increase on average $55 for each out-of-network breast ultrasound, as a result of eliminating out-of-pocket expenses, including copayments and deductibles for breast ultrasound screening. The increased cost is attributable to covering the copay of breast ultrasound screenings for those individuals who use out-of-network providers[1].

The bill's provisions may increase costs to certain fully insured municipal plans which include copayments for breast ultrasound

screening. The coverage requirements may result in increased premium costs when municipalities enter into new health insurance contracts after January 1, 2012. Due to current federal law, municipalities with self-insured plans are exempt from state health insurance mandates.

The state employee health plan and many municipal health plans are recognized as "grandfathered" health plans under the Patient Protection and Affordability Act (PPACA)[2]. It is unclear what effect the adoption of certain health mandates will have on the grandfathered status of the state employee health plan or grandfathered municipal plans PPACA[3].

The Out Years

The annualized ongoing fiscal impact identified above would continue into the future subject to inflation.

The federal health care reform act requires that, effective January 1, 2014, all states must establish a health benefit exchange, which will offer qualified plans that must include a federally defined essential benefits package. While states are allowed to mandate benefits in excess of the basic package, the federal law appears to require the state to pay the cost of any such additional mandated benefits. The extent of these costs will depend on the mandates included in the federal

[1] Breast ultrasound screenings can range from $250-$300. (University of Connecticut, (2010). *Connecticut Mandate Health Insurance Benefits Review*; Vol. 2, Ch. 1, p. 40.)

[2] Grandfathered plans include most group insurance plans and some individual health plans created or purchased on or before March 23, 2010. Pursuant to the PPACA, all health plans, including those with grandfathered status are required to provide the following as of September 23, 2010: 1) No lifetime limits on coverage, 2) No rescissions of coverage when individual gets sick or has previously made an unintentional error on an application, and 3) Extension of parents' coverage to young adults until age 26. (www.healthcare.gov)

[3] According to the PPACA, compared to the plans' policies as of March 23, 2010, grandfathered plans who make any of the following changes within a certain margin may lose their grandfathered status: 1) Significantly cut or reduce benefits, 2) Raise co-insurance charges, 3) Significantly raise co-payment charges, 4) Significantly raise deductibles, 5) Significantly lower employer contributions, and 5) Add or tighten annual limits on what insurer pays. (www.healthcare.gov)

essential benefit package, which have not yet been determined. Neither the agency nor mechanism for the state to pay these costs has been established.

OLR Bill Analysis
SB 848

AN ACT CONCERNING BREAST ULTRASOUND SCREENINGS.

SUMMARY:

This bill prohibits health insurers from imposing a coinsurance, copayment, deductible, or other out-of-pocket expense on a breast ultrasound screening. Thus, it requires health insurance policies to cover the full cost of breast ultrasound screening. Under current law, such screening is subject to any policy provision applying to other services covered under the policy.

The bill applies to individual and group health insurance policies that cover (1) basic hospital expenses; (2) basic medical-surgical expenses; (3) major medical expenses; and (4) hospital or medical services, including those provided by HMOs. It also applies to individual health insurance policies that cover limited benefits. But the bill specifies that it does not apply to high deductible health plans designed to be compatible with federally qualified health savings accounts.

The bill makes technical and conforming changes. It also removes an erroneous reference to individual accident only policies.

EFFECTIVE DATE: January 1, 2012

BACKGROUND

Breast Ultrasound Screening Coverage Requirement

By law, the policies listed above must cover breast ultrasounds of a woman's entire breast or breasts if (1) a mammogram shows heterogeneous or dense breast tissue based on the American College of Radiology's Breast Imaging Reporting and Database System (BI-RADS)

or (2) a woman is considered at an increased breast cancer risk because of family history, her own prior breast cancer history, positive genetic testing, or other indications determined by her physician or advanced-practice registered nurse.

Policies must also cover a baseline mammogram for a woman age 35 to 39 and a yearly mammogram for a woman age 40 or older. Coverage is subject to any policy provisions applying to other services covered under the policy.

BI-RADS Categories

The American College of Radiology collaborated with the National Cancer Institute, the Centers for Disease Control and Prevention, the American Medical Association, and others to develop BI-RADS, which is used to standardize mammography reporting. There are two BI-RADS scales: (1) one characterizes breast density and (2) the other characterizes a radiologist's reading of what he or she sees on a mammogram.

COMMITTEE ACTION

Insurance and Real Estate Committee

Joint Favorable
Yea 15 Nay 3 (02/08/2011)

General Assembly

Committee Bill No. 5448

January Session, 2011

LCO No. **3043**

03043HB05448INS

Referred to Committee on Insurance and Real Estate

Introduced by:
(INS)

AN ACT REQUIRING HEALTH INSURANCE COVERAGE FOR BREAST THERMOGRAPHY.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. Subsection (a) of section 38a-503 of the general statutes is repealed and the following is substituted in lieu thereof (*Effective January 1, 2012*):

(a) (1) Each individual health insurance policy providing coverage of the type specified in subdivisions (1), (2), (4), **[**(6),**]** (10), (11) and (12) of section 38a-469 delivered, issued for delivery, renewed, amended or continued in this state **[**on or after October 1, 2001,**]** shall provide benefits for mammographic examinations to any woman covered under the policy which are at least equal to the following minimum requirements: **[**(1)**]** (A) A baseline mammogram for any woman who is thirty-five to thirty-nine years of age, inclusive; and **[**(2)**]** (B) a mammogram every year for any woman who is forty years of age or older.

(2) Such policy shall provide additional benefits for comprehensive ultrasound screening and thermography, of an entire breast or breasts

if a mammogram demonstrates heterogeneous or dense breast tissue based on the Breast Imaging Reporting and Data System established by the American College of Radiology or if a woman is believed to be at increased risk for breast cancer due to family history or prior personal history of breast cancer, positive genetic testing or other indications as determined by a woman's physician or advanced practice registered nurse.

Sec. 2. Subsection (a) of section 38a-530 of the general statutes is repealed and the following is substituted in lieu thereof (*Effective January 1, 2012*):

(a) (1) Each group health insurance policy providing coverage of the type specified in subdivisions (1), (2), (4), (11) and (12) of section 38a-469 delivered, issued for delivery, renewed, amended or continued in this state **[**on or after October 1, 2001,**]** shall provide benefits for mammographic examinations to any woman covered under the policy which are at least equal to the following minimum requirements: **[**(1)**]** (A) A baseline mammogram for any woman who is thirty-five to thirty-nine years of age, inclusive; and **[**(2)**]** (B) a mammogram every year for any woman who is forty years of age or older.

(2) Such policy shall provide additional benefits for comprehensive ultrasound screening and thermography, of an entire breast or breasts if a mammogram demonstrates heterogeneous or dense breast tissue based on the Breast Imaging Reporting and Data System established by the American College of Radiology or if a woman is believed to be at increased risk for breast cancer due to family history or prior personal history of breast cancer, positive genetic testing or other indications as determined by a woman's physician or advanced practice registered nurse.

This act shall take effect as follows and shall amend the following sections:		
Section 1	*January 1, 2012*	38a-503(a)

Sec. 2	*January 1, 2012*	38a-530(a)

Statement of Purpose:

To provide insurance coverage for breast thermography when an annual mammogram demonstrates heterogeneous or dense breast tissue or if a woman is believed to be at increased risk for breast cancer due to family history or prior personal history of breast cancer, positive genetic testing or other indications as determined by a woman's physician or advanced practice registered nurse.

[Proposed deletions are enclosed in brackets. Proposed additions are indicated by underline, except that when the entire text of a bill or resolution or a section of a bill or resolution is new, it is not underlined.]

Co-Sponsors: REP. TERCYAK, 26th Dist.

H.B. 5448

Appendix V

Glossary of Terms and Acronyms

Glossary of Terms and Acronyms

Term	Definition
Administrative services only (ASO) contract	A contract between an insurance company or third party administrator (TPA) and a self-funded plan according to which the insurance company or TPA performs administrative services only and does not assume any risk. The services usually include claims processing but may include other services as well, such as actuarial analysis, utilization review, and so forth.
Autism Spectrum Disorder (ASD)	A developmental disorder that appears by age three and that is variable in expression but is recognized and diagnosed by impairment of the ability to form normal social relationships, by impairment of the ability to communicate with others, and by stereotyped behavior patterns especially as exhibited by a preoccupation with repetitive activities of restricted focus rather than with flexible and imaginative ones.
Carcinoma *in situ*	An early-stage tumor where in the case of cancer, tumor cells are still confined to the originating site and have neither mestastasized nor invaded neighboring cells.
Centers for Medicare and Medicaid Services (CMS)	The federal agency responsible for financing and overseeing Medicare and Medicaid services. CMS is part of the U.S. Department of Health and Human Services and was formerly known as the Health Care Financing Administration.
Chemotherapy	The use of chemical agents in the treatment or control of disease or mental disorder.
Children's Health Insurance Program (CHIP)	Also referred to as State Children's Health Insurance Program (SCHIP). A program created by the federal government to provide a "safety net" and preventive-care level of health coverage for children. The program is funded through a combination of federal and state funds and administered by the states in conformance with federal requirements.
CID	Connecticut Insurance Department.
Clinical trials	Trials to evaluate the effectiveness and safety of medications or medical devices by monitoring their effects on large groups of people.
Coinsurance	An insurance provision that limits the amount of coverage for services to a certain percentage, commonly 80 percent. The rest of the cost is paid by the member out of pocket.

Term	Definition
Conversion	The conversion of coverage under a group master contract to coverage under an individual contract. The chance to convert is offered to subscribers who lose their group coverage (e.g., through job loss or death of a working spouse) and who are ineligible for coverage under another group contract.
Co-payment	The amount that a member must pay out of pocket for medical services. It is usually a fixed amount, such as $10, $15 or $25 per service.
Cost sharing	Payment by a member of some portion of the cost of services. Usual forms of cost sharing include deductibles, coinsurance, and co-payments.
Cost-shifting	Raising the prices charged to other payers to cover the cost of providing services for which the reimbursement received does not fully cover the cost.
Comorbidity	The co-occurring presence of two or more disease processes.
CPHHP	University of Connecticut Center for Public Health and Health Policy.
Deductible	That portion of a subscriber's (or member's) health care expenses that must be paid out of pocket before the insurance coverage applies ($100 to $1500 depending on type of plan). Deductibles are common in insurance plans and PPOs, uncommon in HMOs, and they may apply only to the out-of-network portion of a point-of-service plan or only to one portion of the plan coverage (e.g., just to pharmacy services).
Direct access	Access to specialists without requiring a referral from a primary care provider. In an HMO that uses the direct access model, a member may self-refer to a specialist rather than having to seek an authorization. In such HMOs, the co-payment for care received from a specialist may be higher than the co-pay for care received from a primary care provider.
DPH	Connecticut Department of Public Health.
DSS	Department of Social Services.
Employee Retirement Income Security Act (ERISA)	The Employee Retirement Income Security Act of 1974 (ERISA) is a federal law that sets minimum standards for most voluntarily established pension and health plans in private industry to provide protection for individuals in these plans.
Extraterritorial	Applies outside of the territory boundaries. (e.g., Extraterritorial insurance mandates apply outside of the state in which thepolicy is issued).

Term	Definition
Group Coverage	A type of health insurance in which members receive coverage through an insurance contract that covers an entire group, usually an employer group. Employees usually have the option of covering other members of their families as well.
Habilitative Therapy	A type of therapy used to develop or maintain core skills used for activities of daily living.
Health Maintenance Organization (HMO)	A type of managed care plan that acts as both insurer and provider of a comprehensive set of health care services to an enrolled population. Services are furnished through a network of providers.
Hyperplasia	A condition in which there is an increase in the number of normal cells in a tissue or organ.
Individual Coverage	A type of health insurance in which there is a contract directly between an insurer and an individual who may purchase self-only coverage or may add other members of their family for additional premium cost.
Laparoscopic surgery	A surgical procedure using a laparoscope to see structures within the abdomen and pelvis, generally reducing the need for a large surgical incision.
Lymph Node	Any of the rounded masses of lymphoid tissue that are surrounded by a capsule of connective tissue, are distributed along the lymphatic vessels, and contain numerous lymphocytes which filter the flow of lymph passing through the node.
Magnetic Resonating Image (MRI)	A noninvasive diagnostic technique that produces computerized images of internal body tissues and is based on nuclear magnetic resonance of atoms within the body induced by the application of radio waves
Mammography	X-ray examination of the breasts (as for early detection of cancer).
Managed care	At the very least, managed care is a system of health care delivery that tries to control the cost of health care services while regulating access to those services and maintaining or improving their quality. A managed care organization typically has a panel of contracted providers that does not include all available providers, some type of limitations on benefits if subscribes use noncontracted providers (unless authorized to do so), and some type of authorization system.

Term	Definition
Managed care organization (MCO)	An organization that delivers health care services using a managed care approach. Some people prefer managed care organization to health maintenance organization because it encompasses plans that do not conform to the strict definition of an HMO. Managed care organizations include preferred provider organizations, point-of-service plans, integrated delivery systems, open-panel HMOs, and closed-panel HMOs.
Mandated benefits	Benefits that a health plan is required to provide. Mandated benefits are generally benefits above and beyond routine insurance-type benefits, they are typically mandated by state laws, and the types of benefits mandated vary widely from state to state. Common examples include in vitro fertilization, defined days of inpatient mental health or substance abuse treatment, and other special-condition treatments. Self-funded plans are exempt from state mandated benefits under ERISA.
Medical cost ratio	The ratio between the total cost of delivering medical care and the total amount of money taken in by the insurer in the form of premium. The medical cost ratio is dependent on the amount of money brought in as well as the cost of delivering care; thus, if premium rates are too low, the ratio may be high even though the cost of delivering care is not out of line.
Medical trend	The change in the cost of medical care driven by changes in utilization and unit costs of covered services.
Member	An individual covered under a managed care plan. Members include subscribers and dependents.
Member month	One month of coverage for one member. For example, if a plan had 10,000 members in January and 12,000 members in February, the total member months for the year to date as of March 1 would be 22,000.
Mestastisis	Cancer resulting from the spread of the primary tumor or the process of cancer spreading from the primary tumor to distant locations in the body.
Off-label	Of, relating to, or being an approved drug legally prescribed or a medical device legally used by a physician for a purpose (as the treatment of children or of a certain disease or condition) for which it has not been specifically approved (as by the United States Food and Drug Administration).
OI	OptumInsight, Inc.
Per member per month (PMPM)	Specifically applies to revenue or cost for each enrolled member each month.

Term	Definition
Premium Rate	The amount of money that a group or an individual must pay to a health plan for coverage. The payment is usually in the form of a monthly fee. The term rating refers to the development of rates by a health plan.
Neuropsychology	A science concerned with the integration of psychological observations on behavior and the mind with neurological observations on the brain and nervous system.
Preventive Care	Health care that is aimed at preventing complications of existing diseases or preventing the occurrence of diseases.
Prostate Specific Antigen	A protease that is secreted by the epithelial cells of the prostate and is used in the diagnosis of prostate cancer since its concentration in the blood serum tends to be proportional to the clinical stage of the disease.
Self-funded plan	In a self-funded plan, the risk for medical cost is assumed by the plan sponsor (usually an employer), rather than an insurance company or managed care plan. Under the Employee Retirement Income Security Act, employer-sponsored self-funded health benefit plans are exempt from state laws and regulations. They are also exempt from premium taxes. Self-funded plans often contract with insurance companies or third-party administrators to administer benefits.
Self-insured plans	See self-funded plan.
State of domicile	The state in which an insurance company or MCO is licensed as its primary location. For example, the state of domicile for an insurer may be Virginia, but the insurer might also be licensed and doing business in Maryland and the District of Columbia. MCOs, on the other hand, because of their local networks, are domiciled and licensed in a single state. The unique nature of their local service delivery requires them to be domiciled in each market they operate in. In many states, the insurance commissioner will defer primary regulation of an insurance company to the insurance department in the state of domicile as long as all minimum standards of the state are met.
Subscriber	The individual or member who has the health plan coverage in virtue of being eligible on his or her own behalf rather than as a dependent.
Termination date	The day that health plan coverage ceases to be in effect.
Thermography	a technique for detecting and measuring variations in the heat emitted by various regions of the body and transforming them into visible signals that can be recorded photographically (as for diagnosing abnormal or diseased underlying conditions

Term	Definition
Tumor	An abnormal benign or malignant new growth of tissue that possesses no physiological function and arises from uncontrolled usually rapid cellular proliferation.
Ultrasound	The diagnostic or therapeutic use of sound vibrations above the range of human hearing and especially a noninvasive technique involving the formation of a two-dimensional image used for the examination and measurement of internal body structures and the detection of bodily abnormalities.

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Work Group and Support Team

University of Connecticut
Center for Public Health and Health Policy

Ann Ferris, PhD, Director

Mary U. Eberle, JD, Senior Policy Analyst

Brian L. Benson, MPP, Planning Specialist

Erin Havens, MPA, MPH, Planning Specialist

Support Staff:

Kathy McDermott, University Director

Connie Cantor, Publicity/Marketing Manager

Diane Burnat, Executive Assistant

OptumInsight, Inc.

Daniel W. Bailey, FSA MAAA, Director of Actuarial Services

State of Connecticut Insurance Department

Paul Lombardo, Life and Health Actuary

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