Bioscience Connecticut is a bold initiative, championed by Governor Malloy and overwhelmingly passed by the General Assembly in 2011, to jumpstart Connecticut’s economy by creating construction-related jobs immediately and generating long term, sustainable economic growth based on bioscience research, innovation, entrepreneurship and commercialization.
Introduction

Bioscience Connecticut aims to strengthen our State’s position as a national and global center for bioscience innovation and to improve access to quality health care for Connecticut citizens while simultaneously securing the University of Connecticut Health Center’s future as a top tier academic medical center.

This is the fourth in a series of biennial reports to update the General Assembly on progress of the initiative pursuant to the provisions of Conn. Gen. Stat. § 10a-109mm.

Bioscience Connecticut Overview

Championed by the Governor and approved by the General Assembly, the Bioscience Connecticut initiative was enacted in 2011 through Public Act 11-75. It is a bold plan to position Connecticut at the forefront of the growing bioscience industry. As a catalyst for that growth, the State committed to making strategic investments in the University of Connecticut Health Center (UConn Health).

As the State’s only public academic medical center, UConn Health serves Connecticut through excellence in education, patient care, research, and commercialization and technology transfer. It is Connecticut’s primary source of new physicians and dentists (it is one of three medical schools, and the only dental school in the state); a key provider of vital health services to some of our most vulnerable citizens; and an engine of economic growth.

Bioscience Connecticut is composed of two major components:

1. **Infrastructure** expansion and renovation – that is, the buildings and facilities that house our doctors and scientists, and that educate and train our medical, dental and graduate students, and

2. **Programs** to improve access to quality health care.

Bioscience Connecticut Infrastructure Projects

Bioscience Connecticut has transformed the UConn Health campus in Farmington. The campus now includes state-of-the-art laboratory, teaching, business incubation and patient care facilities. These new and renovated spaces enable UConn to: grow research and new businesses to boost Connecticut’s economy; provide medical and dental education to our students that supports growth and a first-rate, modern curriculum; and improve access to quality health care for our citizens. Further, these new and renovated facilities greatly improve UConn Health’s ability to recruit and retain the best clinicians, researchers, staff and students to study, work and live in Connecticut.
The chart below provides a brief summary of all the infrastructure projects associated with Bioscience Connecticut, and a status of each project. Additional detail for each project follows in the section entitled “A Closer Look.”

All projects have been completed or are scheduled to be completed on time and within budget. The capital component of the initiative is 88% complete; with all Bioscience projects scheduled to be complete in 2018.

<table>
<thead>
<tr>
<th>Project</th>
<th>Description</th>
<th>Status</th>
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| Incubator Lab Addition                       | New 28,000 net square foot building addition to the existing Cell and Genome Sciences Building, more than doubling the amount of new incubator space at UConn to foster new business start-ups, particularly in the technology and biomedical fields. | Work began 9/2013  
Work completed 12/2015 |
| Main Building Research Lab Renovations       | Two multi-phased renovation projects renovating 200,000 of the 283,000 square feet of existing research lab facilities and building infrastructure. | Project 1 work began 4/2009; completed 9/2015  
Project 2 work began 12/2015, scheduled to be completed 3/2017 |
| Academic Building Addition & Renovations     | A 19,153 square foot classroom addition and renovation of existing classrooms, office, and lab space. Renovations include the upgrade of the mechanical, electrical and plumbing infrastructure and program expansions. | Work began 1/2013.  
Academic Addition completed 7/2016  
Existing academic facilities renovations scheduled for completion 7/2017 |
| UConn Health Outpatient Pavilion             | Construction of a new 306,880 square foot ambulatory care facility, occupied by the Carole and Ray Neag Comprehensive Cancer Center and other outpatient services. This project includes a new parking garage of approximately 1,400 spaces. | Work began 12/2011  
Work complete and opened 2/2015  
Final fit out of 8th floor completed 7/2016 |
| New Hospital Tower, Site & Parking          | Construction of a new 384,000 square foot, 169 bed, eleven floor hospital tower housing key patient areas including the emergency department, surgery suite, MRI suite, renal dialysis, respiratory therapy, inpatient rehab (orthopedics, rehab gym and workspace), clinical support, and patient education space. The project includes a new 403 space public garage and a new 397 space staff garage. | Work began 9/2010.  
Hospital occupied and operational 6/2016  
Minor post-move in work scheduled to continue through early 2017. |
| Clinical Building and Existing Hospital Renovations | Multi-phase renovations include the upgrade or replacement of the mechanical, electrical and plumbing infrastructure and program expansions for the Pat and Jim Calhoun Cardiology Center, the School of Dental Medicine, and several existing hospital departments. | Work began 12/2013  
Work scheduled for completion 12/2018 |
Bioscience Connecticut Infrastructure Projects - Key Business Metrics

As stated above, one of the goals of Bioscience Connecticut was to jumpstart Connecticut’s economy by creating immediate construction-related jobs. The initiative has been tremendously successful in achieving this goal, and UConn has placed particular emphasis on contracting with Connecticut companies and with small, minority-owned, and disadvantaged businesses.

Below are some key business metrics for the Bioscience Connecticut infrastructure projects; these figures represent work completed and contracts awarded through December 2016:

- Construction Jobs:
  - 5,903 jobs created
  - 2,676,935 hours worked
  - Veteran worker participation – 3% (41,840 hours worked)

- Contracts Awarded:
  - 83% of contracts awarded to Connecticut companies. Total contract value = $371.2 million.
  - 38% of contracts awarded to Connecticut small businesses. Total contract value = $170 million. (Note: this far exceeds the State goal of 25%)
  - 23% of contracts awarded to Connecticut minority-owned, women-owned and disadvantaged businesses. Total contract value = $102.8 million. (Note: again, far exceeding the State goal of 6.25%)
### Small Business Participation

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<th>Projected</th>
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<td>10.00%</td>
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### Connecticut Contracts

- CT Construction Contracts: 83%
- Non-CT Construction Contracts: 17%

<table>
<thead>
<tr>
<th>Category</th>
<th>Awarded Contact Values</th>
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<td>CT Construction Contracts</td>
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<td>Non-CT Construction Contracts</td>
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<td>Total</td>
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Infrastructure Projects – A Closer Look

Incubator Lab Addition

To foster new technology and bio-medical business start-ups in Connecticut, UConn’s Technology Incubation Program (TIP) offers incubator facilities at three locations across the State: Storrs, Farmington, and Avery Point. The Farmington TIP is located in the Cell & Genome Sciences Building at 400 Farmington Avenue. Through Bioscience Connecticut, UConn has more than doubled its total incubator lab space by building a 28,000 net square foot addition onto the Cell & Genome Sciences Building. The new facility opened on January 1, 2016.

TIP attracts and supports new Connecticut businesses by leasing space and equipment to start-up technology and bio-medical companies. In addition, TIP is able to offer these companies access to a unique range of unparalleled resources including:

- Incubator facilities featuring wet labs and access to instrumentation
- Customized business planning and mentoring
- Technically trained student employees and graduates
- The university’s world-class library resources
- Collaboration with scientific experts
• **Equipment / Instrumentation.** Technology and bio-medical start-ups often have a need for large, specialized and/or expensive equipment that they are unable to purchase or lease themselves. Often, the university already owns such equipment. TIP helps the start-ups negotiate agreements with the University for use of the equipment, given that time is available on the instrument and client employees have been properly trained. This enables start-up companies to have access to specialized equipment that the company may not otherwise afford, if located elsewhere.

• **Customized Business Support Services.** Through a network of service providers and advisors, TIP offers access to a variety of business consultants and expertise, including accountants and lawyers to help with issues important to start-up companies. TIP also supports business plan development, organizes events to promote collaboration among UConn faculty and scientists, and provides access to experienced entrepreneurs, advisors, and mentors. Further, through UConn’s School of Business, the Incubation Program can access knowledgeable faculty and students who can provide advice to emerging companies.

• **Student Employees / Interns.** In addition to its state-of-the-art facilities, a key benefit of TIP is its ability to connect incubator companies with university faculty and students. As part of its program, TIP advertises to suitable students and helps recruit them to work as part-time employees or interns.

• **Libraries.** The University of Connecticut Libraries have the largest public research collection in the State. The collection includes books, print and electronic periodicals, microfilm, maps, sound and video recordings, musical scores, and an ever-growing array of electronic resources, including ebooks, streaming audio and video collections, as well as art and photographic image databases.

Additional information relating to the number of companies in the TIP program, jobs created, intellectual property secured, revenue raised, and other metrics can be found in the Research, Innovation and Commercialization section below.

**Main Building Research Lab Renovations**

The Research Labs in the Main Building on the UConn Health campus were constructed in 1971 as part of original UConn Health construction. These facilities had not undergone any significant renovations since they were built.

Bioscience Connecticut enabled the existing 285,000 SF of labs on 7 floors to be renovated as part of two major projects: Project 1 is complete and Project 2 is scheduled for completion in March 2017. Please note that some additional lab renovations have been deferred until a later date; further explanation of the deferral can be found on page 11.

The newly renovated labs create larger lab space with open floor plans, fostering collaboration between and among scientists with common research interests. There are over 440 scientists, technicians, and support staff who currently work in the newly renovated laboratories. We anticipate that an additional ~140 individuals will occupy the section of the building that will be completed in 2017.
In addition to the functional benefits of the renovated labs, the aged and inefficient mechanical and electrical systems that serve these areas are being replaced as part of the project, allowing for greater energy efficiency and modern control of the environment.

The labs also provide space for both the Medical and Dental School Research work. Examples of just a few of the cutting edge research and collaborations taking place in the renovated labs include studies of the rare bone diseases Albright Hereditary Osteodystrophy and Osteogenesis Imperfecta that may lead to cures for these childhood conditions; the Carole and Ray Neag Comprehensive Cancer Center development of a vaccine to prevent the reoccurrence of Ovarian Cancer; and gene therapy for children and adults with Glycogen Storage Disease, which is a rare genetic disorder causing very low blood sugar levels with severe health consequences.

**Academic Building Addition & Renovations**

One of the key goals of the Bioscience Connecticut initiative is to attract more students to practice medicine and dentistry in Connecticut. In order to achieve this goal, it was necessary for the UConn School of Medicine and School of Dental Medicine to expand and update its academic spaces.

The academic addition and renovations also support the new UConn Medical and Dental curriculum, termed MDelta, which was just launched in the fall of 2016. MDelta reflects current practices in health care, focusing more on team-based learning, and less on lecture-style coursework. Research has shown that effective learning is collaborative and social, not competitive and isolated. Faculty facilitate collaborative group work, allowing students to practice problem solving and the application of knowledge in clinical case-based exercises, reflective of contemporary methods in medicine. The MDelta curriculum also includes early and sustained clinical exposure, as early as the first month of school; integration of clinical medicine with the basic sciences over all four years; enhanced use of medical simulation exercises in both gross and virtual anatomy labs as well as radiology, using state-of-the-art medical imaging; individualized education, and a focus on self-directed learning that respects diverse talents and ways of learning.
The new Academic Building Addition and renovations, made possible through Bioscience Connecticut, perfectly support the new MDelta curriculum. The new facilities allow for team-based learning and modern, effective, state-of-the-art education of our future medical and dental providers.

In total, the work included a 19,153 square foot classroom addition and renovation of existing classrooms, office, and lab space. Renovations also include the upgrade of the mechanical, electrical and plumbing infrastructure.

Specifically, the Academic Building Addition includes:
- A large Academic Rotunda, to support team-based learning and a variety of other programming;
- 8 new classrooms (plus 8 new classrooms provided by renovations at the connection to the existing Academic Building); and
- Informal gathering/study lounge spaces.

This work was completed in the summer of 2016, in time for the incoming students in the Class of 2020. Renovations to the academic virtual anatomy lab and the medical school administration space have also been completed, and work on of two new dental classrooms and a wellness center will be complete in 2017.

UConn Health Outpatient Pavilion

In 2015, UConn Health opened its new 306,000 square foot state-of-the-art Outpatient Pavilion on its lower campus offering a full-range of primary care and specialty services in one convenient,
modern location. Construction also included a completed 1,400 space parking garage for patients, visitors, and employees. Unlike the other components of the Bioscience Connecticut initiative, this project was privately financed by UConn Health.

Since opening in February 2015, the Outpatient Pavilion has seen an increase in its patient visits. Patient encounters quickly increased after its opening to be approximately 12,000 per month, and are up from last year (4.9 percent). Physicians are busier and there has been significant recruitment of new physicians in various fields such as ENT (Neurotology), spine, vascular surgery, orthopedic hand surgery, medicine, oncology and ophthalmology.

This summer a new Women’s Center opened, offering a range of services including OB/GYN, maternal-fetal medicine (high-risk pregnancies), minimally invasive gynecologic surgery, prenatal genetic counseling, reproductive medicine, and advanced imaging services such as gynecologic ultrasound and 3D mammography—all on one floor. We also started a new family medicine practice, which cares for patients of all ages, from children to older adults.

In addition, the building’s other recently expanded clinical outpatient services include: advanced radiation therapy, stroke and neurology care, rehabilitative medicine, a beautifully designed cancer infusion center for patients receiving chemotherapy, and a library for cancer patients. It also has the convenience of blood draw stations in the same location. An onsite retail pharmacy is on the way.

UConn Health surveys patient satisfaction daily to continuously improve the patient experience. These surveys have shown that the new Outpatient Pavilion has impacted patient satisfaction generally in two areas: increased patient satisfaction in our patients’ ratings of our doctors, and their likelihood to recommend our providers to others.

**UConn Health’s New Hospital Tower**
The new 384,000 sq. ft. University Tower was built around patient needs. It includes 169 private inpatient rooms and 28 modern Intensive Care rooms with advanced monitoring and features, including pull-out couches, to support visitors and patients. This project also included a new 403 space public parking garage, and a new 397 space staff garage.

The new Emergency Department includes more than 40 private patient-care rooms, a dedicated CT Scan and X-ray, and an ER fast track for minor emergencies for privacy, safety, and speed. Prepared for the uncommon, additional support includes decontamination rooms, resuscitation rooms, and tools for dental emergencies.

Ten state-of-the-art, spacious operating rooms can handle the complexity of all cases, and 30 private pre- and post-surgical recovery rooms offer safety and quality. Each OR and the ED resuscitation room is equipped with Black Diamond HD cameras and plasma screens for live broadcasting for training and medical education.

There is also space to allow for a new 1200 square foot Hybrid Operating Room that can be equipped with imaging capabilities for minimally invasive and complex procedures. The planning work for this room is on-going.

Nurses stay connected using phones linked with patients’ bedside call systems to improve response time and increase patient satisfaction.

Smart “TUG” robots, planned to be operational in 2017, will augment the high-speed tube system to safely get medication from pharmacy to patients.

**UConn Health Clinical Building**

Renovations to the UConn Health Clinical Building are currently underway. This is a multi-phase renovation project that includes the upgrade or replacement of the mechanical, electrical and plumbing infrastructure. The project also includes program expansions for the Pat and Jim Calhoun Cardiology Center and the School of Dental Medicine teaching clinics.

**Existing Hospital Renovations**

The Bioscience Connecticut initiative provided that $69 million in funding from UConn Health operations, special eligible gifts or other sources would be used for new construction and/or renovation projects. UConn Health and the University of Connecticut Foundation continue efforts to identify funding opportunities to meet this $69 million goal; however, to date the entirety of these funds have not been raised. Due to the challenging fiscal environment at the state level, including sustained cuts in state support, UConn Health operations is unable to cover this expense at this time. As a result, the renovations to John Dempsey Hospital’s existing tower (the “Connecticut Tower”) to allow for expansion of certain departments, and infrastructure replacements and upgrades of the electrical, heating, and air conditioning systems and a portion of the Lab Building renovations, have been deferred at this time.

**Bioscience Connecticut Programmatic Initiatives**

In addition to the infrastructure projects described above, Bioscience Connecticut also included a number of programmatic initiatives designed to improve access to quality health care in Connecticut.
The overall success of the Bioscience Connecticut initiative greatly depends upon the success of these programmatic initiatives. While modernizing infrastructure is critically important, it is not sufficient to merely build new facilities, we must fill up those facilities with outstanding medical practitioners, researchers and faculty members to further discoveries, bring new discoveries to market and to the bedside, and provide access to quality healthcare; we must expand educational opportunities for the next generation of medical professionals; and undertake programs that address health disparities and that encourage professionals to stay and practice in Connecticut.

Bioscience Connecticut included the following programmatic initiatives for UConn:

- **New Faculty & Research.** Recruiting 50 new faculty, including basic scientists and clinician-scientists, to increase health care access and federal industry research awards;
- **Expanded Medical & Dental School Enrollment.** Expanding the UConn School of Medicine and the UConn School of Dental Medicine class sizes by 30 percent;
- **Loan Assistance for Future Connecticut Doctors Practicing Primary Care.** Implementing a loan forgiveness program for UConn Medical School graduates who pursue careers in primary care in Connecticut;
- **Cancer Trials.** Supporting the development of a comprehensive cancer center to expand clinical trials and advance patient care at multiple sites in the Hartford region;
- **Primary Care Institute.** Supporting the development of a primary care institute located on the campus of Saint Francis Hospital and Medical Center, the Connecticut Institute for Primary Care Innovation, that is intended to increase the number of primary care providers in the state by engaging in research and training to facilitate the effective delivery of primary care; and
- **Addressing Health Disparities.** Developing a health disparities institute sponsored by UConn that will enhance research and the delivery of care to the minority and medically underserved populations of the state.

**New Faculty & Research**

**Faculty Hires**

One goal of Bioscience Connecticut was to increase the number of clinical faculty and basic scientists at UConn Health, and to promote UConn Health and The Jackson Laboratories for Genomic Medicine (JAX-GM) to jointly hire scientists to encourage collaboration between the two institutions. The Bioscience CT goal was to recruit 50 new faculty, including basic scientists and clinicians, 10 of which would be joint UConn-JAX GM hires.

UConn Health has far exceeded its goal of 50 new faculty hires. Please note that some these hires are replacement faculty members for individuals who have left the university; these are not total net numbers. Active recruitment efforts are underway to achieve the 10 joint UConn JAX GM hires.
<table>
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<th>FY 12</th>
<th>FY 13</th>
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<th>FY 15</th>
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<td>23</td>
<td>32</td>
<td>29</td>
<td>35</td>
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Research

Newly recruited faculty, combined with the efforts of existing faculty, have increased research metrics in all categories at UConn Health despite decreasing levels of NIH funding nationwide.

**FY16 Research Metrics:**

- Proposals have increased by 39% over FY15.
- While the total number of grants awarded in FY16 remained the same as the previous year, the grant award amount increased by 23% from $69 million to $85 million.
- Expenditures on research grants also increased by over $6 million, or more than 7%, between FY15 and FY16.

**Highlights of Recent Awards to UConn Health Include:**

- The School of Medicine received several new and competitive renewal awards in FY2016, totaling almost $77 million — an increase of approximately 20%.
- In a collaborative project with the University of Massachusetts Medical School, UConn Health will receive $6,578,528 from the Center for Public Health and Health Policy to participate in the Southern New England Practice Transformation Network.
- UConn submitted 47 grant applications to the State Stem Cell Fund. Four proposals were funded. The funding for these awards totaled over $2.5 million.
- Dr. Richard Fortinsky and colleagues from UConn's Center on Aging were awarded $6,219,556 from PCORI (Patient-Centered Outcomes Research Institute) for their project “3D Team Care for Cognitively Vulnerable Older Adults.”
- UConn Health was awarded $6,102,645 to house a national data processing and analysis center for a powerful research tool, nuclear magnetic resonance spectroscopy (NMR), from the National Institute for General Medical Sciences within the National Institutes of Health (NIH).
Collaborations with JAX-GM

UConn Health is also developing stronger collaborations with The Jackson Laboratory for Genomic Medicine (JAX-GM). Over 80 joint grants have been submitted with 12 awarded to date, totaling more than $11 million. As indicated in the chart above, three faculty have been hired jointly by UConn Health and JAX-GM, and several others positions are in active recruitment. The Center for Single Cell Genomics that opened in August of 2015 has been valuable for both organizations, as there are 15 labs currently using the Single Cell Lab (7 JAX-GM/8 UConn). Joint faculty will continue to be instrumental in strengthening collaborations between the two organizations.

Research, Innovation & Commercialization

UConn Health has also had significant success in efforts to commercialize university technologies and to establish and/or expand industry partnerships.

The UConn Technology Incubation Program (TIP) officially opened the doors of its newly expanded facility in Farmington in January 2016. As of December 2016, 28 companies were located at the TIP facility at UConn Health, representing almost 70% occupancy.

Recent TIP Data:
- $1.2M raised in revenue from sales and grants
- $19.1M raised in debt & equity funding
- 66 full-time & 38 part-time jobs created

UConn is committed to supporting existing industries and growing new entrepreneurial ventures. To help foster these partnerships, UConn has hired an executive director of venture development, has launched early-stage funding programs to advance promising technologies, and has taken other steps to help bring UConn’s research and innovation to the community.

Technology Commercialization Data:
- 69 invention disclosures received
- 91 U.S. patent applications filed
- 31 patents issued
- 11 licenses & options executed
- $960K licensing revenue
- 2 startup companies formed (FY15)

UConn also expanded on current partnerships with industry leaders, like New Haven based Alexion Pharmaceuticals. Alexion Pharmaceuticals and UConn recently announced a joint fund to develop life-saving therapies for patients with rare and devastating diseases. Leveraging the expertise of this world leader in rare diseases and the unique research capabilities of the state’s flagship public research institution will lead to innovative discoveries that have the potential to benefit patients around the world and support economic growth in the state.

Expanded Medical & Dental School Enrollment

While not specifically outlined in statute, one of the goals of Bioscience Connecticut was to increase the number of students in the School of Medicine and the School of Dental Medicine by 30%.
When Bioscience Connecticut passed, the School of Medicine enrolled 85 students per class; therefore, a 30% increase amounts to an additional 25 students, or a total of 110 students per incoming class. This past fall 2016, the School of Medicine welcomed 100 first year students.

The School of Dental Medicine’s base when Bioscience Connecticut passed was 40 students per class. A 30% increase amounts to an additional 12 students per class, or a total of 52 students. The increase in the number of School of Dental Medicine students was to be delayed until the upgrades to the dental facilities were completed. Despite the fact that these upgrades are not yet complete, the School of Dental Medicine accepted 49 student in this fall 2016’s incoming class.

**Loan Assistance for Future Connecticut Doctors Practicing Primary Care**

UConn’s School of Medicine has developed a Primary Care Loan (PCL) program for School of Medicine students. The goals of this program are to support the aspirations of students interested in careers in primary care by addressing their financial concerns with entering this field; and to increase the number of graduates of the School of Medicine who pursue primary care practice in Connecticut.

**Benefits.** PCL awardees will be provided $30,000 per year at a nominal interest rate of 1% for up to 3 years. The 1% loan rate saves a student who participates in the program for three years approximately $47,000 in interest payments over the ten year repayment period of the loan.

**Loan Criteria.** The following conditions are included as part of the PCL program:
- Students selected for the program are required to devote one year of service practicing full-time as a primary care physician in Connecticut in exchange for each year of loan support.
- Primary care disciplines are defined as family medicine, general internal medicine, geriatrics, and pediatrics.
- All interest and principal will be deferred for three years to allow the program participant to complete postgraduate training in one of the primary care fields noted above.
- Loan Repayment is a 10 year period.
- Students participating in this program will not be allowed to participate in any other program (local, regional or national) that has a service requirement.

**Default & Penalties.** Sanctions for non-compliance with the Loan Criteria may include:
- Increase in the rate of interest of the balance of the loan to twice the rate of Medical University Loans (MULF, currently the interest rate is 5%); and/or
- Responsibility for all collection costs.

Failure to successfully complete the curriculum of the School of Medicine or fulfill residency training requirements will not result in the participant being in default. However, the interest rate on the loan will revert to the prevailing MULF interest rate.

**Criteria for Consideration.** In order to be considered for the PCL program, applicants must:
- Be Connecticut residents;
- Be in good academic standing;
• Have demonstrated interest in primary care; and
• Be current medical students in their first, second, or third year.

Applications are reviewed and awards made by a committee of experienced primary care faculty.

April 2016 Awardees. Based on the program criteria, in April 2016, UConn School of Medicine chose four medical students to be Primary Care Loan Program awardees: Sarah Fortin (3rd year), Jordan Albano (2nd year), Miryam Wilson (1st year), and Roshni Patel (1st year).

April 2017 Awardees. Selection process will commence in early 2017 for the next round of PCL program awardees, which will award five medical students with a 1% interest rate loan of $35,000 per year for three years.

Cancer Trials

As part of Bioscience Connecticut, capital funds were provided to the UConn Health for the specific purpose of expanding cancer clinical trials and advancing patient care in the greater Hartford region.

UConn Health has developed a policy and procedure that outlines how such funds are to be expended to ensure compliance with legislative language and intent, and the process by which other cancer centers in the Hartford region can participate in this initiative. The funding is being used for developing the Phase 1 clinical trial program led by the UConn Health’s Neag Comprehensive Cancer Center, but will serve patients throughout the greater Hartford region. Further, as the Phase 1 Trials develop, such trials will be available to be opened at other willing sites throughout the Hartford region (e.g., Connecticut Children’s Medical Center, Hartford Hospital, Saint Francis Hospital & Medical Center, the Hospital of Central Connecticut, etc.). UConn Health also accepts patients referred to it by anywhere in the community, including from area hospitals, for inclusion in the trials.

The Bioscience Connecticut bond funds are to be used for capital purchases only, and only for purchases that fulfill the intent of the legislation. Specifically, UConn Health and the other Cancer Centers in the Hartford region purchase equipment and software specific for the needs for a comprehensive cancer center and a Phase 1 clinical trial unit. Any such equipment purchased with these funds shall be available for use, to the extent possible and practicable, by any of the area hospitals for cancer trial purposes.

Primary Care Institute

Another component of Bioscience Connecticut is the Connecticut Institute for Primary Care Innovation. The Bioscience Connecticut legislation called for the development of a primary care institute located on the campus of Saint Francis Hospital and Medical Center that is intended to increase the number of primary care providers in the state by engaging in research and training to facilitate the effective delivery of primary care.

The Connecticut Institute for Primary Care Innovation (CIPCI: www.cipci.org), focuses on transforming primary care in ways that are palpable and sustainable. CIPCI is a collaborative enterprise between the UConn School of Medicine and Saint Francis Hospital and Medical Center. CIPCI moved into the state-of-the-art space on the Saint Francis campus in November 2012.
CIPCI faculty and staff work with state and national stakeholders to help practicing primary care providers keep pace with change, improve training for primary care providers, and increase retention of primary care providers. It serves as a resource for primary care leaders, providers, learners, and teams. The Institute has developed and rolled out numerous presentations, workshops and showcases over the past few years. It also maintains a website to support primary care providers. From December 2015 to December 2016 alone, CIPCI had approximately 9,500 unique visitors to its website; and a total of 12,100 website hits.

One major initiative undertaken by CIPCI, “The Primary Care Office of the Future,” is an interactive exhibit highlighting novel technologies, innovative workflows, and human-centered design elements that support primary care transformation. Since creating this exhibit in Hartford in 2014, CIPCI has demonstrated the innovative concepts for local and national audiences, inspiring participants to implement new solutions in their practices. In 2016, CIPCI partnered with the American Academy of Family Physicians (AAFP) to showcase the professional exhibit for at least 1,500 people at its FMX annual meeting in Orlando, Florida. CIPCI created engaging videos about transformation concepts and highlighted them on the CIPCI website (https://cipci.org/future ). Due to the overwhelmingly positive response at FMX 2016, CIPCI and AAFP will produce the exhibit again for FMX 2017 in San Antonio, Texas.

Another continuing highlight of CIPCI’s work is helping practices understand and improve their processes of care through the Anatomy and Physiology of Primary Care initiative. CIPCI researchers map practice flows from the patient perspective, providing baseline measures that set the stage for transformation efforts. CIPCI works with UConn residency training sites as well as small private practices.

**Addressing Health Disparities**

Bioscience Connecticut provided that a health disparities institute sponsored by the University of Connecticut shall be developed that will enhance research and the delivery of care to minority and medically underserved populations of the state. UConn’s Health Disparities Institute (HDI: health.uconn.edu/health-disparities), was established in 2012 and was formalized as a university center in 2015. It is currently located in Farmington but poised to move to downtown Hartford in February 2017. This move will provide the public with easy access to HDI and will allow HDI to have adequate space for collaborative meetings and conference capabilities with partners.

HDI designs and analyzes studies relating to health disparities; develops, utilizes and teaches methods to effectively measure health disparities; and designs and conducts community-based initiatives aimed at reducing health disparities.

HDI has been active in seeking out external grant funding to support its work. It has engaged in numerous research projects and initiatives relating to health disparities. Some recent examples include:

- **2015 Dec. 2nd, Health Insurance Literacy Symposium** (Grant: $ ~25,000)
  - Goal: Raise awareness among thought leaders and decision makers of the importance of health insurance literacy as a requisite for health reform success among the newly insured, especially minority groups.
- **Summer 2016: Statewide Health Insurance Literacy and Wellbeing Survey** (Grant: ~$155,000)
  o Goals: Establish Connecticut’s new enrollees in Access Health CT plans health insurance literacy (HIL) and wellbeing baseline scores and gaps (compared to the rest of the Connecticut population) based on race/ethnicity, education and income. The survey will be the basis for measuring future HIL and other consumer support measures to eliminate disparities.

- **Fall 2016: Equal Coverage to Care Coalition** (Funding: $25,000 planning grant)
  o Goal: Develop a coalition of community based organizations, government agencies, insurance companies, funders and academic institutions involved in enrollment and navigations support for new and renewing AHCT and Medicaid members. The coalition will support AHCT and DSS efforts to enhance the value of health insurance and in doing so improve the wellbeing of the most disadvantaged in CT. The planning grant will also result in a grant application to support the EC2C coalition operations for 2017-2018.

- **2015-2016: Enhancing the Value of Health Insurance by Making it Simpler: Policy Brief** (Grant: $7,000)
  o Goal: Raise awareness of the excessive and unnecessary complexity of current health insurance plans leading to less care (i.e. foregoing preventive services and engagement with PCPs), unwarranted out-of-pocket cost to low income families and erosion of household wellbeing. Ultimate goal is to promote simpler health insurance designs (e.g. elimination of deductibles and benefit language simplification)

- **2015-2016: Role of Financial Incentives in Shared Medical Decision Making** (Funding: ~$50,000 grant)
  o Goal: Understand the role of financial incentives and access to evidence-based consumer decision support resources/information to drive engagement in shared decision making. Informed shared decision making leads to higher quality, more satisfying and usually less costly use of health services.

- **2016: Analytical Support Services for Community Health Center Inc.** (Funding: Annual contract between ~$30,000 and ~$105,000 (renewal being processed))
  o Goal: To provide advanced analytical support services (statistical, educational, research planning, peer-reviewed publication and more) to The Weitzman Institute (Owned by CHC Inc.)

- **2016: Multiple Lectures and presentations on Health Equity in the Era of Health Reform**
  o Goal: Raise awareness of new and old sources of healthcare disparities and possible programmatic and policy solutions.

- **2016: Collaboration with UCONN Office of Student and Multicultural Affairs**
  o Goal: Introduce reform in the UConn School of Medicine curriculum to advance education in health equity, social determinants of health and opportunities to incorporate into practice.
Conclusion

UConn Health is extremely proud of the progress that has been and continues to be made on all of the initiatives of Bioscience Connecticut. Without the support of the Governor and General Assembly, our future would not be as bright. The University of Connecticut and its Health Center remain extremely appreciative of the state’s investment in its only public academic health center and are confident that the state’s sustained commitment will produce the public health and economic development advances that Connecticut’s citizens expect and deserve.