REDCap

Research Electronic Data Capture

Training Scenario

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- **Your PI calls you into her office. She explains that she has just received a grant to study quality of life and happiness over time in various cultures that requires survey data collection to happen in a sophisticated manner. You have a discussion with her in which she lays out all the things she really needs an electronic survey to do. She asks, "Is this possible? And could you let me know soon?" You review your notes from the conversation and find the following requirements:**

  - **Deliver an electronic survey to anywhere in the world.**
    - **Sometime we'd like to just create link that respondents can enter anonymously**
    - **Sometimes we would like to e-mail the survey to particular people**

  - **After the participant provides their name, she would like the survey to address the participant by name in several places in the questionnaire. (piping)**

  - **Deliver PEDSQL measures in English and Spanish (library)**

  - **Deliver a parent or child PEDSQLs measure based on who the respondent is**
    (branching logic)

  - **Calculate the PEDSQL score (calculated Fields)**

  - **Ask about happiness with a graphical sliding bar or a matrix**

  - **This survey will be repeated with the same participants over a matter of years**
    (longitudinal format) in order to judge happiness and quality of life over the years.

  - **It would be good to have an electronic calendar that everyone on staff can see**

  - **The undergraduate interns should be able to see the data but for goodness sakes don't let them have access to changing the data.**

  - **Could we set up custom data reports filtered on 5 different variables before hand to save time?**

  - **Frank (the stats guy) is probably going to need an SPSS or SAS output**

What are you going to do?

Item 1: Deliver an Electronic Survey to Anywhere in the World.
Sometimes we'd like to just create link that respondents can enter anonymously
Sometimes we would like to e-mail the survey to particular people

Project Home → Project Setup → On-line Designer → Enable As Survey

If we determine that we need to use either the link to survey or the e-mail survey to participants option, then we need to enable the instruments as a survey.
This will allow us to get to the manage participants option.

Item 1: Deliver an Electronic Survey to Anywhere in the World.
Sometimes we'd like to just create link that respondents can enter anonymously
Sometimes we would like to e-mail the survey to particular people

Project Home → Manage Survey Participants → Public Survey Link

This option creates a link that you could then post or send to participants and they can then link to it and fill the survey out.

Disadvantage: You are not going to have the ability to monitor who has or has not filled out the questionaire

Item 1: Deliver an Electronic Survey to Anywhere in the World.

Sometimes we'd like to just create link that respondents can enter anonymously

Sometimes we would like to e-mail the survey to particular people

👥 Manage Survey Participants

🔗 Public Survey Link	👥 Participant List	📄 Survey Invitation Log

The Participant List option allows you to **send a customized email** to anyone in your list and **track who responds to your survey**. It is also possible to identify an individual's survey answers, if desired, by providing an Identifier for each participant (this feature must first be enabled by clicking the 'Enable' button in the table below). Unless an Identifier is used, all survey responses collected are considered anonymous. More details

Participant List belonging to [Initial survey] "Demographics" ▼   Remove all participants

Displaying 1 - 2 ▼ of 2   👤 Add participants   ✉ Compose Survey Invitations   📊 Export list

Email	Participant Identifier	Enable	Link	Invitation Scheduled?	Invitation Sent?	Responded?	Survey Queue	
Dawn.Sherrill@cchmc.org	Disabled		🔗	-	✉	⚪		remove
Maxx.Somers@cchmc.org	Disabled		🔗	-	✉	⚪		remove

Project Home → Manage Survey Participants → Public Survey Link

It's also possible to email a particular set of participants an invitation to complete a survey.

As noted before, with this option you can:
- Schedule an invitation to be sent out in advance
- Track if the invitation e-mail has been sent
- Track to see if the participant has responded

Item 2: After the participant provides their name, she would like the survey
to address the participant by name in several places in the questionnaire.
(piping)

Project Setup → Online Designer → Select a Data Collection Instrument → Add new
variable

To Pipe in a variable:

- Select the variable you want to pipe in
- Insert into your text the variable name inside square brackets

Item 3: Deliver PEDSQL measures to a parent or a child from the same survey (branching logic)

Project Setup → REDCap Shared Library

The REDCap Shared Library
- Holds user created instruments that you can bring into a survey
- You can also upload instruments that you feel are worth sharing to the REDCap library
- Utilizing the REDCap library ONLY works if the instrument is listed AND it matches the instrument they need and is listed in there approved IRB protocol
  - **PLEASE NOTE IN REALITY ALMOST ALL STUDIES DO <u>NOT</u> USE THE REDCap LIBRARY -INSTEAD THE INSTRUMENTS ARE CREATED FROM SCRATCH**

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Project Setup → Online Designer

The Instruments are then Downloaded into the On-Line Designer
- It's ok that each is listed separately
- By changing some of the survey setting, we can make what the user will see appear seamless.

Item 3: Deliver PEDSQL measures to a parent or a child from the same survey (branching logic)

Project Setup → Online Designer → Survey Queue

Survey Queue Allows you to
- Define the order of the Survey
- Define branching logic to like to

Item 3: Deliver PEDSQL measures to a parent or a child from the same
survey (branching logic)

Project Setup → Online Designer → Survey Queue

- Ability to set branching logic for each survey instrument
- Here I've asked each instrument to auto-start after demographics is complete
- If the respondent indicates that they are a child, the PEDSQL Child Report will launch
- For the PEDSQL parent version, I've set it to autostart when demographics is complete and the respondent indicates that they are a parent

Item 3: Deliver PEDSQL measures to a parent or a child from the same
survey (branching logic)

Project Setup → Online Designer → Select an Instrument

Branching Logic
- You can also do branching logic for individual questions.
- Here I've indicated in each question that it is not to be asked unless the answer to the question "ParentorChild = Child"
- By using branching logic, we can insure that our PI request of delivering the right questions to the right people is fulfilled

Field Type: Calculated Field

Question Number (optional) [   ]
Displayed only on the survey page

Field Label   ✏️ How to use Piping

Health and Activities Score
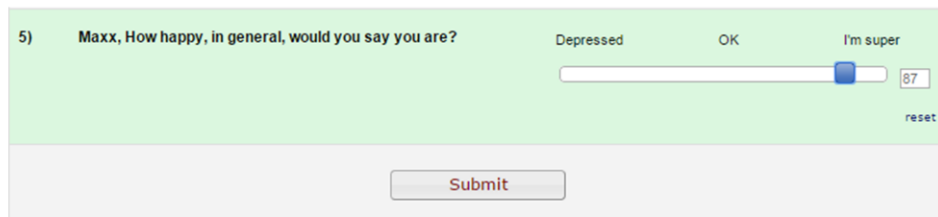
Item 4: Calculate PEDSQL Scores in the survey

Calculation Equation   How do I format the equation?

[pedsql_c_ha_1] + [pedsql_c_ha_2] + [pedsql_c_ha_3] + [pedsql_c_ha_4] + [pedsql_c_ha_5] + [pedsql_c_ha_6] + [pedsql_c_ha_7] + [pedsql_c_ha_8]

Project Setup → Online Designer → Select an Instrument → Select a Variable → Field Type = Calculated Field

How to Create Calculated Field Variables
- Variable names of what we would like to add in brackets (in this case the questions in the Health and Activity section).
- In-between bracketed variables place the mathematical notation you would like to use.
- It is possible to do more complicated calculations in this field.
- For further guidance, click on the, "How do I format the equation" section on the calculated field variable and check out the various possibilities.

Project Setup → Online Designer → Select an Instrument → Select a Variable → Field Type = Slider Visual Analogue Scale

Graphical Sliding Bar
- Another requirement from our PI was an unusual
- It's useful to familiarize yourself with the several different ways to display questions in REDCap
    - Check boxes
    - Drop down lists
    - Radio bottons
    - Yes – No
    - True False

Item 6: This survey will be repeated with the same participants over a matter of years (longitudinal format) in order to judge happiness and quality of life over the years.

Since you have defined multiple events on the Define My Events page, you may now select which data collection instruments that you wish to utilize for each event by using the table below. This allows you to enter data on any data collection form multiple times for any given project record. Any and all data collection instruments can thus be used for any event defined.

Click the *Begin Editing* button to change the relationships below by designating which forms you wish to utilize for which events. When you are finished making changes, click the *Save* button to finalize your changes.

Begin Editing   Save

Data Collection Instrument	Event 1 (1)	1 Year (2)	2 Year (3)	3 Year (4)	4 Year (5)	5 Years (6)	6 years (7)
Demographics (survey)	✔	✔	✔	✔	✔	✔	✔
PedsQL v4.0 Child Report Ages 8-12 (survey)	✔	✔	✔	✔	✔	✔	✔
PedsQL v4.0 Parent Report For Children Ages 8-12 (survey)	✔	✔	✔	✔	✔	✔	✔

To define as longitudinal data collection with repeating forms:
Project Setup → Main Project settings → Enable longitudinal data collection

To define events over the course of data collection:
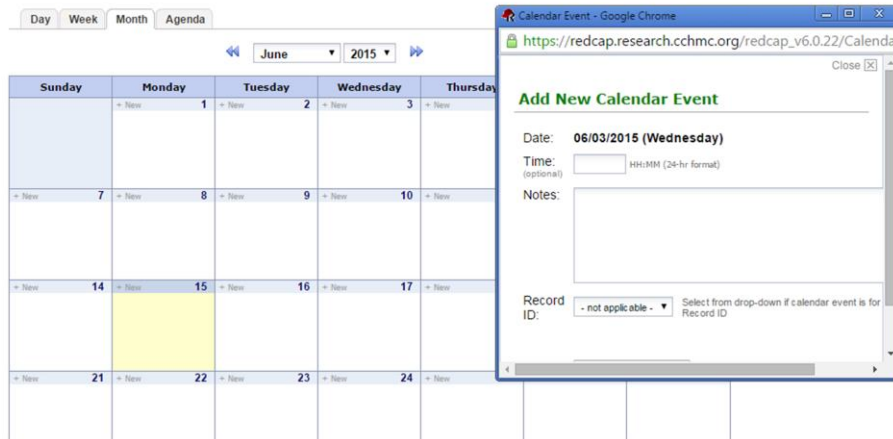Project Setup → Define your events and designate instruments for them → Define My Events

To define which instruments are asked at each event:
Project Setup → Define your events and designate instruments for them → Define My Events

Longitudinal Survey
• Enable longitudinal data collection option
• Define the events you want to appear
• Designate the various instruments you would like to give at each time point

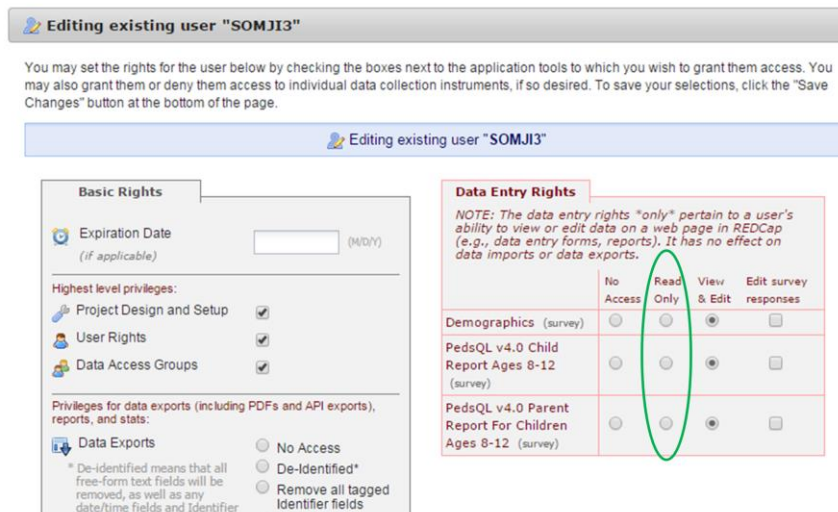**Item 7: It would be good to have an electronic calendar that everyone on staff can see**

Project Home → Application Side Bar → Calendar → Generate a Schedule

Electronic Calendar
- REDCap has it's own calendar system
- Useful for multisite studies in which researchers are at different institutions.
- You can add new events manually
- You can generate a schedule by going to:
    - Project Home → Application Side Bar → Calendar → Generate a Schedule

Item 8: The high school students should be able to see the data but don't let them have access to changing the data.

Project Home → Applications Side Bar → User Rights

- As each person is added to the survey, specific user rights options are presented
- Here is a user rights profile that will only allow this person to view and edit responses.
- In this case, given how concerned our PI is, students should probably only have Read Only access.

Item 9: Could we set up custom data reports filtered on 5 different variables before hand to save time?

Project Home → Quick Tasks → Create a Report → Create New Report

Overview of the reports function
- Reports are used to create outputs of selected date
- Reports are flexible and will allow you to drill down to what ever data you are trying to find
- Reports do this by giving you options concerning which fields (or variables) to select
- Reports also allow to select multiple filters
- You can filter by event or time period
- You can order the results by any variable you choose

Item 10: Frank (the stats guy) is probably going to need an SPSS or SAS output

Project Home → Applications Side Menu → Data Exports, Reports, and Stats
- There are various export formats/data analytic software packages options available