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My Projects → Training Resources

One of the most impressive aspects of REDCap is the Training Resources and Frequently Asked Question section.
- The first is a video resource that is split into 21 separate training videos and organized by subject matter.
- Almost everything we talk about today, can be found in these training videos.

My Projects → Help and FAQ

Good for technical questions better suited for written instructions
- Syntax for calculate fields
- Syntax for branching logic
- Syntax for piping

Project Setup → On-Line Designer → Data Collection Instruments

REDCap is also excellent at sprinkling in various tutorials where skills are commonly needed.
Here, REDCap makes both a piping tutorial and a video about field types easily available for the users.

Quick Explanation of the various ways in which data is entered into REDCap

Project Home → Data Collection Heading → Add/Edit Records

Often, studies at CCHMC, will use REDCap to manually enter previously collected data into REDCap via Database Entry.

Some examples include:
- Entering paper surveys
- Entering records of visits
- Entering chart review information

Project Home → Manage Survey Participants → Public Survey Link

It is also possible to send a survey electronically and have to participant enter the information.
One way to capture participants is to create a public link to the survey.
Anyone who has a link will be able to fill out the survey

Project Home → Manage Survey Participants → Public Survey Link

It's possible to send a link to a survey via e-mail. Each e-mail contains an individual link and you track the following:
- 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
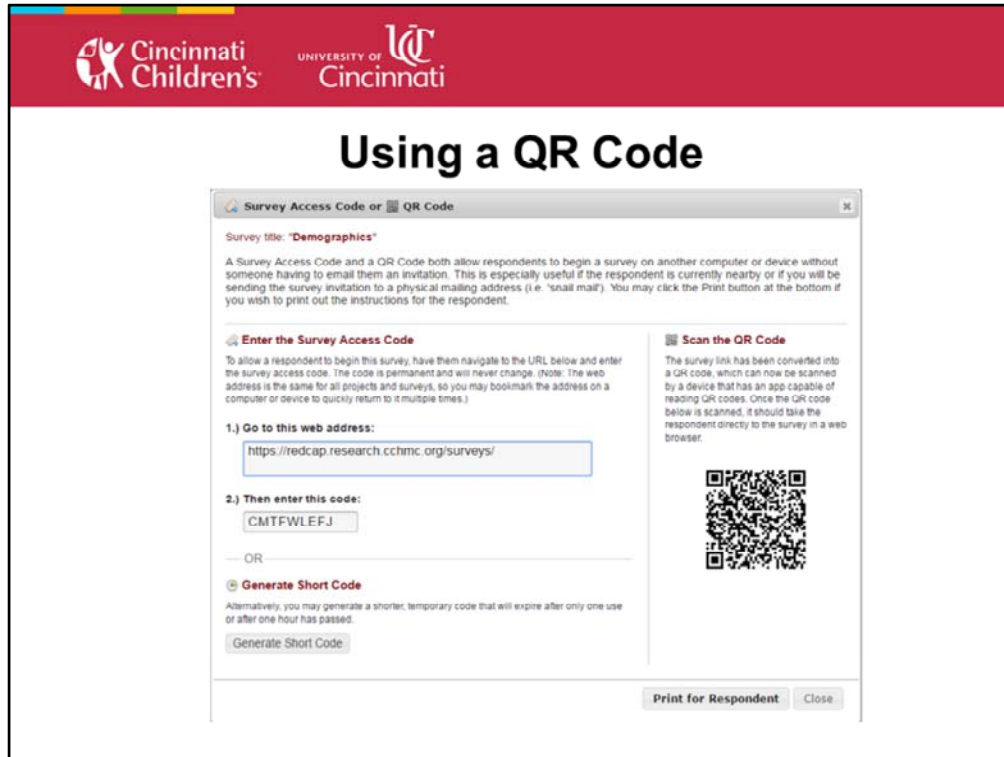
Project Home → Manage Survey Participants → Survey Access Code or QR Code Column

It's possible to give a participant a QR Code, which then can be scanned by a smart phone or IPad to open a REDCap survey.

I've worked with a study that gave participants wrist bands with QR codes, and then used volunteers to scan the wrist band at different stations throughout the day and fill in responses to the survey. QR Codes have some interesting survey design possibilities.

Structure of Today's Training

- Introduction of a scenario

- We'll go through how to build a survey which fits the scenario it in a step by step manner

- Touch on common issues and problem areas for current users

Training Scenario

- 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.

Cincinnati Children's UNIVERSITY OF **Cincinnati**

- 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 (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

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.

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 questionnaire. The questionnaire can be filled out multiple times by the same person.

Project Home → Manage Survey Participants → Participant List

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
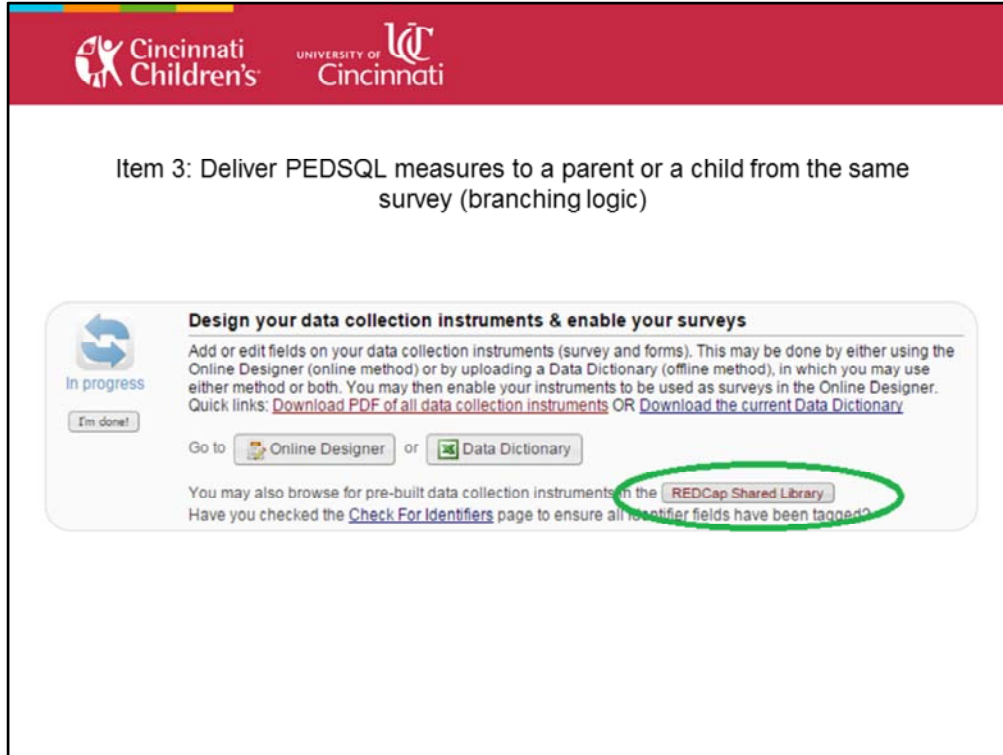
Project Setup → Online Designer → Select a Data Collection Instrument → Add Field

To Pipe in a variable:

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

(Do in person demo of Piping in REDCap here)

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

Project Setup → REDCap Shared Library

The REDCap Shared Library
- You can search for the PEDSQL
- Select the survey and import each into our survey.

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 on the survey instrument level (not individual question level)

Project Setup → Online Designer → Survey Queue

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

Project Setup → Online Designer → Select an Instrument

Branching Logic
- You can also do branching logic for individual questions.
- Here I've indicated that this question 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!

Item 4: Calculate PEDSQL Scores in the survey

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.

Demo Calculated Field Example in REDCap

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 question type
- 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

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 → Designate Instruments for 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
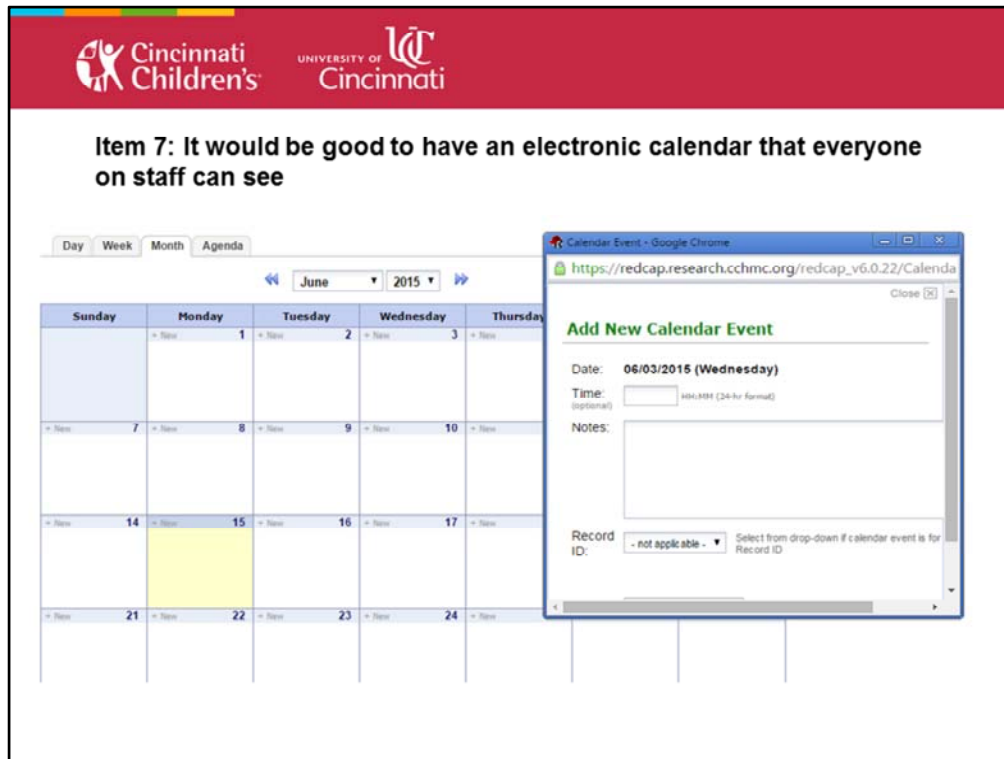
Project Home → Application Side Bar → Calendar → Generate a Schedule

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 change the data.

Project Home → Applications Side Bar → User Rights

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.

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 the 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

Project Home → Applications Side Menu → Data Exports, Reports, and Stats

Exporting data to various data analytic software packages in REDCap
- There are various export formats that are available
- There are also several different options for de-indentification
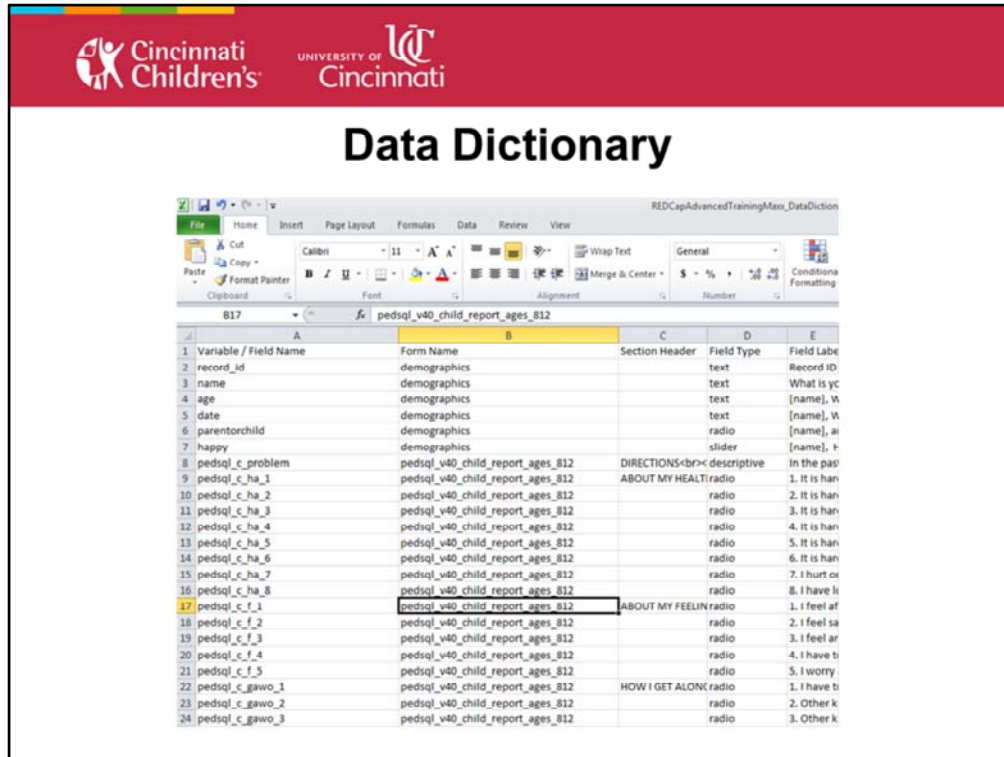
Data Dictionary

Project Home → Quick Tasks → Download the current Data Dictionary

The Data Dictionary is:
- A spreadsheet defining the structure of your project
- Each question on every data collection instrument occupies a row in the spreadsheet
- The spreadsheet can be downloaded, modified outside of REDCap, and then uploaded back into REDCap to change the project structure
- The data dictionary is the fastest and easiest way to copy several fields at once, or make several small changes to multiple questions

Consider watching the training video on the data dictionary for more information

In Conclusion

- Remember to utilize the video's and well placed help articles to help you do what you are trying to accomplish

- Help-REDCap@bmi.cchmc.org is a good place to start when you get stumped.

- The process for creating new projects starts at the CCTST http://cctst.uc.edu