RC101
Introduction to REDCap
Agenda

- What and Why REDCap?
- Quick tour around REDCap
- Creating a data instrument
- REDCap surveys
- Exporting data
- Security
- Other capabilities
- Training & Docs
What and Why REDCap?
What is REDCap?

- REDCap == Research Electronic Data Capture
- REDCap is an Electronic Data Capture (EDC) system
- EDC systems are used to capture data onto an electronic system (i.e., a database)
  - EDCs are generally used by study staff to enter data from paper forms or while interviewing a participant or perhaps abstracting their chart
  - Survey systems are similar to EDCs but are primarily intended to directly survey a participant
- REDCap is an EDC that also supports surveys
Where did REDCap come from?

- REDCap was created and is actively maintained by Vanderbilt University for the use of universities and non-profit institutions.
- Fred Hutch is a member of the REDCap Consortium.
- REDCap is for non-profit data collection only.
  - It may not be used by for-profit entities or for for-profit work.
And where is REDCap going?

- As of Oct 2019, REDCap is installed on 3,719 partner institutions in 131 countries and is serving 772,000 projects with 1,000,000+ users
- REDCap has been cited in 7,136 journal articles
- REDCap has a vibrant & active community and is constantly being upgraded and improved
Quick Tour around REDCap
Fred Hutch REDCap News (No need to login to access any of these links!)

- REDCap is now at version 8.5.1. View REDCap versions and the features added to each release.
- CDS provides extensive (and free) REDCap Training, both in-person and video-based training.
- MyCap may just revolutionize the collection of data from participants on mobile devices. Watch the MyCap video.
- If you want to create a new REDCap project, please complete this short New Project Request survey.
- Additional Information on the Fred Hutch REDCap instance, including security and IRB considerations.

Listed below are the REDCap projects to which you currently have access. Click the project title to open the project. Read more

ATTENTION REQUESTED: You have not accessed the User Access Dashboard yet. It is recommended that you access
the User Access Dashboard at least once each calendar month to review which users still have access to your
projects.

<table>
<thead>
<tr>
<th>My Projects</th>
<th>Organize</th>
<th>Filter projects by title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Title</td>
<td>Records</td>
<td>Fields</td>
</tr>
<tr>
<td>Paul Demo Project July 2018</td>
<td>6</td>
<td>43</td>
</tr>
<tr>
<td>Paul Brand New Project</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>
Access to most parts of REDCap including other pages (My Projects, Project Home, etc.), Data collection, Other stuff (Applications), Reports, Help
Access to online designer, data dictionary, main project settings, optional modules and customizations, user rights, etc.
Overview of all your records; access to custom dashboards.
Add/Edit Records

Paul Demo Project July 2018

Add / Edit Records
You may view an existing record/response by selecting it from the drop-down lists below. To create a new record/response, click the button below.

- Total records: 6
  - Choose an existing Subject ID
    - -- select record --
    - Add new record

Data Search

- Choose a field to search
  (excludes multiple choice fields)
  - All fields

- Search query
  Begin typing to search the project data, then click an item in the list to navigate to that record.

Allows you to...
1. Select a record by subject id.
2. Add a new record.
3. Search for a record by any field in project.
Creating a Data Instrument
Creating a data form using the designer

- Starting the designer
  - Click **Designer** link under Project Home and Design on left-hand navigation bar
  - Click **Online Designer** button under Design your data collection instruments & enable your surveys under Project Setup tab
Initial Project

- For new projects using the Fred Hutch template, you will start with a single data collection instrument, **Sample Instrument**

- Do **not** delete this instrument; rename it instead
Your first form

- It will always have the `record_id` (`subject_id`) field

- **Don’t** delete this field; it is the primary key of your project.

- You may, however, rename it
Adding a field

- Clicking the **Add Field** button, brings you to the **Add New Field** dialog.

- This dialog will vary depending on the **Field Type** selected.
Field Types

- **Standard fields**
  - **Text Box**
    - REDCap supports autocomplete based on biomedical ontologies (e.g., ICD-10 codes).
  - **Notes Box** – paragraph of text
  - **Calculated Field** – numeric calculation
  - **Multiple Choice – Drop-down List** (Single Answer)
  - **Multiple Choice – Radio buttons** (Single Answer)
  - **Checkboxes** (Multiple Answers)
  - **Yes – No** – yes/no radio button
  - **True – False** – true/false radio button
  - **Signature** – draw signature with mouse or finger
  - **File Upload** – attach documents to form
  - **Slider / Visual Analog Scale** – slider from 1 to 100
  - **Descriptive Text** – does not capture data
  - **Begin New Section** – also does not capture data
  - **Dynamic Query** (SQL) – dropdown hooked up to another project. Requires admin to setup

- **Matrix fields**
  - Adds a group of radio button or checkbox fields sharing same set of responses
Other Form Features

- Branching (skip logic)
- Validation of fields
  - Email address, date, number with min, max
- Calculated fields
- Piping of data
  - Customize labels based on data entered
- Action tags
  - Make fields read only, set default value, hide fields, etc.

This topic discussed in much greater detail in RC201 seminar
Other REDCap Features
A survey is a data instrument that can be completed directly by participant.

All data instruments *can be* enabled as surveys.

Surveys can be administered to be anonymous or non-anonymous.

Only one survey can be anonymous per project.
- Additional surveys (since they are tied to a subject) are no longer anonymous.

REDCap can invite participants to take survey via email (or text).
- Reminders also supported.

You can setup automated invites for follow-up surveys.
- Triggered based on logic on form/survey responses.

This topic discussed in much greater detail in RC202 seminar.
REDCap allows you to create reports which can be viewed or be used to export data

Data can be exported to...
- CSV/Excel
- SPSS
- SAS
- R
- STATA

This topic discussed in much greater detail in RC204 seminar
Security

- REDCap allows you to grant security at a very fine grain per user or per roles (groups of users)

- Can also use Data Access Groups (DAGs) to segment data per sites (i.e., Site A can only see Site A data, Site B can only see Site B data, etc.)

This topic discussed in much greater detail in RC204 seminar
Other Capabilities/Features (1 of 2)

- Development and Production modes
  - Ability to draft changes when in production
- Support for instruments that repeat on either a fixed schedule or ad-hoc
- Randomization support
- Built-in audit trail
- Support for field comments
- Data Quality Rules
- Data Import

These topics discussed in much greater detail in other seminars
Other Capabilities/Features (2 of 2)

- Support for double-data-entry
- Records can be locked/e-signed
- REDCap supports advanced capabilities via programming hooks...
  - Data entry triggers (run code when a record is saved)
  - API programming (other systems can pull or push data from/to REDCap)
  - Data entry hooks / external modules (customize the data entry experience in REDCap)
- Offline support for mobile devices

These topics discussed in much greater detail in other seminars
Right within REDCap...

- Note: you must close any project and go to the Home or My Projects tab

CDS provides support in the form...
- Free training & videos
- Free office hours twice a month (1st & 3rd Mondays from 2-3pm)
- Support ticketing system
- Slack channel for peer support
- Option to help with setup and programming
- See Fred Hutch REDCap news at [http://redcap.fredhutch.org](http://redcap.fredhutch.org) for links to all above services
• REDCap is a rich research-oriented EDC with support for surveys

• REDCap is a vibrant product with a bright future

• REDCap has support for logging, import, export, longitudinal studies, email/texting, mobile devices, role-base security, ...

• REDCap can be extended via a number of programming extensions

• REDCap has lots of online help, videos
More Information

- Visit... http://redcap.fredhutch.org
- For help, submit a help ticket, by emailing...
  - redcaphelp@fredhutch.org
Thank you!

redcap@fredhutch.org
Collaborative Data Services (CDS)