Making the Most of REDCap: Beyond Basic Skills

Presenter: Julissa Acevedo, REDCap Administrator
Making the Most of REDCap: Beyond Basic Skills

- Longitudinal Data Collection
- Data Dictionary Edits via Excel
- Data Import Tool
- Data Exports, Reports, and Stats
- User Rights & Roles, Data Access Groups
Making the Most of REDCap:
All About Surveys

- March 2\textsuperscript{nd}

- [https://cri.uchicago.edu/seminar-series/](https://cri.uchicago.edu/seminar-series/)
NEED HELP?

Help Sources

1. Help Sources
2. https://cri.uchicago.edu/redcap
3. Contact REDCap administrator
4. redcap@rt.cri.chicago.edu
Longitudinal Data Collection
What is longitudinal data collection?

Data Collection Instruments

Collected Once Over Time

<table>
<thead>
<tr>
<th>Data Collection Instrument</th>
<th>Event 1 (1)</th>
</tr>
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<tbody>
<tr>
<td>Demographics</td>
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<tr>
<td>Monthly Data</td>
<td>✔</td>
</tr>
<tr>
<td>Completion Data</td>
<td>✔</td>
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</table>
What is longitudinal data collection?

<table>
<thead>
<tr>
<th>Data Collection Instrument</th>
<th>Event 1 (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographics</td>
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<tr>
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<tr>
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</tr>
<tr>
<td>Month 2 Data</td>
<td>✓</td>
</tr>
<tr>
<td>Month 3 Data</td>
<td>✓</td>
</tr>
<tr>
<td>Completion Data</td>
<td>✓</td>
</tr>
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</table>
What is longitudinal data collection?

Data Collection Instruments

<table>
<thead>
<tr>
<th>Data Collection Instrument</th>
<th>Baseline (1)</th>
<th>Visit 1 (2)</th>
<th>Visit 2 (3)</th>
<th>Visit 3 (4)</th>
<th>Final Visit (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographics</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline Data</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monthly Data</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Completion Data</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
How to enable longitudinal data collection?

1. **Enable Setting**
   - Check the box for **Use longitudinal data collection with repeating forms**.

2. **Define Events**
   - Go to **Define My Events**.

3. **Assign Forms**
   - Go to **Designate Instruments for My Events**.
Editing your Instruments: Two Methods

Design your data collection instruments

Add or edit fields on your data collection instruments. This may be done by either using the Online Designer (online method) or by uploading a Data Dictionary (offline method), in which you may use either method or both. Quick links: Download PDF of all data collection instruments OR Download the current Data Dictionary

Go to Online Designer or Data Dictionary

You may also browse for pre-built data collection instruments in the REDCap Shared Library

Have you checked the Check For Identifiers page to ensure all identifier fields have been tagged?

- REDCap alone
- REDCap & Excel
Editing your Instruments: Data Dictionary

This module will allow you to create new data collection instruments/surveys or edit existing ones. Changes may be made by either using the Online Designer or Upload Data Dictionary (see tabs above), in which you may use either method or both. The Online Designer may help you get some initial field/forms built quickly or to make quick edits, but using the Data Dictionary file may be more helpful if you will be adding a large number of fields for this project.

This module may be used for making changes to the project, such as adding new fields or modifying existing fields, by using an offline method called the Data Dictionary. The Data Dictionary is a specifically formatted CSV (comma delimited) file within which you may construct your project fields and afterward upload the file here to commit the changes to your project.

Click the 'Browse' or 'Choose File' button below to select the file on your computer, and upload it by clicking the 'Upload File' button. Once your file has been uploaded, changes will NOT immediately be made but will be displayed and checked for errors to ensure that all the formatting in your Data Dictionary is correct before official changes are made to the project.

Need some help?
If you wish to view an example of how your Data Dictionary may be formatted, you may download the Data Dictionary demonstration file, or you may view the Data Dictionary Tutorial Video (10 min). For help setting up your Data Dictionary, you may also see the instructions listed on the Help & FAQ.

Steps for making project changes:
1.) Download the current Data Dictionary
2.) Edit the Data Dictionary (see the Help & FAQ for help)
3.) Upload the Data Dictionary using the form below
4.) The changes will be made to the project after the Data Dictionary has been checked for errors

Upload your Data Dictionary file (CSV file format only)
Format for min/max validation values for date and datetime fields: MM/DD/YYYY or YYYY-MM-DD

[Upload File]
Steps for Data Import Tool

1. DOWNLOAD the Data Dictionary
2. EDIT the Data Dictionary
3. UPLOAD the Data Dictionary
Caution!

Uploading a new data dictionary **replaces** the old one. It does not append to the current one. Always upload the old dictionary **with** your changes – not just your changes.

Data dictionary version history is available for projects in **Production Mode**, but it is **not** available for projects in **Development Mode**.
1. Copy several instruments at once.
2. Apply branching logic to many fields.
3. Make mass changes to all fields for:
   * Field Notes
   * Text Validation
   * Identifiers
   * Required Fields
   * Custom Alignment
Editing your Instruments: Online Designer

The Online Designer will allow you to make project modifications to fields and data collection instruments very easily using only your web browser. NOTE: While in development status, all field changes will take effect immediately in real time.

**Add new instrument:**
- **Create** a new instrument from scratch
- **Import** a new instrument from the official REDCap Shared Library
- **Upload** instrument ZIP file from another project/user or external libraries

**Data Collection Instruments**

- **Demographics**
  - Fields: 25
  - View PDF
  - Instrument actions: Choose action

- **Baseline Data**
  - Fields: 18
  - View PDF
  - Instrument actions: Choose action

- **Monthly Data**
  - Fields: 19
  - View PDF
  - Instrument actions: Choose action

- **Completion Data**
  - Fields: 5
  - View PDF
  - Instrument actions: Choose action

- **Copy instrument**
Data Import Tool
Data Collection Types

- Online data entry
- Excel data import
Data Import Tool

This module may be used for importing data into this project from a CSV (comma delimited) file or alternatively from an XML file in CDISC ODM format. Below are the steps you will need to follow in order to import your data successfully into this project.

NOTICE:
This project is currently in Development status. Real data should NOT be entered until the project has been moved to Production status.

Options:
- CSV Import
- CDISC ODM (XML) Import

Instructions:
1.) **Click the link below** to download your data import template as a CSV (comma delimited) file. Save it locally to your computer and then open it to begin filling it with the data you wish to import.
   - Download your Data Import Template (with records in rows)
   - OR
   - Download your Data Import Template (with records in columns)

2.) In each column of the Data Import Template file that you downloaded, place the data for each record that you wish to import. Once all your data has been added, save the file.
   - Be sure not to change the Variables/Field Names in the file or an error may occur.
   - Also, for all of the ‘dropdown’ or ‘radio’ fields in the project, you must make sure that the numerical value (rather than the text value) is entered in those cells, or else it cannot be processed.
   - Any empty rows or columns in the file can be safely deleted before importing the file. Doing this reduces the upload processing time, especially for large projects.

3.) **Click the ‘Browse’ or ‘Choose File’ button below** to select the file on your computer, and upload it by clicking the ‘Upload File’ button.

4.) Once your file has been uploaded, the data will NOT be immediately imported but will be displayed and checked for errors to ensure that all the data is in correct format before it is finally imported into the project.

Record format: The file to be uploaded has its records stored as separate
- Rows

Format for date and datetime values:
- MM/DD/YYYY or YYYY-MM-DD

Allow blank values to overwrite existing saved values:
- No, ignore blank values in the file (default)

Upload your CSV file:
- Browse

Upload File
Steps for Data Import Tool

1. DOWNLOAD the Data Import Template
2. MAP your data to the Import Template
3. UPLOAD the Data Import Template
Caution!

Don’t change the variable names on the template. They must match the project’s variable names.

For all 'dropdown' or 'radio' or 'checkbox' fields, upload the numerical value (rather than the text value).

Empty rows or columns can be deleted before importing the file to reduce the upload processing time.

You can import a few variables at a time. The entire template doesn’t need to be imported all at once.
Data
Exports,
Reports,
and Stats
Data Exports, Reports, and Stats Page

This module allows you to easily view reports of your data, inspect plots and descriptive statistics of your data, as well as export your data to Microsoft Excel, SAS, Stata, R, or SPSS for analysis (if you have such privileges). If you wish to export your "entire" data set or view it as a report, then Report A is the best and quickest way. However, if you want to view or export data from only specific instruments (or events) on the fly, then Report B is the best choice. You may also create your own custom reports below (if you have such privileges) in which you can filter the report to specific fields, records, or events using a vast array of filtering tools to make sure you get the exact data you want. Once you have created a report, you may view it as a webpage, export it out of REDCap in a specified format (Excel, SAS, Stata, SPSS, R), or view the plots and descriptive statistics for that report.

A) All data (all records and fields)
   - View Report
   - Export Data
   - Stats & Charts

B) Selected instruments (all records)
   - Make custom selections

* Create New Report

[How-to video link]
Other Export Options

Data Exports, Reports, and Stats

Below are some additional export options that are available for your project. Instructions for each type of export are provided. You may click the corresponding icon on the right to download the file for each.

1. **Export entire project as REDCap XML file (containing metadata & data)**
   The entire project (all records, events, arms, instruments, fields, and project attributes) can be downloaded as a single XML file, which is in CDISC ODM format (ODM version 1.3.1). This XML file can be used to create a clone of the project (including its data, optionally) on this REDCap server or on another REDCap server (it can be uploaded on the Create New Project page). Because it is in CDISC ODM format, it can also be used to import the project into another ODM-compatible system.

2. **PDF of data collection instruments containing saved data (all records)**
   The data for all records in this project may be downloaded in a single PDF file. This file contains the actual page format as you would see it on the data entry page or survey and includes all data for all records for all data collection instruments. Click the icon to the right to begin downloading the file.

   *Note: If your project has a large amount of fields/questions or records/responses, the resulting PDF file may be very large both in file size and in page length. Please be patient if the file takes time to download.*
User Rights
**User Rights**

This page may be used for granting users access to this project and for managing the user privileges of those users. You may also create roles to which you may assign users (optional). User roles are useful when you will have several users with the same privileges because they allow you to easily add many users to a role in a much faster manner than setting their user privileges individually. Roles are also a nice way to categorize users within a project. In the box below you may add/assign users or create new roles, and the table at the bottom allows you to make modifications to any existing user or role in the project, as well as view a glimpse of their user privileges.

### Add new users:
Give them custom user rights or assign them to a role.

- **Add new user**
- **Add with custom rights**

### Assign new user:

- **Assign to role**

### Create new roles:
Add new user roles to which users may be assigned.

- **Enter new role name**
- **Create role**

### Current Users

<table>
<thead>
<tr>
<th>Role name</th>
<th>Username or users assigned to a role</th>
<th>Expiration</th>
<th>Project Setup</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>jacevedo (Julissa Acevedo)</td>
<td>never</td>
<td>Full Data Set</td>
</tr>
</tbody>
</table>

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**The University of Chicago Medicine & Biological Sciences**

**Center for Research Informatics**

**REDCap**
Research Electronic Data Capture
User Roles

This page may be used for granting users access to this project and for managing the user privileges of those users. You may also create roles to which you may assign users (optional). User roles are useful when you will have several users with the same privileges because they allow you to easily add many users to a role in a much faster manner than setting their user privileges individually. Roles are also a nice way to categorize users within a project. In the box below you may add/assign users or create new roles, and the table at the bottom allows you to make modifications to any existing user or role in the project, as well as view a glimpse of their user privileges.

Add new users: Give them custom user rights or assign them to a role.

- Add new user
- Assign new user

Create new roles: Add new user roles to which users may be assigned.

- Enter new role name
- Create role

<table>
<thead>
<tr>
<th>Role name</th>
<th>Username or users assigned to a role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Manager</td>
<td>jacevedo (Julissa Acevedo)</td>
</tr>
<tr>
<td>Data Entry Personnel</td>
<td>t.cri.redcap1 (Jane Doe)</td>
</tr>
<tr>
<td></td>
<td>t.cri.redcap2 (John Smith)</td>
</tr>
</tbody>
</table>
Data Access Groups

This page may be used for granting users access to this project and for managing the user privileges of those users. You may also create roles to which you may assign users (optional). User roles are useful when you will have several users with the same privileges because they allow you to easily add many users to a role in a much faster manner than setting their user privileges individually. Roles are also a nice way to categorize users within a project. In the box below you may add/assign users or create new roles, and the table at the bottom allows you to make modifications to any existing user or role in the project, as well as view a glimpse of their user privileges.

Add new users: Give them custom user rights or assign them to a role.

- Add new user
- Add with custom rights

- Assign new user
- Assign to role

Create new roles: Add new user roles to which users may be assigned.

Enter new role name

Create role

<table>
<thead>
<tr>
<th>Role name (click role name to edit role)</th>
<th>Username or users assigned to a role (click username to edit or assign to role)</th>
<th>Expiration (click expiration to edit)</th>
<th>Data Access Group (click DAG to assign user)</th>
<th>Project Design and Setup</th>
<th>User Rights</th>
<th>Data Access Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Manager</td>
<td>jacevedo (Julissa Acevedo)</td>
<td>never</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Data Entry Personnel</td>
<td>t.cri.redcap1 (Jane Doe)</td>
<td>never</td>
<td>UIC</td>
<td>⊗</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td></td>
<td>t.cri.redcap2 (John Smith)</td>
<td>never</td>
<td>Lurie</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
</tbody>
</table>
TRAINING MANUALS

The following manuals are available for your reference. Please contact REDCap Support with any questions.

Quick Start Guide
Beginner's Guide
Advantages and Limitations
Best Practices
Avoid Common Pitfalls
User Rights Best Practices
Project Templates
Project Template Data Dictionaries
Data Dictionary
Reports and Exports
Data Resolution Workflow
Randomization Module
Mobile App Guide
Multiple Surveys
Automated Survey Invitations
Survey Queues
Personalized Survey Greetings
Matrix Fields
Piping Feature
Deleting Records
Excel Supplement

http://cri.uchicago.edu/redcap-training/
Thank you.