Managing Data in REDCap

Reports and Data Import/Export

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Introduction and Learning Objective

• Learn how to set up custom data report in REDCap.

• Find out how to export data to statistical packages.

• Learn how to import data to a REDCap project.
Data Exports, Reports, and Stats

How-to video

Data Exports, Reports, and Stats

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

My Reports & Exports

<table>
<thead>
<tr>
<th>Report name</th>
<th>View/Export Options</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong> All data (all records and fields)</td>
<td>![View Report](View Report) ![Export Data](Export Data) ![Stats &amp; Charts](Stats &amp; Charts)</td>
</tr>
<tr>
<td><strong>B</strong> Selected instruments and/or events (all records)</td>
<td>![Make custom selections](Make custom selections)</td>
</tr>
<tr>
<td>1 Demographics</td>
<td>![View Report](View Report) ![Export Data](Export Data) ![Stats &amp; Charts](Stats &amp; Charts)</td>
</tr>
</tbody>
</table>

[Create New Report](Create New Report)
Reports
**Report A**

Good for exporting all data. If you have a large project with many events and data, you may not be able to open report A.

**Report B**

Lets you pick which instruments, events to include in your report. After you select the instruments and events, you can view the report or create a custom report based on the selections.
Custom Reports

Steps to create custom reports:

1. Click +Create New Report and enter a name for the report. You can put in optional description for the report.
2. Assign view access and edit access to project users.
3. Add fields to the report by using the drop down list, quick add button or select instrument to add all fields from an instrument.
4. Add optional filters to limit the report results.
5. Select fields to order the report results.
Other Optional Report Options

- Include the Data Access Group (DAG) name
- Include the survey identifier field and survey timestamp field(s)
- Combine checkbox options into single column of only the checked-off options (will be formatted as a text field when exported to stats packages)
- Filter by events or filter by DAG
- Live Filters

Live Filters can be selected on the report page for dynamically filtering data in real time. Fields that can be used for live filters: record id, multiple choice fields, events or data access group.
Live Demo
Data Export
Data Export

- Data can be exported to Excel, SAS, R, SPSS, STATA, XML.
- Options to remove identifiers from data export.

Choose export format
- CSV / Microsoft Excel (raw data)
- CSV / Microsoft Excel (labels)
- SPSS Statistical Software
- SAS Statistical Software
- R Statistical Software
- Stata Statistical Software
- CDISC ODM (XML)

De-identification options (optional)
- The options below allow you to limit the amount of sensitive information that you are exporting out of the project. Check all that apply.
- Known Identifiers:
  - Remove all tagged Identifier fields (tagged in Data Dictionary)
  - Hash the Record ID field (converts record name to an unrecognizable value)
- Free-form text:
  - Remove unvalidated Text fields (i.e. Text fields other than dates, numbers, etc.)
  - Remove Notes/Essay box fields
- Date and datetime fields:
  - Remove all date and datetime fields
  - OR
  - Shift all dates by value between 0 and 364 days (shifted amount determined by algorithm for each record) [What is date shifting?]
- Also shift all survey completion timestamps by value between 0 and 364 days (shifted amount determined by algorithm for each record)

Deselect all options

Advanced data formatting options
- Set CSV delimiter character
  - Set the delimiter used to separate values in the CSV data file (only valid for CSV Raw Data and CSV Labels export formats):
    - , (comma) - default
- Force all numbers into a specified decimal format?
  - You may choose to force all data values containing a decimal to have a specified decimal character (comma or period/full stop). This will be applied to all calculations and number-validated text values in the export file.
  - Use fields' native decimal format (default)

**NOTE:** Your data formatting selections above will be remembered in the future and will be pre-selected upon your next export.
Exporting data to statistical program

• When exporting data to statistical program, REDCap will generate 3 files: Pathway Mapper file, syntax file and data file.

• Download and save all 3 files to one folder. There should not be other syntax or data files from previous export in this folder.

• Double click on the pathway mapper file. This step will add codes to the syntax file about the location of the data file.

• Open the syntax file and run the codes to import the data to the statistical program
Live Demo
QUESTIONS?
Stats and Charts
Stats and Charts

<table>
<thead>
<tr>
<th>Gender</th>
<th>Refresh Plot</th>
<th>View as Bar Chart</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Count (N) Missing Unique</td>
<td>30 0 (0.0%) 2</td>
<td></td>
</tr>
</tbody>
</table>

Counts/frequency: Male (19, 63.3%), Female (11, 36.7%), Other (0, 0.0%)

**height < 150**

**DISPLAY OPTIONS**
Optional: Select a record to overlay onto the plots below

**Viewing options:** Show plots & stats Show plots only Show stats only

**Gender**

| Total Count (N) Missing Unique | 30 0 (0.0%) 2 |

Counts/frequency: Male (19, 63.3%), Female (11, 36.7%), Other (0, 0.0%)

**Height**

<table>
<thead>
<tr>
<th>Total Count (N) Missing Unique Min Max Mean StDev Sum</th>
<th>10 0 (0.0%) 8 120.00 140.00 135.70 10.13 1,357.00 121.35 122.70 127.25 137.00 144.50 145.30 146.65</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Percentile</th>
<th>0.05</th>
<th>0.10</th>
<th>0.25</th>
<th>0.50</th>
<th>Median</th>
<th>0.75</th>
<th>0.90</th>
<th>0.95</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>120</td>
</tr>
</tbody>
</table>

Lowest values: 120, 123, 125, 134
Highest values: 140, 143, 145, 146
Live Demo
QUESTIONS?
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.

- **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 have 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.
   - All multiple choice fields (e.g., dropdown, radio) must have the raw coded value (rather than the choice label) entered in those cells, or else it cannot be processed. These can be found in the Codebook.
   - 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.

**How to import records for events:**

In order to import records for longitudinal projects such as this one, you must use the 'redcap_event_name' field in your data import file, in which you will provide a unique event name for each record. This will tell it which event that the data belongs to for that record. A list of all the unique names are listed on the Define My Events page. If the 'redcap_event_name' field is not specified for every record being imported, it will display an error.
How to import data to project

- On the data import page, follow the instructions to download the data import template.
- Place the data for each record that you wish to import in the data import template. Once all your data have been added, save the file.
- All multiple choice fields (e.g., dropdown, radio) must have the raw coded value (rather than the choice label)
- Delete any empty columns or rows to save processing time
- Follow the instructions to upload the file.
- Once the file is uploaded, the data will be displayed and checked for errors before it is imported
Data Import for Longitudinal Projects, Repeating Forms or Data Access Group

- **Longitudinal project**
  - Must include `redcap_event_name` field in your data import file. A list of unique event names can be found on the define my event page.

- **Repeating form**
  - Must include `redcap_repeat_instrument` and `redcap_repeat_instance` fields in the import file. Repeat instrument name can be found in the data dictionary and the repeat instance is the instance number of your data.

- **Data Access Group**
  - When importing new record, you can assign data access groups to your records. Include the `redcap_data_access_group` field with your data import. A list of data access group names can be found on the data access group page.
Live Demo
QUESTIONS?
• 'API' stands for 'Application Programming Interface'
• REDCap API is an interface that allows external applications to connect to REDCap remotely
• Can be used for automated data imports/exports from a specified REDCap project
• API Token
  – Rather than using username/passwords, the REDCap API uses tokens as a means of secure authentication.
  – A token must be included in every API request.
  – Each user will have a different token for each REDCap project to which they have access.
  – Enable API Export/Import rights before requesting API token.
API Playground

• An interface that allows experimentation with the REDCap API without actually writing any code.
• You can explore all the different API methods and their various options to customize a given API request.
• You may even execute a real API request and see the exact response that REDCap returns from the request.
• Example codes can be downloaded from API documentation page.
Live Demo
Other Export Options

- Export entire project as REDCap XML file (containing metadata & data)
- ZIP file of uploaded files (all records)
- PDF of data collection instruments containing saved data (all records)
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.

**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.

**ZIP file of uploaded files (all records)**
Uploaded files for all records in this project may be downloaded in a single ZIP file. This file contains any files uploaded for ‘File Upload’ fields/questions on a survey or data entry form. The ZIP file will contain a folder of all the files organized by record name and variable/field name and also contains an index.html file that serves as a table of contents for all the files. After downloading the ZIP file, extract all the files/folders to a directory on your local computer, after which you may double-click the index.html file inside to view a listing of the files using your web browser, or you may view the files directly by looking in the ‘documents’ folder. Click the icon to the right to begin downloading the ZIP file.

*Note: If your project has a large amount of ‘File Upload’ fields/questions or records/responses, the resulting ZIP file may be very large in file size. Please be patient if the file takes time to download.*

**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. Also, you may optionally click the Compact option to download a PDF that excludes fields that have no data saved and excludes unselected multiple choice options. (Note: Section headers and descriptive fields will still be included.)

*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*
QUESTIONS?
Thank You!

Further Questions: Contact us at REDCap@yale.edu