

Data Exports, Reports and Stats

On the left-hand navigation bar, under Applications, you will see a link for Data Exports, Reports & Stats. This page allows you to easily view reports of your data as well as export your data to Microsoft Excel, SAS, Stata, R or SPSS for analysis. If you wish to export your *entire* data set or view it as a report, then Report A is the best and quickest way. If you want to view or export data from only specific instruments (or events) on the fly, then Report B is the best choice.

Data Exports, Reports, and Stats


 [VIDEO: How to use Data Exports, Reports, and Stats](#)

[+ Create New Report](#)

[My Reports & Exports](#)

[PDF & Other Export Options](#)








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.

My Reports & Exports				
	Report name	View/Export Options	Management Options	Report ID  (auto-generated)
A	All data (all records and fields)	View Report Export Data Stats & Charts		
B	Selected instruments (all records)	Make custom selections		
+ Create New Report				

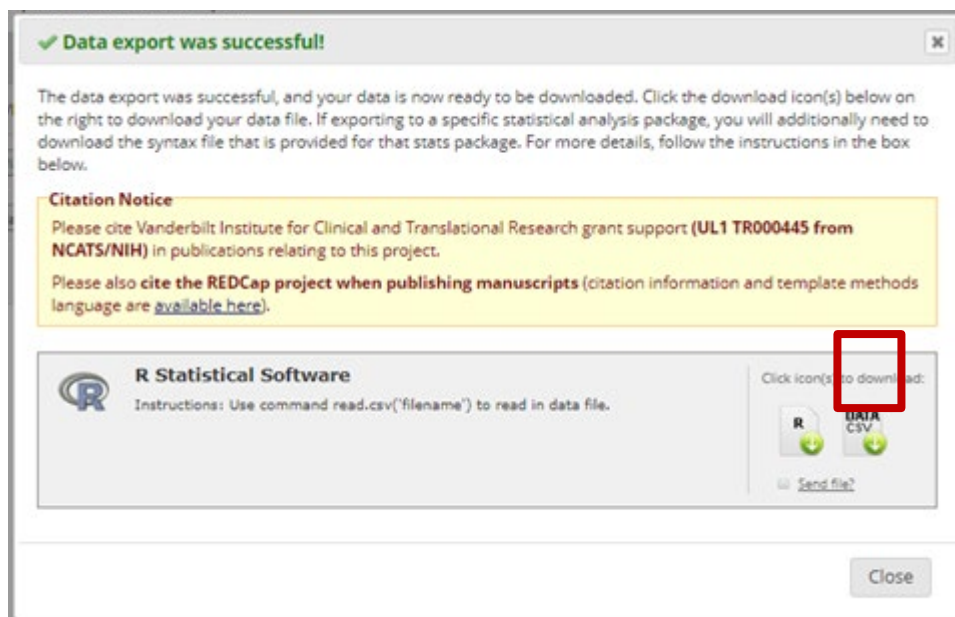
Tips for Exporting Data to R

You have the ability to manually download data into R via the Data Exports, Reports and Stats application. When you click on the export button, you see this:

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)

Select the "CSV" option:



CSV is the best option, rather than "save as R file option". *When you select export as R file, it creates an R script that doesn't really work (and expects you to ALSO download the CSV) instead of downloading the data in a uniquely R format.*

You can now read the data into R using the interactive interface in RStudio (File -> Import Dataset) or by entering the command `read.csv(filename)` at the R prompt or in an R script.

If you would like a reproducible workflow that grabs data from REDCap every time it runs, consider using an API.

Create Custom Report

You may create your own custom reports 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.

Custom report: Step 1

To get started, click on Data Exports, Reports & Stats on the left-hand navigation bar. In your workspace on the right-hand side of the screen, you will see a tab 'Create New Report' – click on that.

Enter a name for the report and indicate who should be able to access the report:

- All users
- A list users specified by name
- All users from a particular user role or roles
- All users from a particular data access group or groups

Indicate who should have access to editing, copying or deleting the report. This feature will only be available to users on the project who have "Add/Edit/Organize Reports" privileges. Multiple users might want to use a report in different ways and might choose to change some of the fields, filters or sorting options. This setting will allow you to restrict other users' ability to make those changes.

Custom report: Step 2

Specify the fields to include in the report

STEP 2

Fields to include in report + Quick Add Add all fields from selected instrument: -- choose instrument --

Field 1	record_id "Record ID"		Instrument: Registration Survey	
Field 2	Type variable name or field label		Instrument:	

Note:

- If your list of fields is very long it can be easier to find them by clicking **ABI** and opting to have a text entry box with an autocomplete dropdown.

- record_id "Record ID"
- email "Email address"

- You can click on the 'Quick Add' button to easily tick off the fields you want to see in the report
- You may reorder fields by dragging a field to a new position
- Remove fields using the red **X**

Additional report options

Additional report options (optional)

- Include the Data Access Group name for each record (if record is in a group)?
- 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)
- Remove line breaks/carriage returns from all text data values (only applicable for CSV Raw and CSV Label data exports)

Include the Data Access Group name for each record

If your project has Data Access Groups, you will have the option to include the Data Access Group name as a datapoint in the report.

Survey Identifier field and survey timestamp fields

If your project includes surveys, you have the option to tick a box so that the survey identifier field and survey timestamp fields are included in your report.

If you use multiple choice checkboxes in your project, you will note that each choice takes up its own column in a report or export. If you prefer to have those columns combined, tick the option to combine check box options.

Custom report: Step 3

Specify a filter for the records (optional).

You can apply straightforward filters by selecting the relevant fields and specifying an operator (e.g. "equals") and a value to match. For complex expressions involving functions or requiring parentheses click **Use advanced logic** to write your filter expression. The syntax for the expression follows the same rules as for [calculated fields](#) and [branching logic](#).

Live Filters

Live filters can be selected on the report page for dynamically filtering data in real time. With the exception of the Record ID field, only multiple-choice fields can be used as Live Filters.

An example of when this might be useful is if you are looking at a report of all patients who have diabetes. You could have a live filter on gender and race. So when you first view the report (with no live filters), you would see all patients with diabetes. If you wanted to know how many of them are female, you could click on the live filter for gender and select to only see females. You would then be looking at a sub-set of your data: patients with diabetes who are female. You can then click the live filter for race and select African American. That would deliver you a further sub-set of data, this one displaying only the African American female patients who have diabetes.

DAG filter

If your project has DAGS in it, you have the option to limit your results based on DAG name(s).

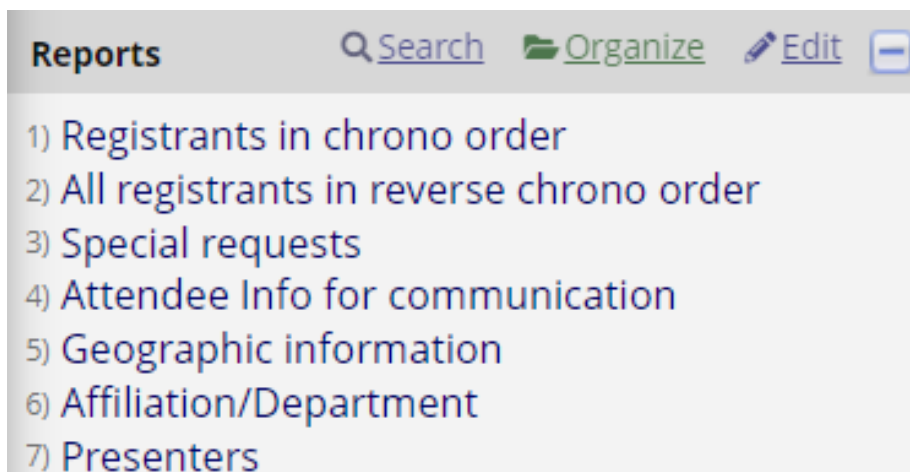
Custom report: Step 4

Specify up to three of the report fields by which the records will be sorted

You will then click **Save Report**. You will be asked if you wish to View the Report, Return to My Reports & Exports or Continue Editing report. Once you click View Report, your report will be added to your report list on the left-hand navigation bar.

My Reports & Exports			
	Report name	View/Export Options	Management Options
A	All data (all records and fields)	View Report Export Data Stats & Charts	
B	Selected instruments (all records)	Make custom selections	
1	Registrants in chrono order	View Report Export Data Stats & Charts	Edit Copy Delete

Reports are also listed in their own section of the left-hand menu and are available directly from any project page



Design tip: Survey Timestamps

While you do have the option in the Reports section to add a survey timestamp to a report, that timestamp is solely for the first survey in your project. If you have multiple surveys, REDCap does not automatically capture those survey completion times in the Report. Additionally, the survey timestamp is not a field on which you can sort your report. So if you need to sort your responses based on completion time, you will not be able to do that.

You can automatically capture the timestamp of subsequent survey completion times (and the initial survey completion time, should you wish to use that field to sort results) using [action tags](#). To do that, add a validated date/time field as the last field in your survey. When in that field, click on action tag and add 'NOW-SERVER'. Also

click on 'HIDDEN-SURVEY'. What that does is instruct REDCap to capture the date behind the scenes without the survey participant having to fill it in.

See below for a screenshot example.

Edit Field

You may add a new project field to this data collection instrument by completing the fields below and clicking the Save button at the bottom. When you add a new field, it will be added to the form on this page. For an overview of the different field types available, you may view the [Field Types video \(4 min\)](#).

Field Type: Text Box (Short Text, Number, Date/Time, ...) ▼

Question Number (optional)
Displayed only on the survey page

Field Label Use the Rich Text Editor [?](#)
Today's Date:

Action Tags / Field Annotation (optional)
@NOW-SERVER @HIDDEN-SURVEY

Learn about [@ Action Tags](#) or [using Field Annotation](#)

Variable Name (utilized in logic, calcs, and exports)
survey1completiontime Enable auto naming of variable based upon its Field Label?
ONLY letters, numbers, and underscores

How to use [Smart Variables](#) [Piping](#)

Validation? (optional) Datetime (M-D-Y H:M) ▼
Minimum:
Maximum:
-- or --
-- select ontology service -- ▼

Required?* No Yes
* Prompt if field is blank

Identifier? No Yes
Does the field contain identifying information (e.g., name, SSN, address)?

Custom Alignment Right / Vertical (RV) ▼

Comparing Timestamps

Survey Timestamp	Action tag NOW-SERVER	Action tag NOW
Shows the time of the Vanderbilt server (Central Time US) at the time the survey was submitted.	Shows the time of the Vanderbilt server (Central Time US) at the time the survey page loaded.	Shows the user's local time at the time the page loaded.

Capturing start and end time of a survey response

To capture how long it takes a survey participant to complete a survey, you need to have two timestamps to compare: a start and end time. To do this, you must use the field type Begin New Section to segment your survey into these start and end times. You must also enable the multiple page per section feature in survey settings. With those things in place, you can add two fields to capture the start and end time. The start field should be the first field in the survey and the end field should be the last field in the survey. Those fields will have the action tags HIDDEN-SURVEY and NOW added to them. This means the fields will not be visible to the survey participant, but REDCap will use those fields to capture the time behind the scenes automatically. Once that data is captured, you can compare the start and end time to determine the duration.

1. Add a field named 'starttime' as the first field in the survey. It is a text box field with YMD HM validation. Add the action tags HIDDEN-SURVEY and NOW-SERVER to the field.
2. Add a Begin New Section field type immediately after the starttime field or shortly after it.
3. Add a field named 'endtime' as the last field in the survey. It is a text box field with YMD HM validation. Add the action tags HIDDEN-SURVEY and NOW-SERVER to the field.
4. Add a Begin New Section field type right before the endtime field or shortly before it.
5. In survey settings, scroll down to Survey Customizations and select 'one section per page (multiple pages)' for Question Display Format. Be sure to scroll up or down and click the 'save changes' button.

For completed survey responses, you can now subtract the endtime from the starttime to determine how long the participant took to complete the survey.

Automatically calculating survey duration time

You can create a calculated field that will compare the end/start time in the above-designed scenario. To do this, you could create a separate data entry form within the project. In that data entry form, create a calculated field. The calculation equation would be `datediff ([endtime],[starttime],"m")`.

Managing and Using Your Reports

On the left-hand navigation bar, under Applications, you will see a link for Data Exports, Reports & Stats. When you click on that, in your right-hand workspace you will land on a tab called "My Reports & Exports". You will see the two built-in reports (Report A – All data and Report B – Selected instruments) and then any custom reports that have been created for your project. The table supports the following tasks:

1. View Report

Run the report and display the results in a table onscreen

2. Export Data

Select an export format and any de-identification options and download report data in CSV format, plus a syntax file for the stats package options.

3. Stats & Charts

Graphical and statistical information of your collected data can be viewed by clicking on the Stats & Charts button for any report.

View scatterplot graphs, summary stats or bar/pie charts for each variable in the report. It does not enable you to define your own summaries, such as tabulations of two fields. If you wish to do that, you can create a smart variable of Aggregate Functions, Charts or Tables. For more information on that, click on the Smart Variables button on the Project Setup page:



How the summary data is presented varies according to the field type:

- **Categorical fields** (quantifiable fields, which includes any of the choice field types): summarized in bar and pie charts
- **Numeric fields**: summarized in scatter plots. This can be of assistance in identifying outliers. Click on a data point to navigate to the specific record.
- **Text fields**: you see simple totals for the number of records that have data and the number of records where the value is missing

4. **Edit** Report

Return to the edit screen to make changes to the design of the report.

5. **Copy** Report

Create a new report as a copy of the report selected. A new title must be entered, and you may then make alterations to other aspects of the new report's setup (allowed users, fields, record filter, sort).

6. **Delete** Report

Remove the report. There is no Undo!

7. **Reorder Report List**

You can reorder the list of reports by hovering your mouse pointer over the left-hand column of the table of reports and dragging a row in the table to a new position.

Reports and Data Exports with Repeating Instruments and Events

Two new fields will be automatically included in Reports and Data Exports if data is collected through repeating instruments or events. Each repeated instance of an instrument or event will be displayed as a new row in the report or export file.

A Repeating Instrument will populate both columns and provide multiple rows for each instance.

A Repeating Event will provide one row without populating the Repeat Instrument column (all of the instruments for the event are repeated). The Repeat Instance number is an auto-numbered value (beginning with 1) that is incremented with each repeat of the instrument or event.

Sample Reporting

Study ID (study_id)	Event Name (redcap_event_name)	Repeat Instrument (redcap_repeat_instrument)	Repeat Instance (redcap_repeat_instance)	Date collected (meddat)	Medication Name (med)	Dosage (dose)	What is the Adverse Event? (adverse_event)
1178902	Baseline						
1178902	Baseline	Medications	1	2017-03-23	Tylenol		
1178902	Baseline	Medications	2	2017-03-25	Aspirin		
1178902	Baseline	Medications	3	2017-03-28	Zyrtec	10 mg	
1178902	Month 1		1	2017-03-20	Prilosec	10 mg	Nausea
1178902	Month 1		2	2017-03-29	Lisinopril	5 mg	Headache

The Medications Instrument has 3 instances. The Month1 Event with all of its instruments, has been repeated twice.

If the report contains data specifically from a repeating instrument (as opposed to a repeating event), a field named 'redcap_repeat_instrument' will additionally be included, representing the instrument name for which the row of data belongs.

Export Data

Exporting "All data (all records and fields)" ✕

Select your export settings, which includes the export format (Excel/CSV, SAS, SPSS, R, Stata) and if you wish to perform de-identification on the data set.

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?](#)

[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):

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.

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

Export Data
Cancel

After clicking Export Data for a report, you must select the format for the export and any de-identification options.

Export Formats

Choose how you would like to download the data. Either:

1. CSV Format

- Raw data:

Variable names in the first row; categorical data shown as values

	A	B	C
1	record_id	participant_complete	consent_survey_complete
2	112	2	2
3	211	2	0
4	212	2	0

- Labelled data:

Variable labels shown in first row; categorical data shown as labels

	A	B	C
1	Record ID	Complete?	Complete?
2	112	Complete	Complete
3	211	Complete	Incomplete
4	212	Complete	Incomplete

Use the “Raw” option if you are wanting to take a backup of your data or if you want to use the data for producing charts or to prepare a file to import back into REDCap (or indeed another system).

Remember that CSV files are NOT Excel files, and Excel may not display CSV data exactly how it is in the CSV file. See [Note on CSV Files](#).

2. Statistical Software

For each stats package option (SPSS, SAS, R and Stata) REDCap will give you a raw data file in CSV format and a syntax file that will read in the data from the CSV file and apply the appropriate column formatting, variable labels and value labels.

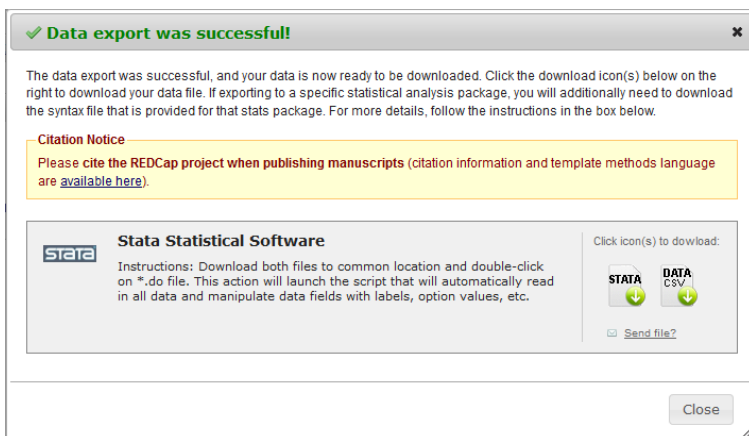
De-Identification

- **Known identifiers:** obfuscate record identifiers and/or ensure all fields that are flagged as identifiers in the online designer or data dictionary are excluded from the export
- **Free-form text:** text entry fields with no validation (and particularly Notes-type fields) may well have identifying information entered into them. You can opt to exclude such fields from the export
- **Date and datetime fields:** can be excluded or date-shifted whereby all dates for each record are shifted by a random but consistent number of days (for example, record 1 dates all +23 days, record 2 dates all +201 days etc.)

For users whose export permissions are set to **De-identified only** (see [User Rights](#)) these options (with the exception of record identifier hashing) are always applied.

Downloading

After the export is run and you have confirmed the citation reminder you are presented with buttons for downloading the files in the format you chose. For example, here a raw data file and Stata syntax (.do) file:



Notes on CSV files:

- Note the reminder to cite your use of REDCap in any published material. Check out: <http://www.project-redcap.org/cite.php> for some boilerplate text.

- The data in the Excel CSV Raw and stats package DATA CSV files are identical – raw, unlabelled data in [CSV format](#) – but the stats package DATA CSV files do not contain header rows (field information is included in the syntax files)
- The **Pathway Mapper** files for SPSS and SAS are Windows batch files. When you have downloaded the associated syntax and data files, you can run (double-click) the pathway mapper. It will update the syntax file's file handle/infile statement so that it includes the full file path to the location where the files are saved.

Using the **Pathway Mapper** is optional (and not possible if you use Mac or Linux). You can perform the same task by manually setting the path in the syntax file, or by setting the current working directory to the appropriate location.

- **Send file?** loads the export files into REDCap's [Send-It](#) application, enabling you to send the files securely to anyone. The maximum file size is 125 MB.
- All exports are saved to the database and can be downloaded again using the [File Repository](#)

PDF & Other Export Options

The **PDF & Other Export Options** tab gives you options for downloading:

- A ZIP file containing all files uploaded to all of your project records
- A single PDF containing all data for all forms for all of your project records Further information is available in the text on the page.

[+ Create New Report](#)
[My Reports & Exports](#)
[PDF & Other Export Options](#)

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.

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.



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.