REDCap
Research Electronic Data Capture

Version 6.5 Details

THE UNIVERSITY OF CHICAGO MEDICINE & BIOLOGICAL SCIENCES

CENTER FOR RESEARCH INFORMATICS

Summary of New Features:

- Auto-calculations
- Signature Field Type
- Form/Event Delete Buttons
- Copy Instruments
- Copy Existing Choices
- Project Notes
- Field Annotations
- Survey Invitation Reminders
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- Survey Access Codes
- Survey Short Codes
- Survey QR Codes
- Survey Logins
- Modify *Completed* Surveys
- Faster Way to Build Reports and Custom Exports
- Downloading/uploading "Instrument Zip" files
- Obtaining "Instrument Zip" files from External Instrument Libraries
- 200+ new PROMIS and Neuro-QoL instruments in the REDCap Library
- Other Improvements and Changes

Auto-calculations - When performing a data import (via Data Import Tool or API), REDCap will now perform the calculations for any calculated fields that are triggered by the values being imported. For example, if you have a BMI field whose calculation is based off of a height field and a weight field, then if you perform a data import of height and weight values, it will automatically calculate the BMI for each record that is imported and also save those calculations (and thus log them too on the Logging page). Auto-calculations are now also triggered when using cross-form calculations in the case where the calculated field exists on a different instrument than the fields being entered that are used in the calculation. So while in previous versions users would have to go to the instrument where the calculated field existed and would have to click Save to store the calculation, users now no longer have to do that because the calculation is performed and saved automatically at the time when the trigger fields are initially entered or changed. So essentially, users never have to worry that calculations are not being performed or saved in certain situations. They should expect that calculations are now always being saved silently in the background.

Signature Field Type - Allows a person to draw their signature on a survey or data entry form using a mouse, pen, or finger (depending on whether using a desktop computer or mobile device). Once captured, the signature will be displayed as an inline image on the survey page or data entry form. While this option appears as a "Signature" field type in the Online Designer, it is specified in the Data Dictionary as a "file" type field with validation type of "signature". Thus, it is essentially a special type of File Upload field. Note: The signature image for Signature fields cannot be imported via the API, although they can be downloaded or deleted via the API using the "Export a File" and "Delete a File" API methods, respectively.

Delete buttons at the bottom of data entry forms allow users to delete all data on the current form of a given record and also (for longitudinal projects) to delete all data on the current event of a given record. The user must have "Delete records" user privileges in order for these buttons to be displayed and utilized. If you have "delete record" privileges in a project, you will now see new delete buttons at the bottom of data entry forms. These buttons will allow you to delete all data on the current form of a given record and also (for longitudinal projects) to delete all data for the current event of a given record. This is useful if you need to quickly erase *part* of a record (rather than the whole record), either a whole form's worth of data or a whole event's data within a record.

Copy Instrument - On the Online Designer, users can click the "Choose action" drop-down next to a given instrument to copy the instrument. They will be given the choice to name the new instrument and to also provide the suffix text that gets appended to each variable name to prevent duplication of variable names.

Copy Existing Choices - In the Add/Edit Field popup on the Online Designer page, there is a new "Copy existing choices" link for multiple choice fields that will display a popup containing the options of all other multiple choice fields in the project to allow the user to quickly choose one set of options to use for a new field. This can make the process of creating fields quicker if there happen to be several fields that will have the same multiple choice options.

Project Notes - When creating a new project, users may optionally provide project notes, which are comments describing the project's use or purpose for documentation purposes. Once a project has been created, its project notes can be edited in the "Modify project title…" popup on the Project Setup page. Also, any projects having project notes will have a small icon displayed next to the project title on the My Projects page, and if a user moves their cursor over the project title, it will display the project notes in a hovering tooltip so that it can be quickly viewed. The project notes text can also be useful for other things, such as if someone is utilizing the Field Annotation attributes of fields in the project for standards mapping, in which the project notes fields could be used as a way to store project-level metadata about how the Field Annotation is being used (e.g., what type of standard is being used).

Field Annotation - Can be used to add explanatory notes or commentary about a given field. An annotation can be added to any field via the Online Designer or Data Dictionary (column R). It can be used for several purposes, such as for the bookkeeping of a project's field structure (as metadata about the given field) for reference purposes regarding what the field represents or how it should be used (during data entry, analysis, etc.). Field annotations are not displayed on any page but are merely for reference. Field annotations can also be used to map the field to various standards (e.g., CDISC, SNOMED, LOINC) using whatever notation the user sees fit (e.g., using a simple ID code for the standard or a complex XML structure containing information about how to transform the data to the standard). Since it is just an annotation for reference purposes, REDCap will not do anything with the field annotation text on its own, but the annotation can be obtained by users at any time for any purpose (typically accessed via the Data Dictionary download or via the API metadata export). Summarily, field annotations are essentially open-ended, so users may use them in whatever way they so choose.

Survey Invitation Reminders - In addition to sending or scheduling survey invitations, users may now set reminders for a given invitation to help remind respondents that they need to complete a survey if it has not been completed by a specified time. A single reminder may be sent at an exact date/time, or a user may schedule up to 5 reminders to be sent according to a set time schedule, such as a recurring time lapse (e.g. every 12 hours after the original invitation) or on a recurring day/time (e.g., every day at 10:00AM after the

original invitation; every Monday at 4:00PM). If the survey is completed, then any unsent reminders will be erased and will not be sent. Survey invitation reminders can be set in the Compose Survey Invitations popup on the Participant List page, as well as in the Automated Survey Invitations popup on the Online Designer.

Survey Confirmation Email - On the Survey Settings page in the Online Designer, a survey administrator can now set up an email that will automatically be sent to the respondent when they complete the survey. They may optionally add one attachment to the email, if they wish. Also, piping can be used in the email's subject and message to help personalize the email. If the respondent's email address is not on file and thus the confirmation email cannot be sent automatically, then when displaying the survey acknowledgement text at the end of survey, it will display an option for the respondent to enter their email address so that they may receive the confirmation email.

Survey Access Code and Short Code for Surveys - When email is not an option, Survey Access Codes can be used to get a respondent started quickly on a survey. They are especially useful if sending a survey invitation to a physical mailing address, or if the respondent is sitting nearby and needs to start the survey on another device. There will be a Survey Access Code for every survey link in a project that utilizes surveys, so users will see a button or icon to retrieve a Survey Access Code on the Public Survey Link page, on the Participant List, and in the survey options at the top of data entry forms that are enabled as surveys. To get a quick, temporary access code (just 5 characters long), there is an option to generate a Short Code to make it even faster to start a survey.

Survey QR Code - As an alternative to Survey Access Codes, users can get a respondent navigated to a survey page quickly by using a QR code. If the respondent is physically nearby and has a QR code scanner app on their device, they can quickly scan the QR code for any survey link, which will immediately open the survey webpage on their device. The QR code option is found alongside the Survey Access Code option on the Public Survey Link page, on the Participant List, and other places. If the user or respondent is familiar with using QR codes, QR codes make it very easy to quickly get to a survey page on another device.

Survey Logins - Survey administrators can now provide improved security their surveys with a survey login form, in which respondents will be required to enter some login credentials in order to begin a survey or (if the "Save & Return Later" feature is enabled) to return to a previously entered survey response. To enable the Survey Login feature, there is a new button at the top of the instrument list on the Online Designer that will open up the Survey Login settings popup. Users who wish to enable Survey Login may choose one, two, or three fields in their project to be used as the login credential fields for surveys in their project. The Survey Login can be enabled for ALL surveys in a project or just selected surveys (in which it can be enabled for each on their Survey Settings page). There are also several other features to allow users to customize the behavior of the Survey Login feature. Note: If a survey has the "Save & Return Later" feature enabled, Return Codes will not be used to return to the survey, but it will use the Survey Login's login credentials instead.

Modify *Completed* Surveys - In previous versions, once a survey was fully completed, the respondent could not return to make any further edits. (Although users could modify the response on a data entry form if they have appropriate user privileges, but the respondents could not make modifications *on the survey page*.) But now, this new survey option will allow respondents to return after they have fully completed the survey. This feature can be enabled on the Survey Settings page under the "Save & Return Later" section for a given instrument in the Online Designer. Once enabled, a respondent will be able to return to their response and make any edits to it even if they have fully completed the survey. As part of the "Save & Return Later" feature, respondents will need to provide a Return Code in order to make edits (as is the case in previous versions when returning to partially completed responses). When the feature is enabled, they will be given their Return

Code when they finish the survey, after which they may return to that survey link at any time in the future to make edits to their response. If the Survey Login feature is enabled for the survey, then instead of using a Return Code, they will use their login credentials to return to the survey. If enabled, participants who have completed the survey will still appear in the Participant List in the Compose Survey Invitations popup to allow them to be invited again to edit their completed response. Additionally, their survey link and survey access code will also remain in the Participant List for this same purpose. Note: If Survey Notifications have been enabled for a survey that has the "Edit Completed Responses" option enabled, then whenever the respondent returns to the survey again and completes the survey again, it will again trigger the Survey Notifications to send an email to those users selected.

Faster way to build reports and custom exports - When building a report on the "Data Exports, Reports, and Stats" page in a project, a new "Quick Add" button has been added to Step 2. The button will open a popup window to allow you to pick and choose fields for the report very rapidly using the old-style checkboxes (as seen in older versions of REDCap). This will help you build your reports faster than ever before.

Downloading and uploading "Instrument Zip" files - We're introducing a new concept in REDCap called "Instrument Zip" files. An instrument zip file is essentially an individual data collection instrument encapsulated and stored as a zip file. This not only includes the basic definitions of the fields in the instrument, but it can also include any file attachments and images that are attached to "descriptive" fields within the instrument. Packaging individual instruments as single zip files makes them very portable and thus easy to store or share. You may download any of your instruments as an instrument zip file from your REDCap projects. You may keep it and store it for your own purposes (because maybe you use that same instrument in a lot of your projects, for example), or you can easily share that instrument with a colleague who would like to use it in their project. If you already have an instrument zip file that you want to add to your project, you can upload it into the project on the Online Designer by clicking the "Upload" button that is located right above your list of instruments.

Obtaining "Instrument Zip" files from External Instrument Libraries - While the REDCap Shared Library has always been a great way to search for pre-built instruments and import them into your REDCap projects, in a similar way you can now obtain instrument zip files from "External Instrument Libraries", which are third-party websites who offer their downloadable instruments in REDCap's special "instrument zip" format. If you click the "external libraries" link on the Online Designer page right above your list of instruments, it will open a popup listing all the external libraries that currently offer this feature. You may navigate to those websites, search for instruments, download an instrument, and then return to REDCap to upload the instrument using the instrument zip "Upload" button in the Online Designer. While there are just a couple external libraries right now to explore, more and more external libraries will become available over time.

200+ new PROMIS and Neuro-QoL instruments in the REDCap Library - The REDCap Shared Library is a great place to download pre-built data collection instruments for your REDCap projects. If you have never used it, you can access it by clicking the "Import" button on the Online Designer page in your project. Up till now, the REDCap library contained several dozen PROMIS instruments, which are assessments for measuring patient reported outcomes. Some are traditional forms and some are computer adaptive tests (CATs). But we are excited to announce that we have just added more than 200 new PROMIS and Neuro-QoL instruments to the library for you to take advantage of. We hope you make good use of them in your REDCap projects.

Improvements and Changes:

- When building reports in a longitudinal project, Step 3 now contains a new checkbox option: "Show data for all events for each record returned". If this option is CHECKED, then *all* events are returned for each record, but if UNCHECKED, then some events in each record *may* get removed (depending on the filters defined in the report). This option provides users with more control when using report filters, in which it allows them to apply filters to return a group of records (e.g., a cohort) and then optionally filter those records returned even further, such as by removing specific events. This will make report filtering much more palatable for longitudinal projects.

- When building a report on the "Data Exports, Reports, and Stats" page, a new "Quick Add" button has been added to Step 2, in which it opens a popup window to allow users to select fields for the report very rapidly using the old-style checkboxes (similar to the Data Export Tool in REDCap version 5.X).

- On the "Data Exports, Reports, and Stats" page, users can now create a new report based on the custom selections made in Report B. This makes it much easier to create a report that includes all fields from many instruments and/or events.

- On the "Data Exports, Reports, and Stats" page, the multi-select boxes (e.g., those in User Access or in Additional Filters section) now behave more intuitively when users select choices from them. Users no longer need to hold down the Ctrl/Command button when clicking multiple choices, but instead simply clicking a choice adds it as selected without de-selecting the other options already selected.

- When viewing reports in longitudinal projects, any fields displayed in the report that are not designated for that particular event (i.e., row in the report) will be grayed out to show that the field is not designated. This makes it easier for users to discern if a field's value is not applicable or if it is missing.

- Inline image attachments for Descriptive fields now get displayed in the downloaded PDF of a survey or data entry form.

- The project Logging page now has the ability to filter logged events within a specified range of time in which the user can provide a begin time, end time, or both a begin and end time to limit the results to a specific window of time.

- The text boxes for Text field types are now 50% wider as displayed on data entry forms and surveys to allow for more text to be seen.

- New survey option to display or hide the page number displayed at the top of the survey page. This option can be found under the "Question Display Format" section of the Survey Settings page in the Online Designer.

- Hide Red Required field text (i.e., "*must provide value") can now be hidden on survey pages, if desired. So if you would rather your respondents not see that red text beneath all your required fields on the survey page, then you may use this setting to hide it. This setting can be found on the Survey Settings page in the Online Designer.

- The "Previous Page" button (i.e. Back button) on multi-page surveys can now be hidden, if desired. Hiding this button may be useful if you wish to prevent respondents from going back to previous pages in the survey. The setting to enable this can be found on the Survey Settings page in the Online Designer.