REDCap Practice Workshop

Basic Features

CCTS Biostatistics Core

March 2024

Introduction

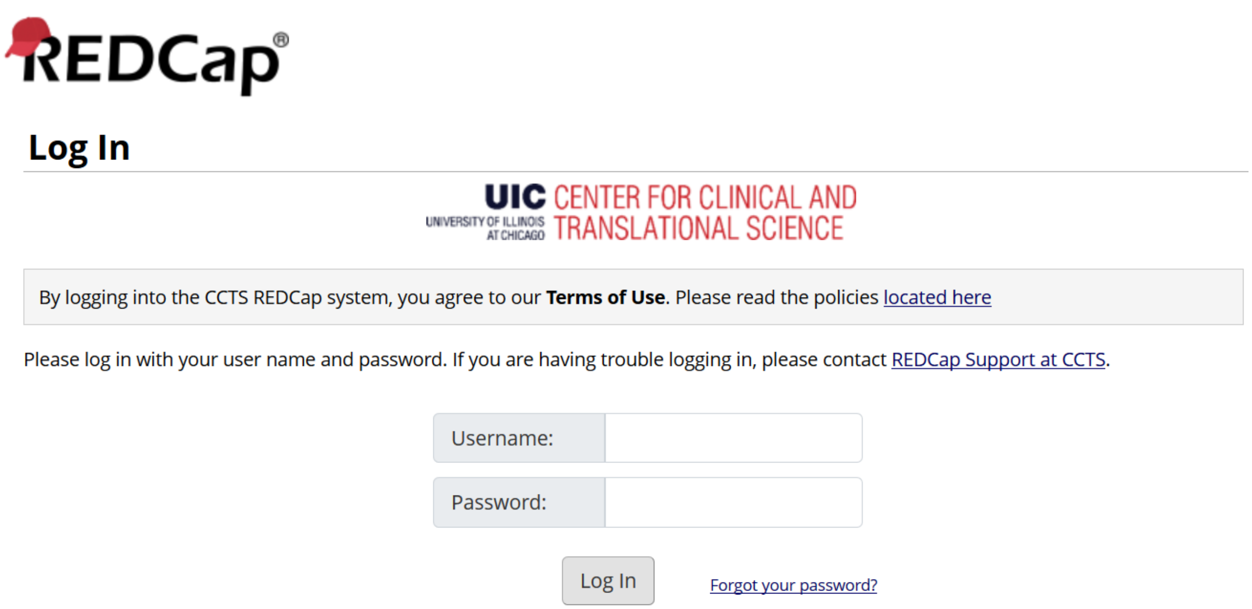
This exercise will lead you through the process of creating and customizing a project in REDCap. Each step will demonstrate one or more core elements of the platform.

This exercise requires a full-access REDCap user account, which allows you to create, copy, and delete projects. If you do not have a full-access user account, you can request one through the REDCap Ticketing System.

Create a New Project

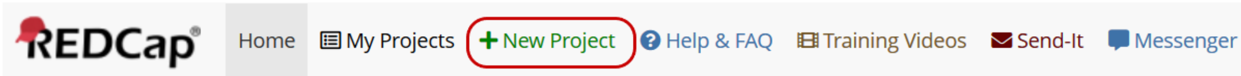
Log in to REDCap.

1. Visit https://ccts-redcap.ihrp.uic.edu.
2. Log in with your username and password.

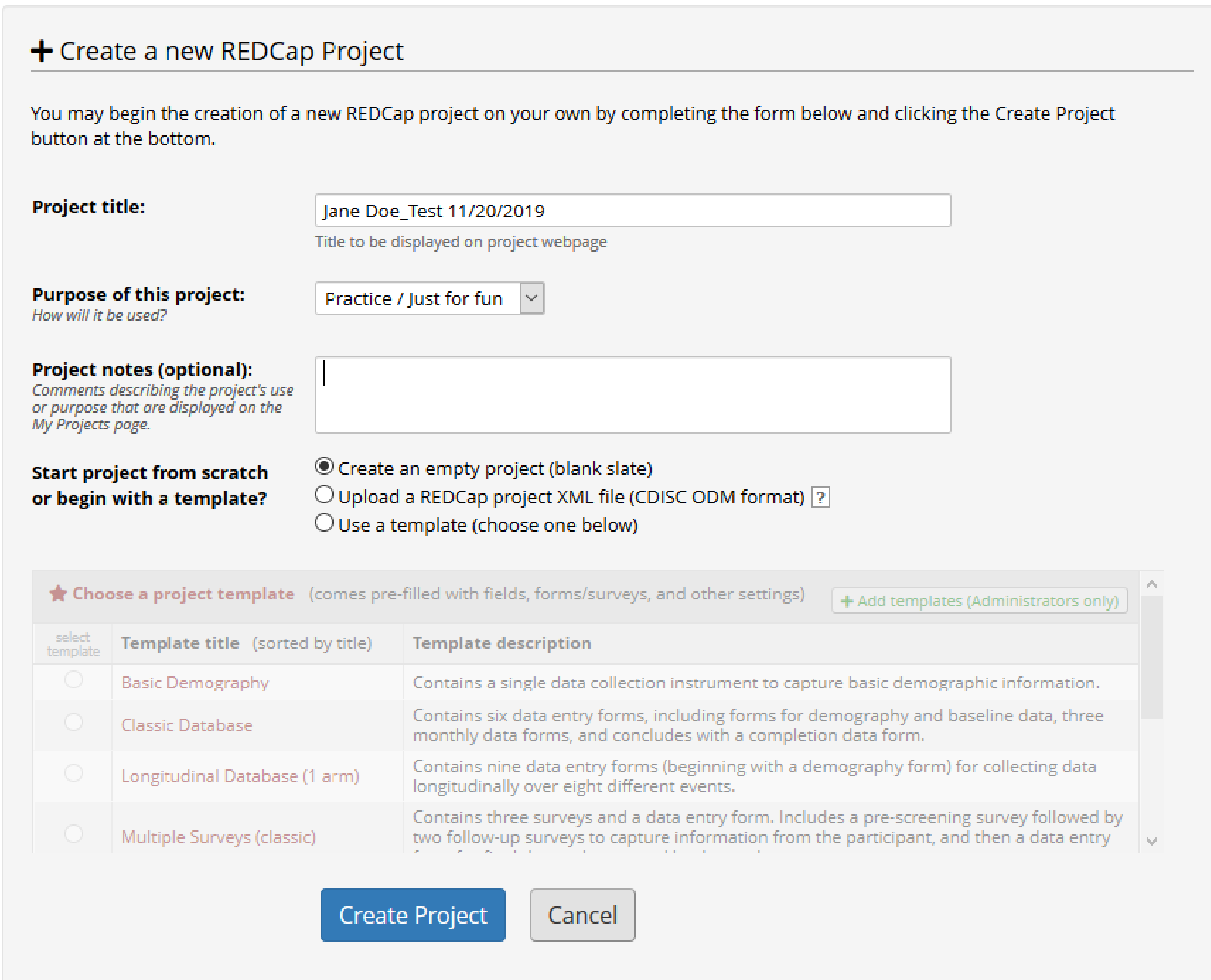


Create a new blank project with title "[your name]_Test [date]." Select "Practice / Just for fun" as the project purpose.

1. At the top of the REDCap home screen, click `+ New Project`.



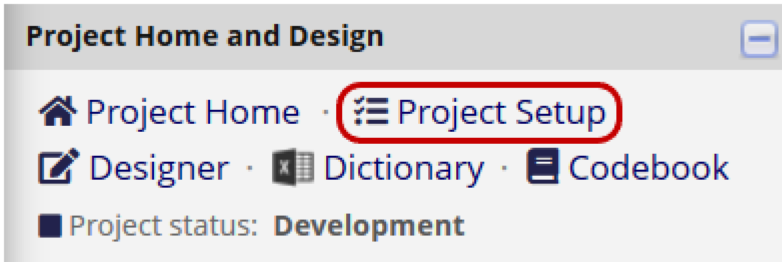
2. Fill out each project field. Then click `Create Project`.



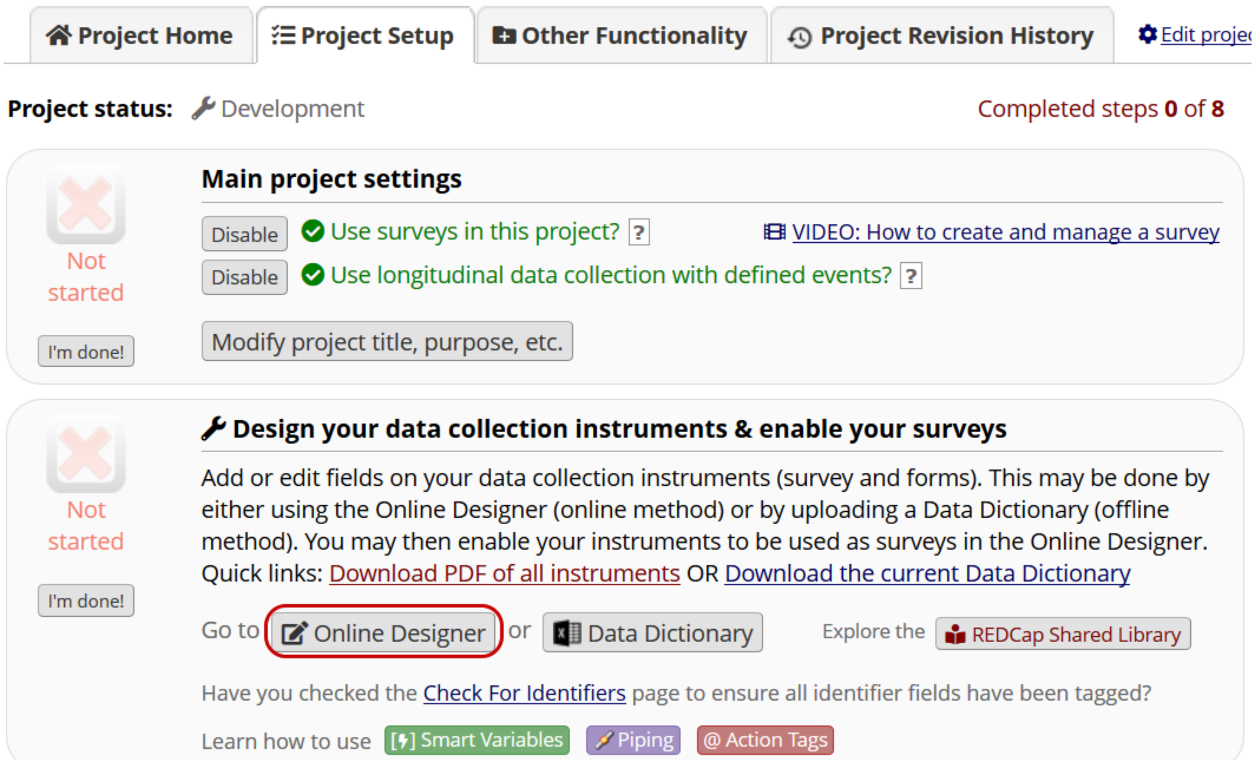
Create Data Collection Instruments

Open the Online Designer to start customizing your project.

1. On the left menu under Project Home and Design, click `Project Setup`.



2. Click `Online Designer`.

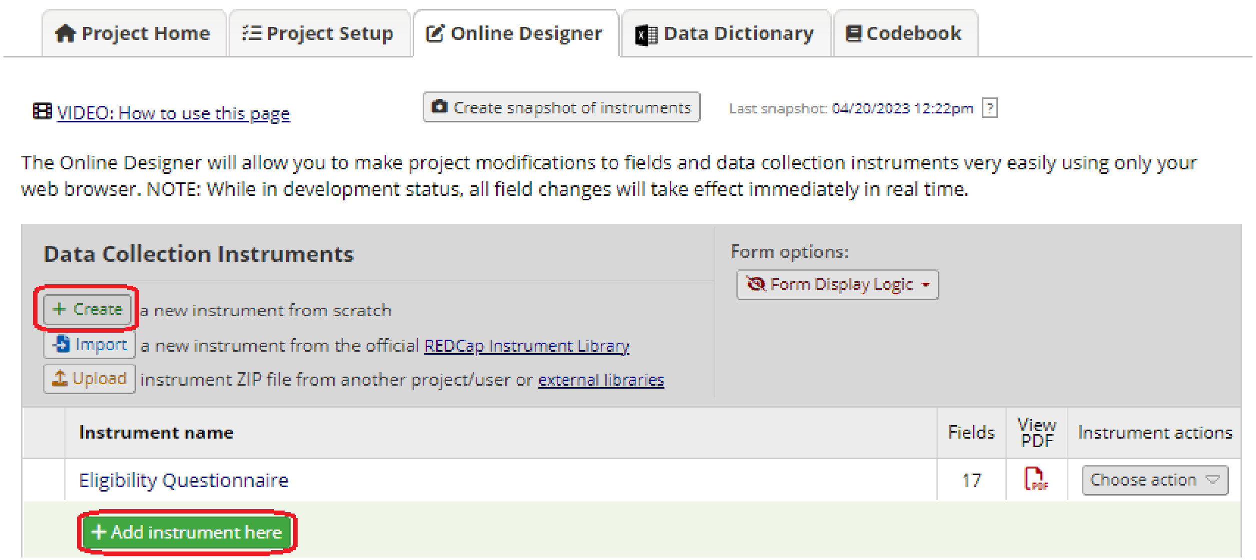


3. Alternatively, click `Designer` in the left menu under Project Home and Design.

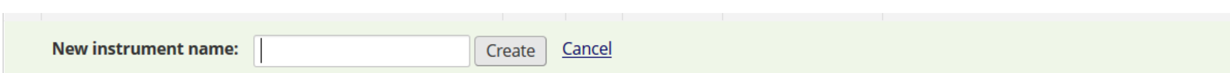
Add two data collection instruments with the following names: **Eligibility Questionnaire** and **Follow-up Questionnaire**.

1. Open the Online Designer.

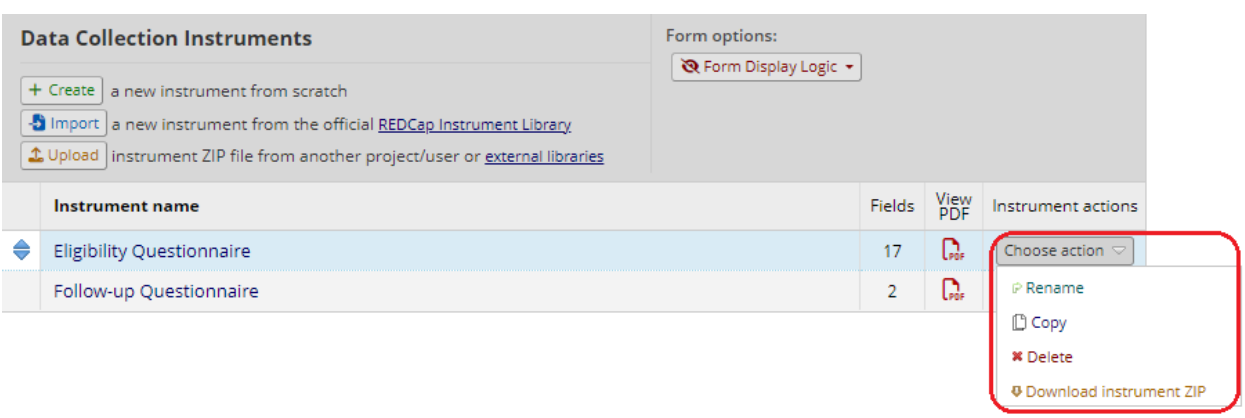
2. To create each instrument, click + `Create`. Then click + `Add instrument here`.



3. Type the instrument name and click `Create`.

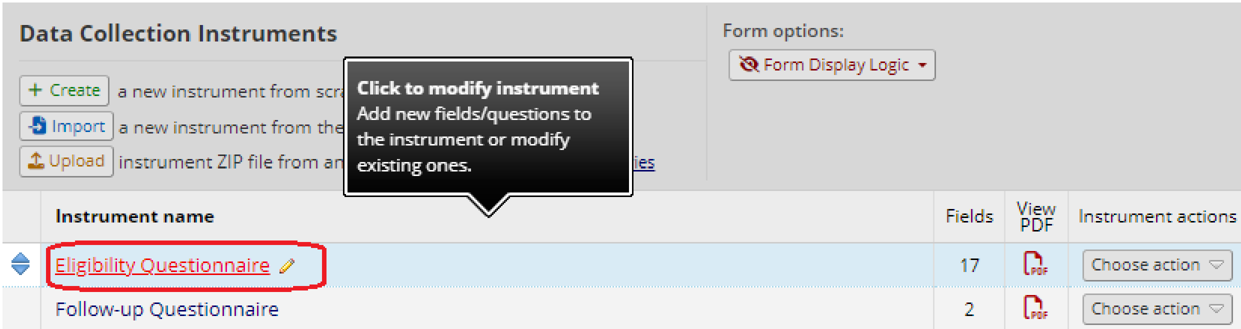


4. To copy or rename an existing instrument, use the menu under Instrument actions.

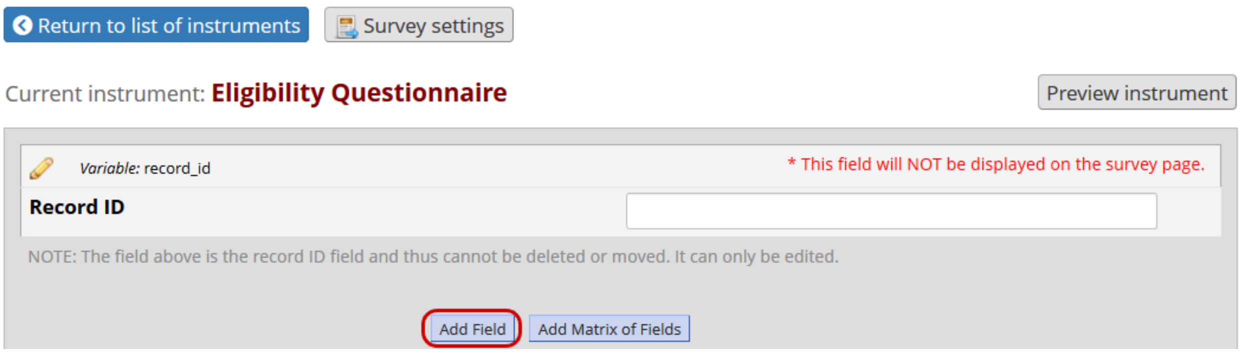


Build each form using the field names, field types, and validation rules listed in the tables at the end of this document.

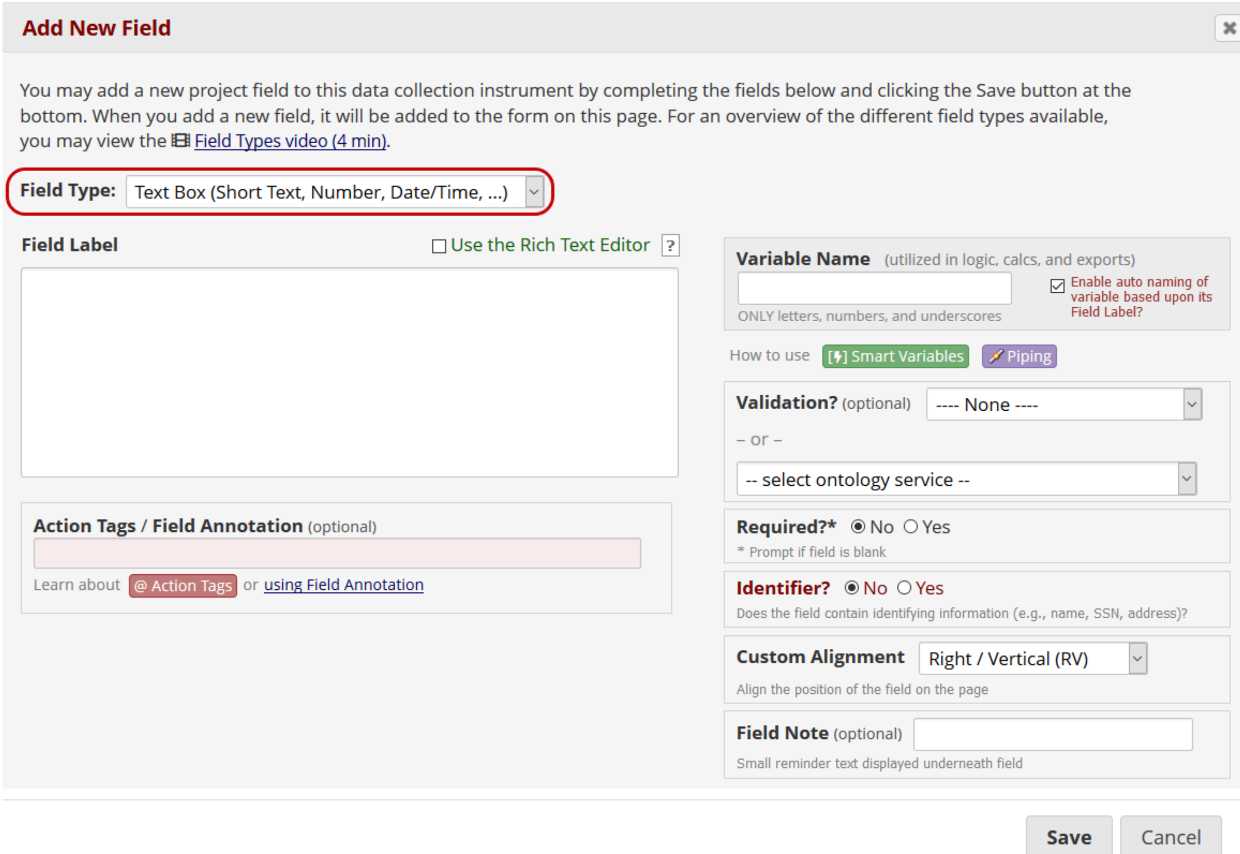
1. To open an instrument for editing, click its name.



2. Click `Add Field` in the desired location.



3. Select a field type from the dropdown menu. Review and set each field attribute. Then click `Save`.

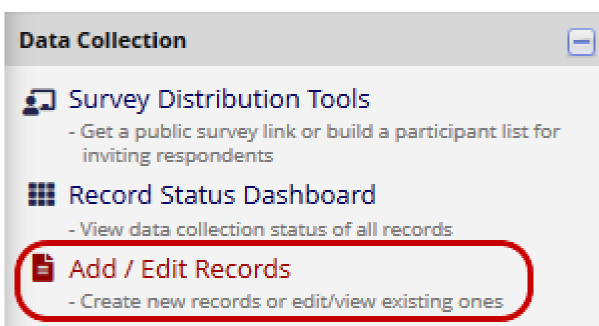


Add and Edit Records

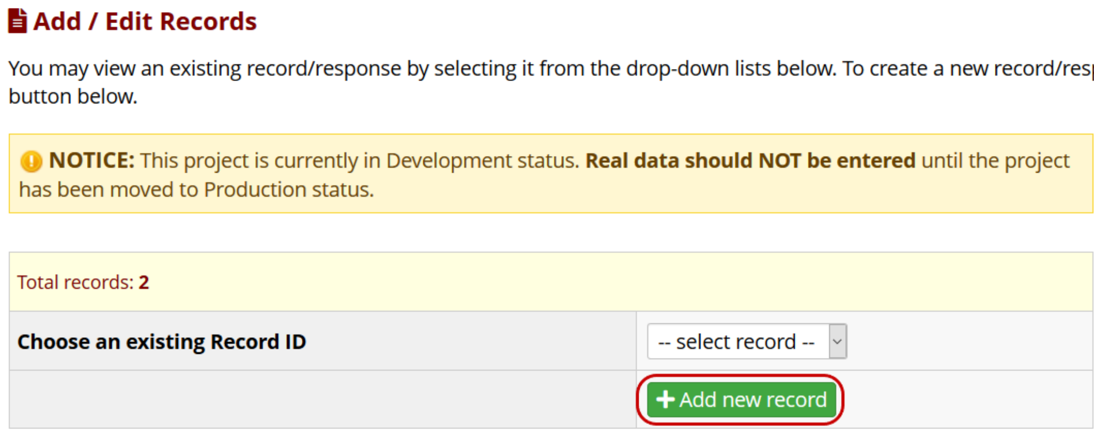
Add Test Data

Create a new record.

1. Click on `Add / Edit Records`.

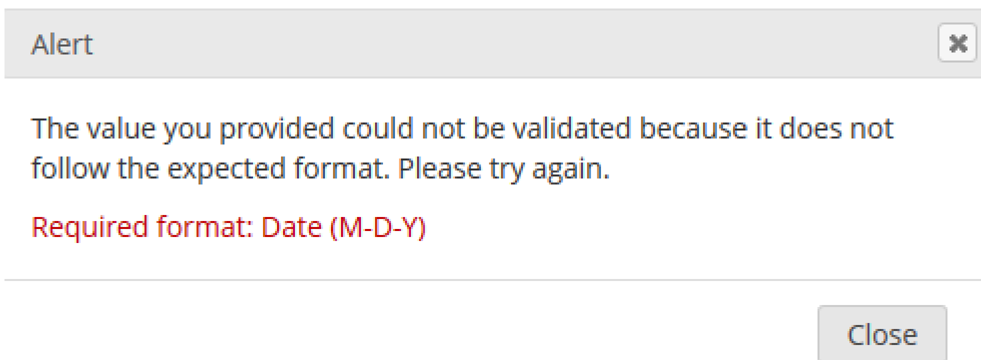


2. Click `+ Add new record`.

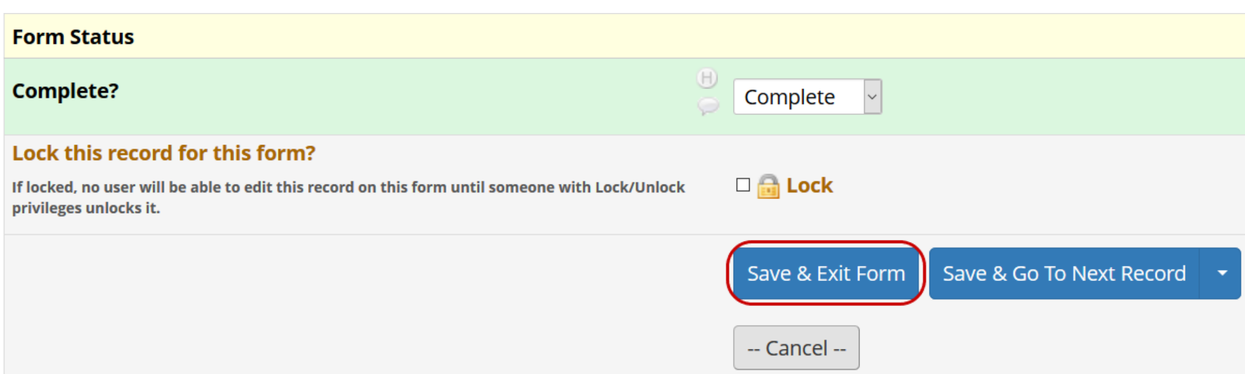


Enter data to test each form.

1. Try to enter nonsensical data to test the validation rules of each field. You will receive an error message if any of the branching logic or calculated fields were not set up correctly.



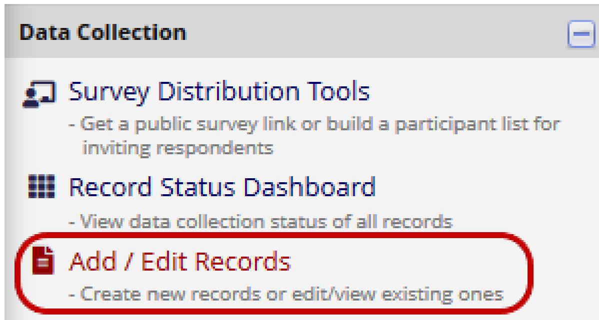
2. When you have tested all fields on a form, click `Save & Exit Form`.



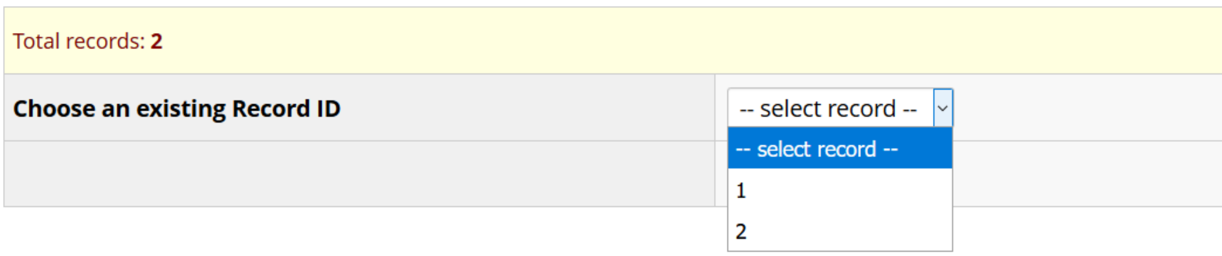
View Data

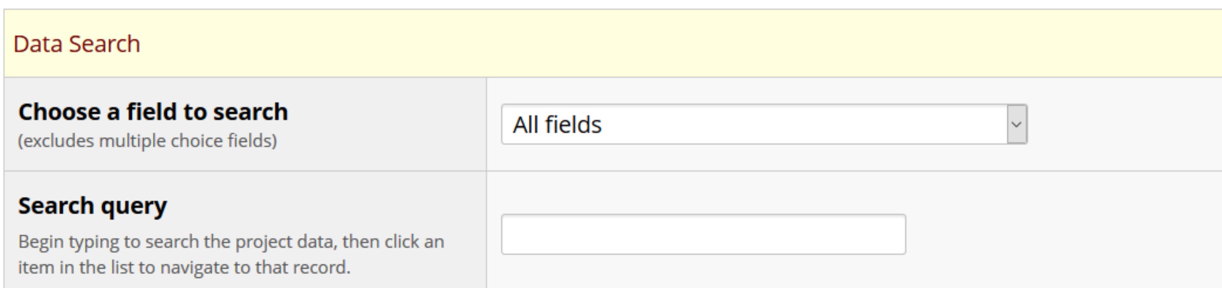
Open an existing respondent's record home page.

1. Click on `Add / Edit Records`.



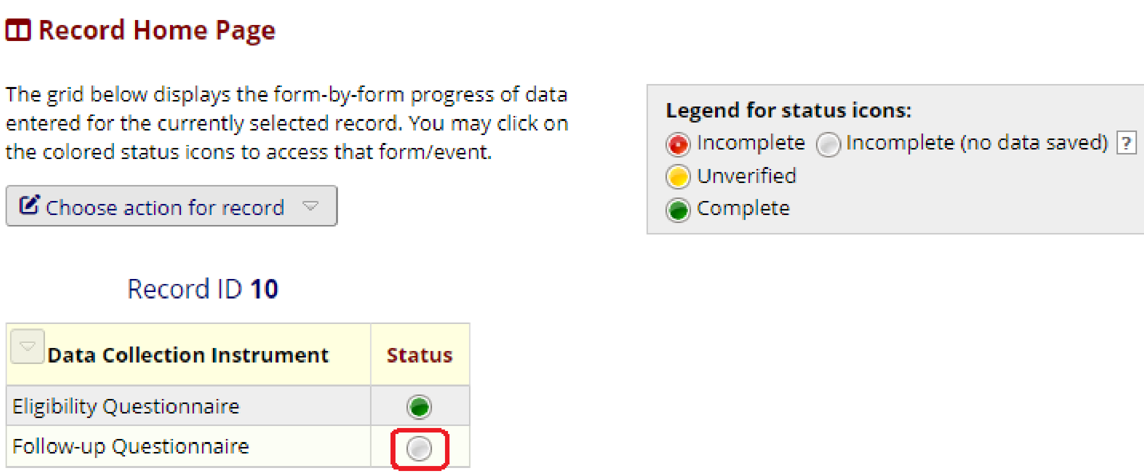
2. Choose or search for a record by ID or instrument response(s).





Open an instance of a partial or complete response to view the data.

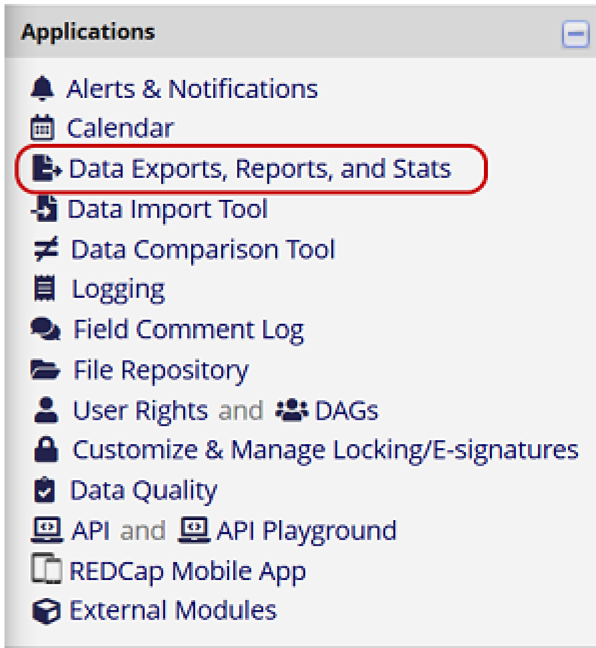
1. Click a status icon to view the corresponding response data. The icon color indicates the data entry status.



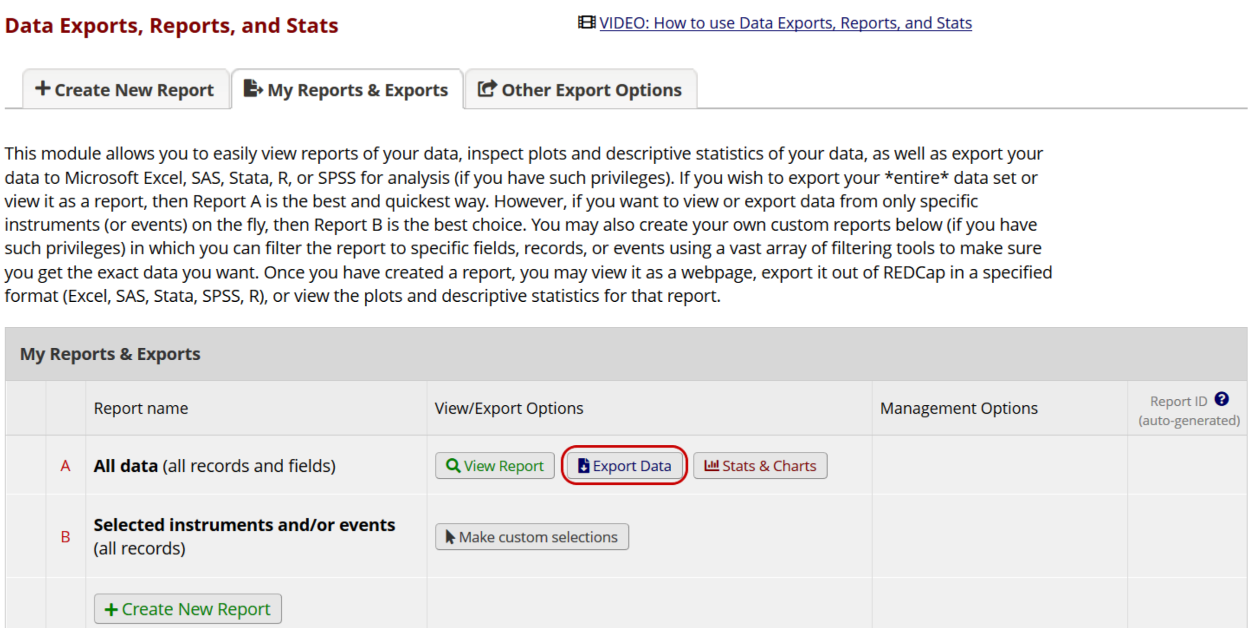
Export Data

Export project data in the “CSV / Microsoft Excel (raw data)” format.

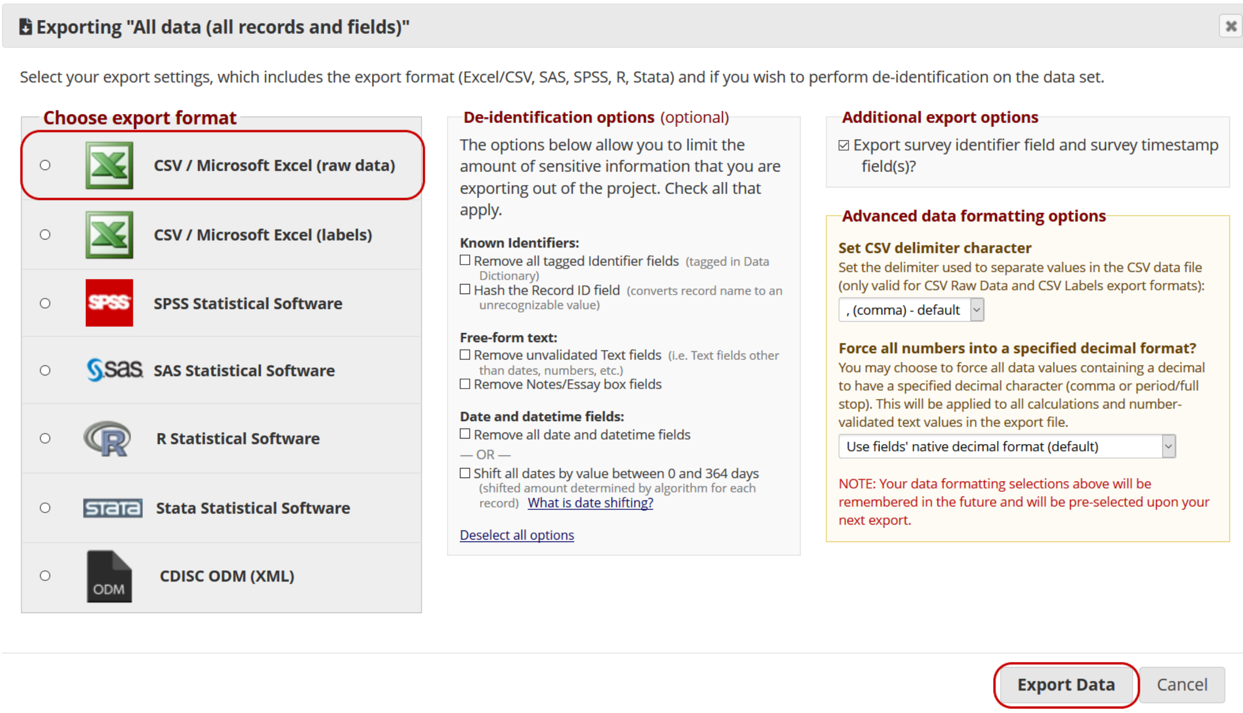
1. In the left menu under Applications, click `Data Exports, Reports, and Stats`.



2. Click `Export Data`.



3. Review the possible formats, de-identification options, and advanced data formatting options. Choose the “CSV/Microsoft Excel (raw data)” format. Then click `Export Data`.



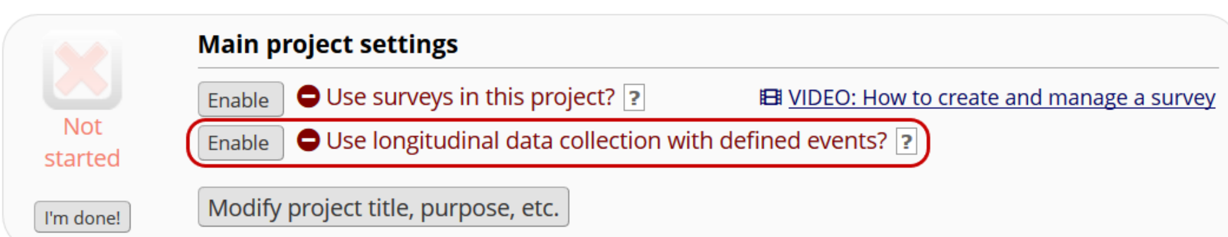
Work With Surveys

Enable Longitudinal Data Collection

Enable longitudinal data collection for this project.

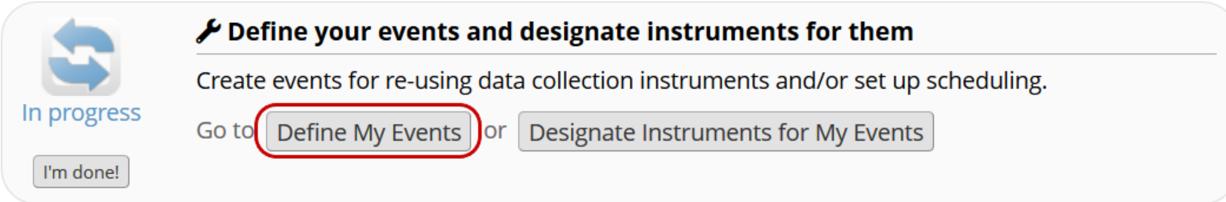
1. Open Project Setup.

2. Under "Main project settings," beside "Use longitudinal data collection with defined events?", click `Enable`.

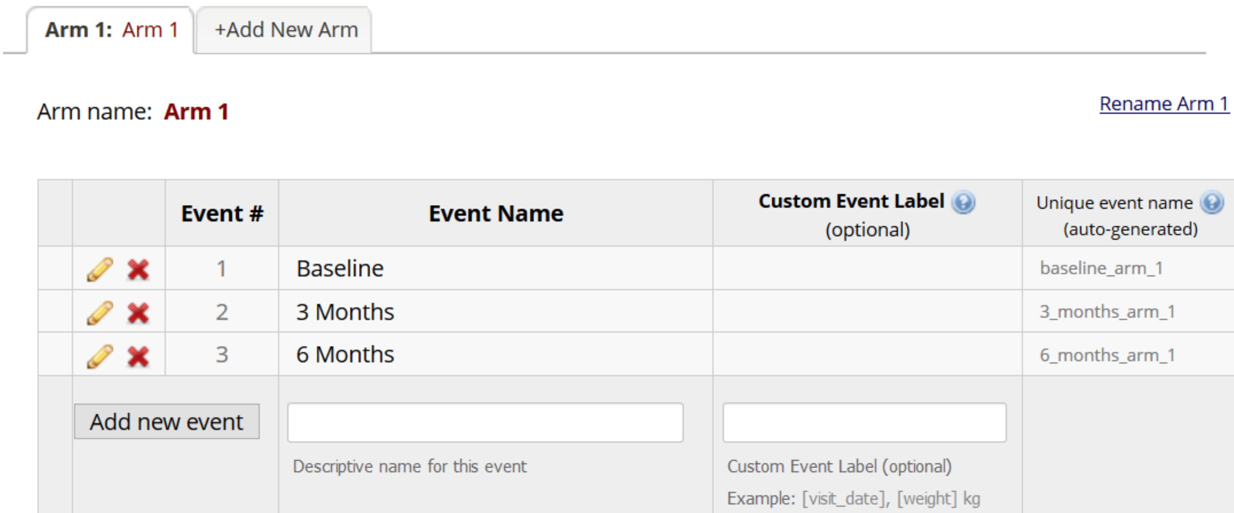


Create three events with the following names: **Baseline**, **3 Months**, and **6 Months**.

1. On the Project Setup tab, click `Define My Events`.

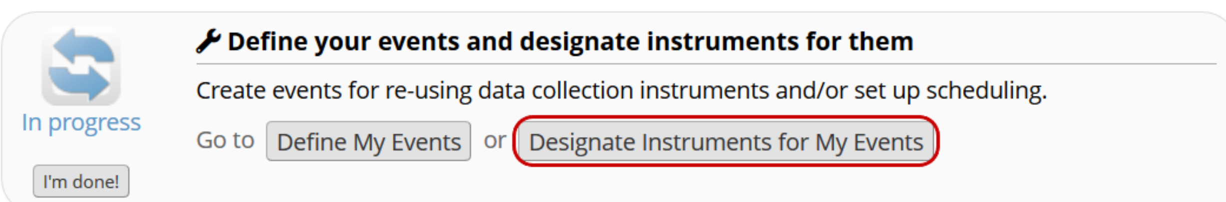


2. Enter each event's name and click `Add new event`.

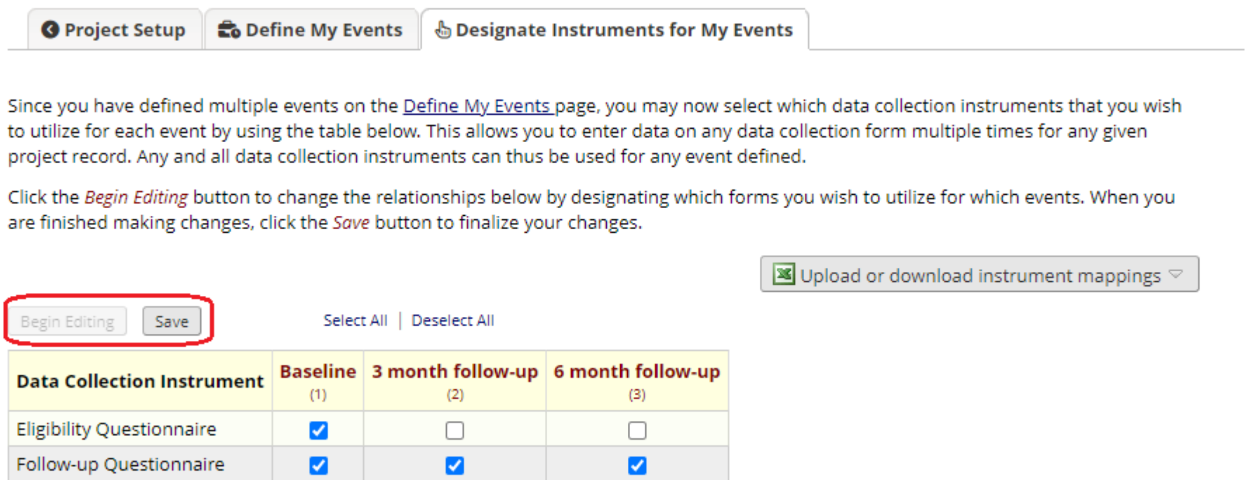


Designate instruments for each event so you can collect eligibility data once and follow-up data at each timepoint. Link the Eligibility Questionnaire to the baseline event only. Link the Follow-up Questionnaire to all three events.

1. On the Project Setup tab, click `Designate Instruments for My Events`.

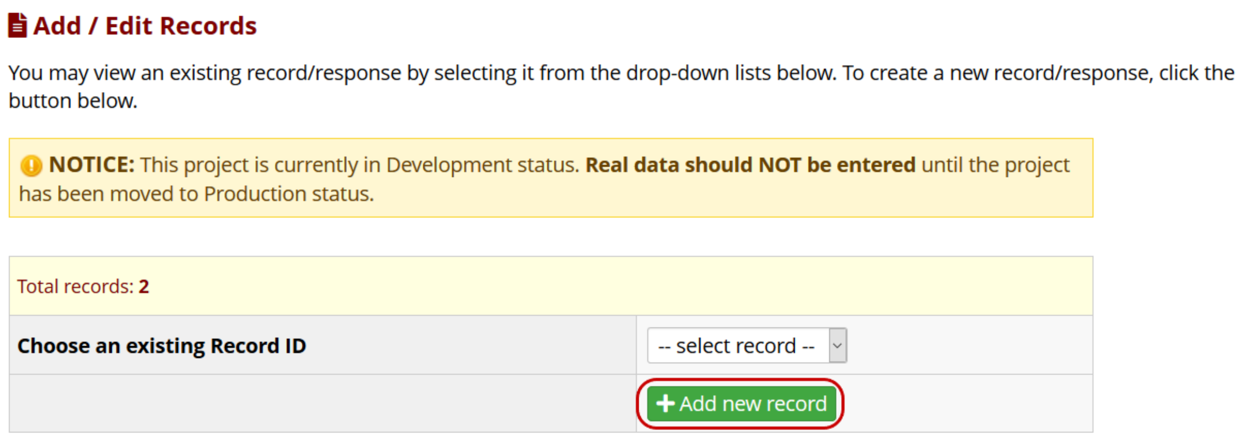


2. Click `Begin Editing`. Check the appropriate boxes beside each data collection instrument. Then click `Save`.

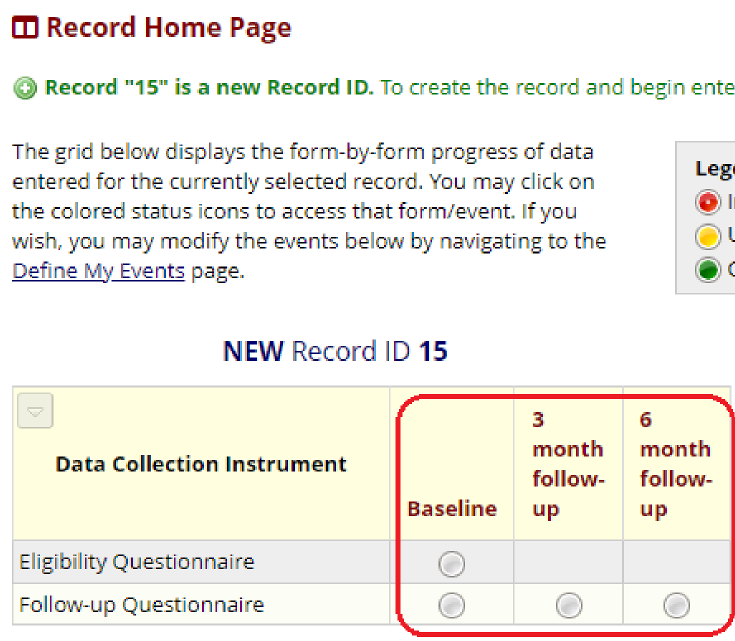


Add a new record and observe the changes to the instrument structure.

1. Create a new record.



2. Notice how the instrument structure now allows longitudinal data collection.

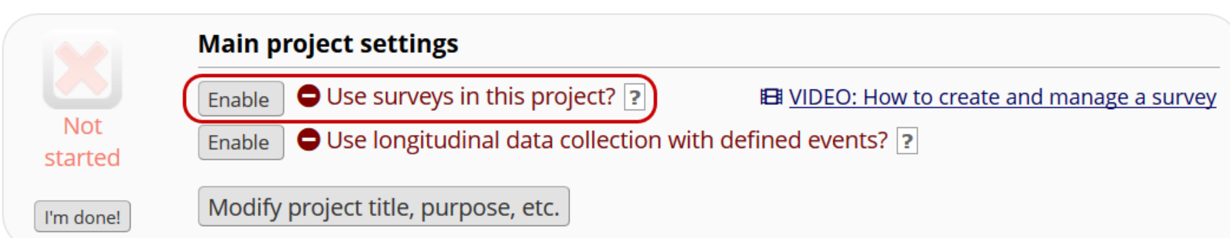


Set Up a Survey

Enable surveys in this project.

1. Open Project Setup.

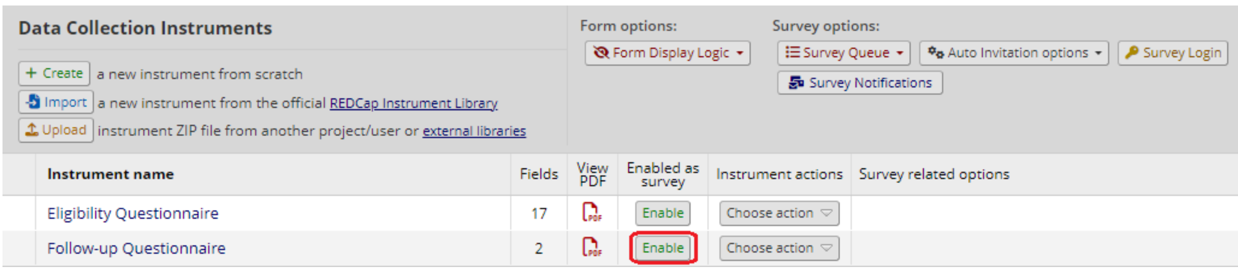
2. Click `Enable` beside "Use survey in this project?"



Enable the second instrument (Follow-up Questionnaire) as a survey.

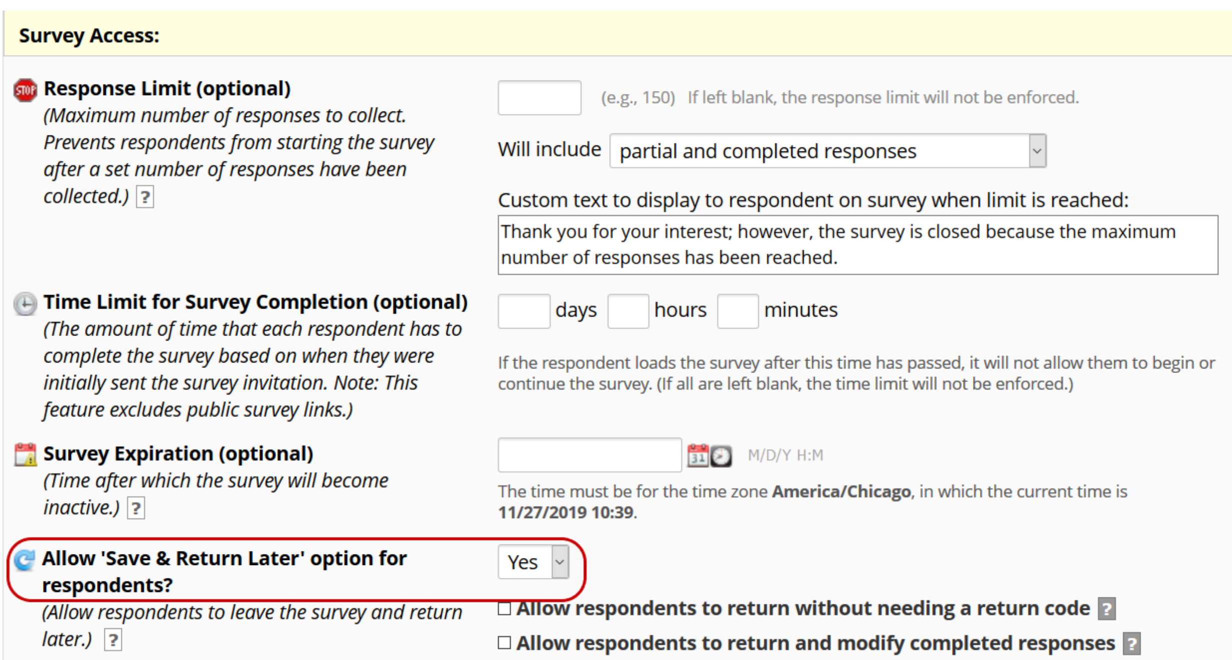
1. Open the Online Designer.

2. Beside the second instrument, click `Enable`. A “Set Up My Survey” tab will open.



Allow users to save their progress and return later.

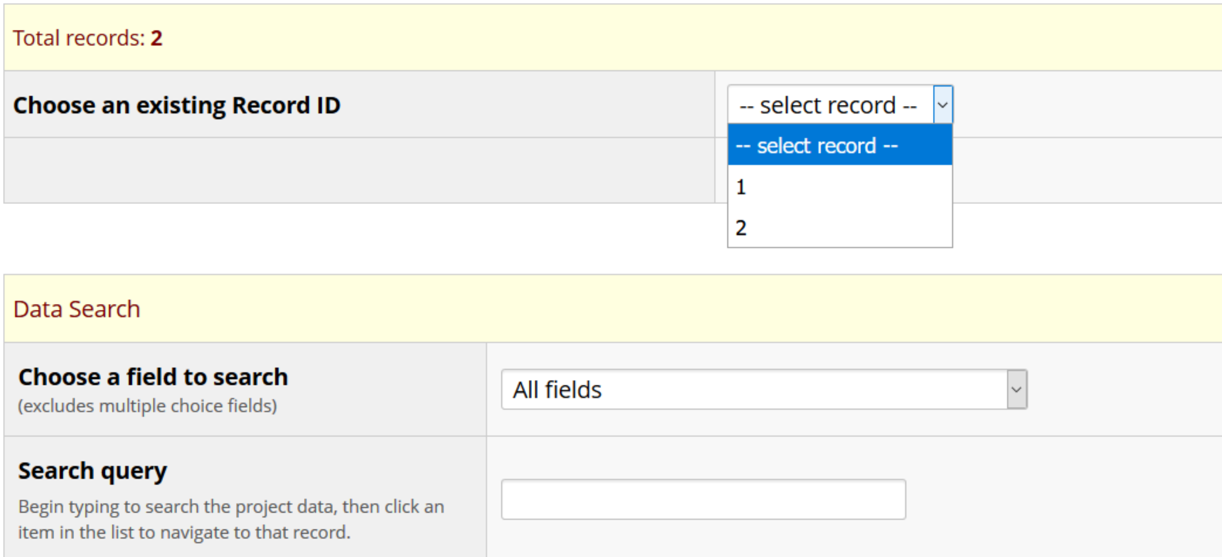
1. In the Survey Access section of the setup page, select `Yes` beside “Allow ‘Save & Return Later’ option for respondents?”



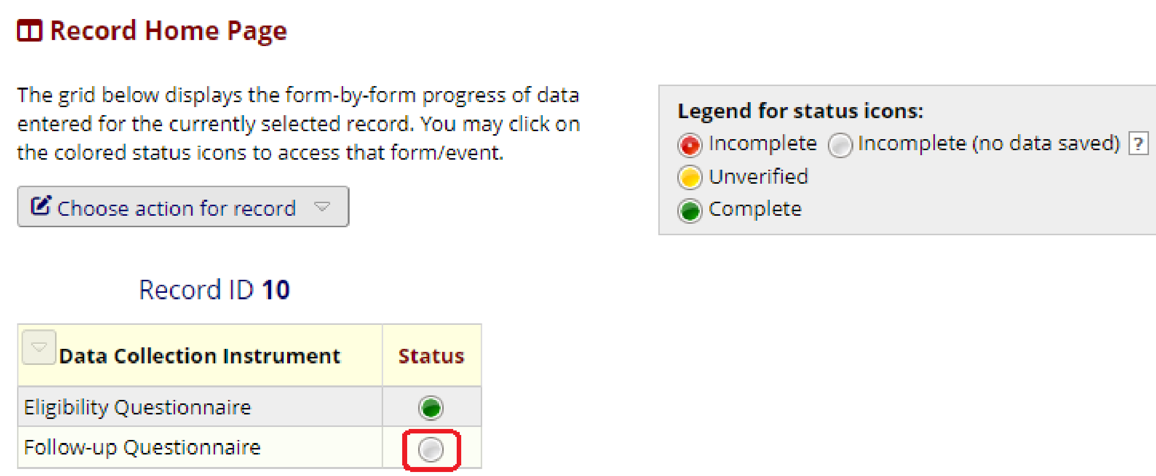
View Live Survey

Open an existing record. View the second instrument as a survey.

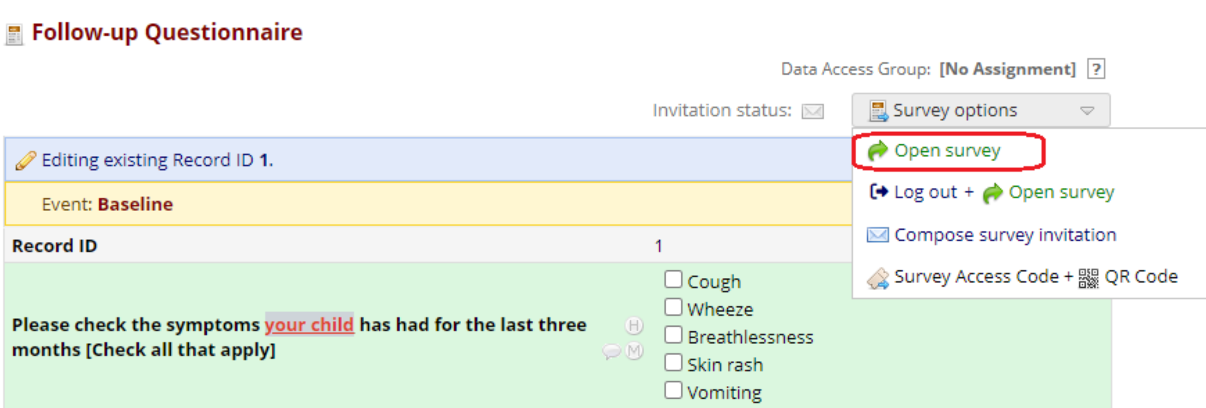
1. Open an existing respondent’s record home page.



2. Click a status icon to view the corresponding response data.

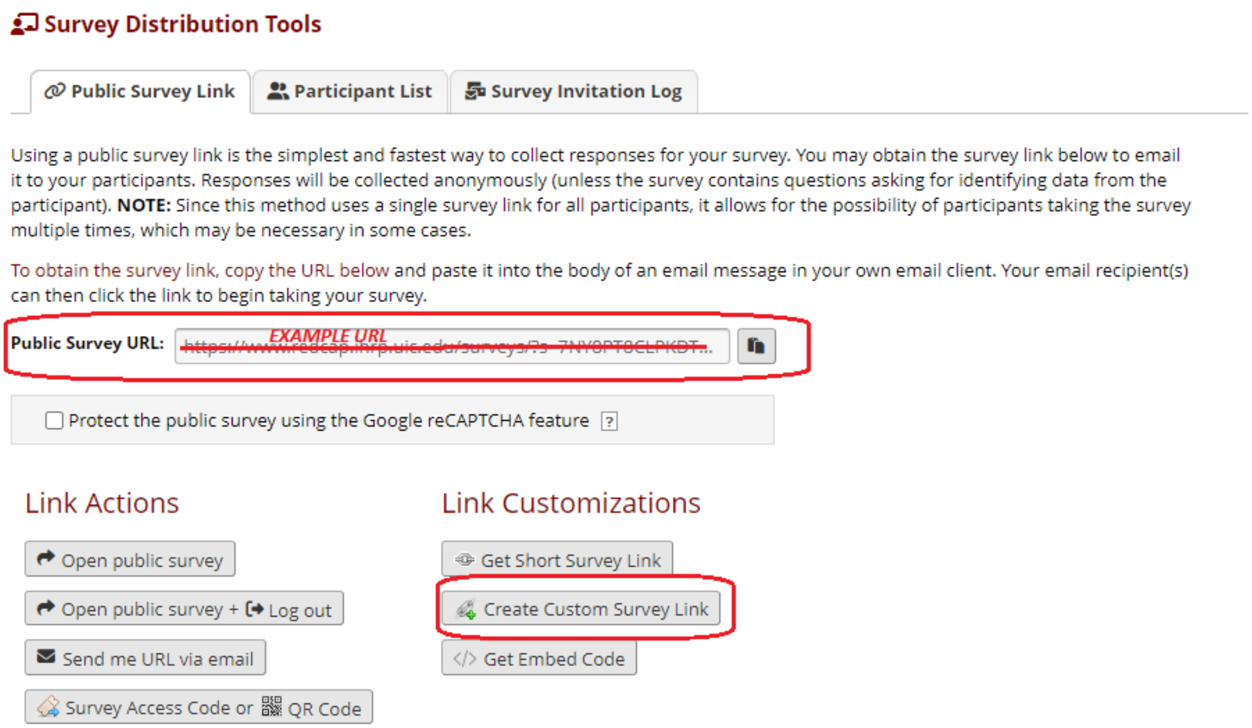


3. Under Survey options, click on `Open Survey`.



Share Live Survey

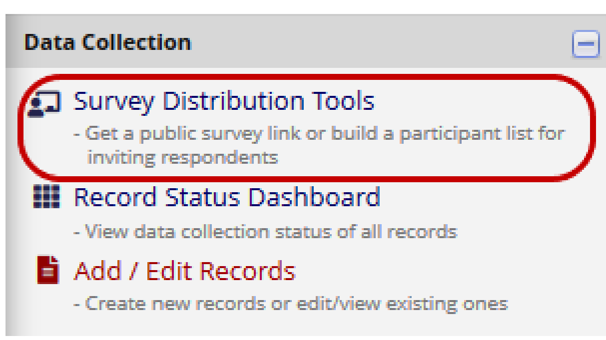
Note: REDCap allows use of a public survey URL for anonymous surveys. The URL becomes available when the first instrument of a project is enabled as a survey. You can create a shorter, more memorable version of your survey link by clicking `Create Custom Survey Link`.



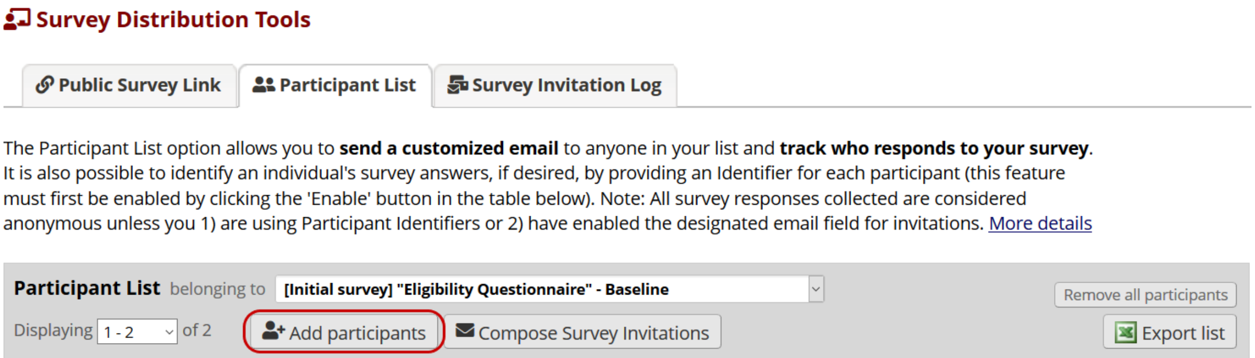
For this exercise, you cannot use the public URL because the first instrument is not set up as survey. Instead, you must add individual participants' email addresses via the Survey Distribution Tool.

Using a personal email address, add yourself as a participant.

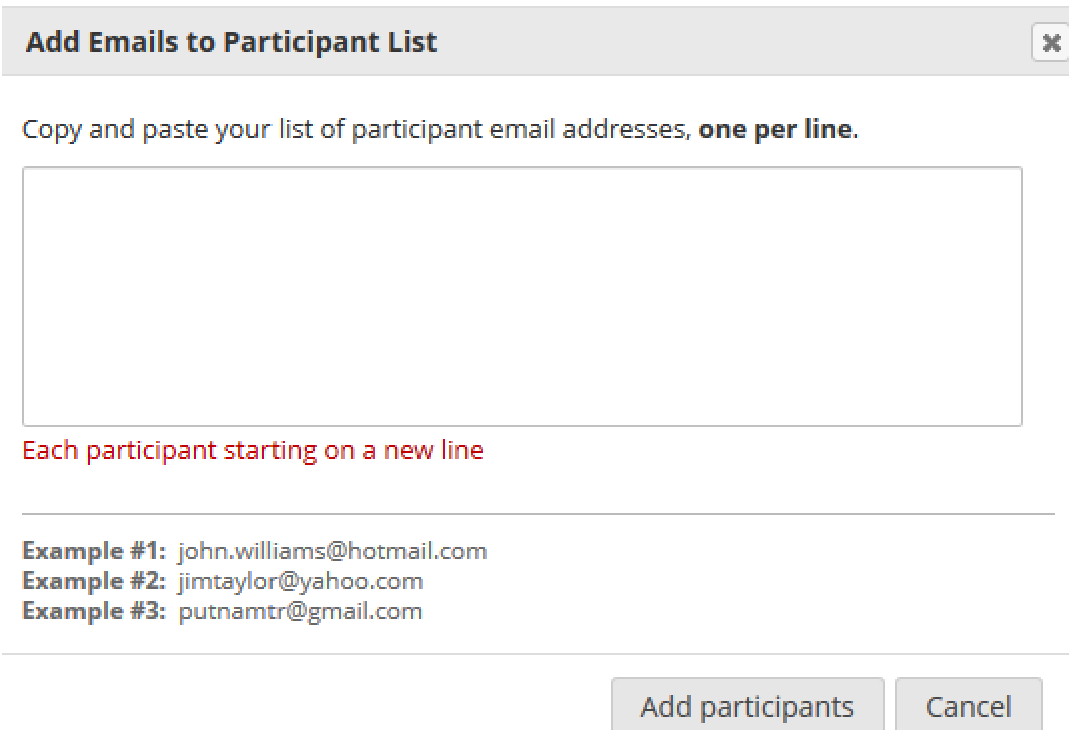
1. In the left menu under Data Collection, click on `Survey Distribution Tools`.



2. On the "Participant List" tab, click `Add participants`.

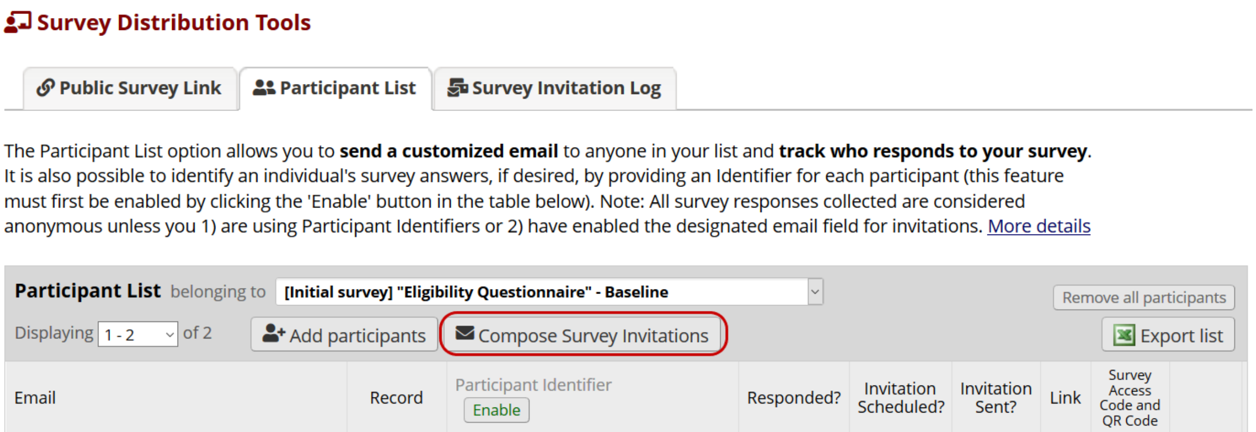


3. Enter one or more email addresses and click `Add participants`.

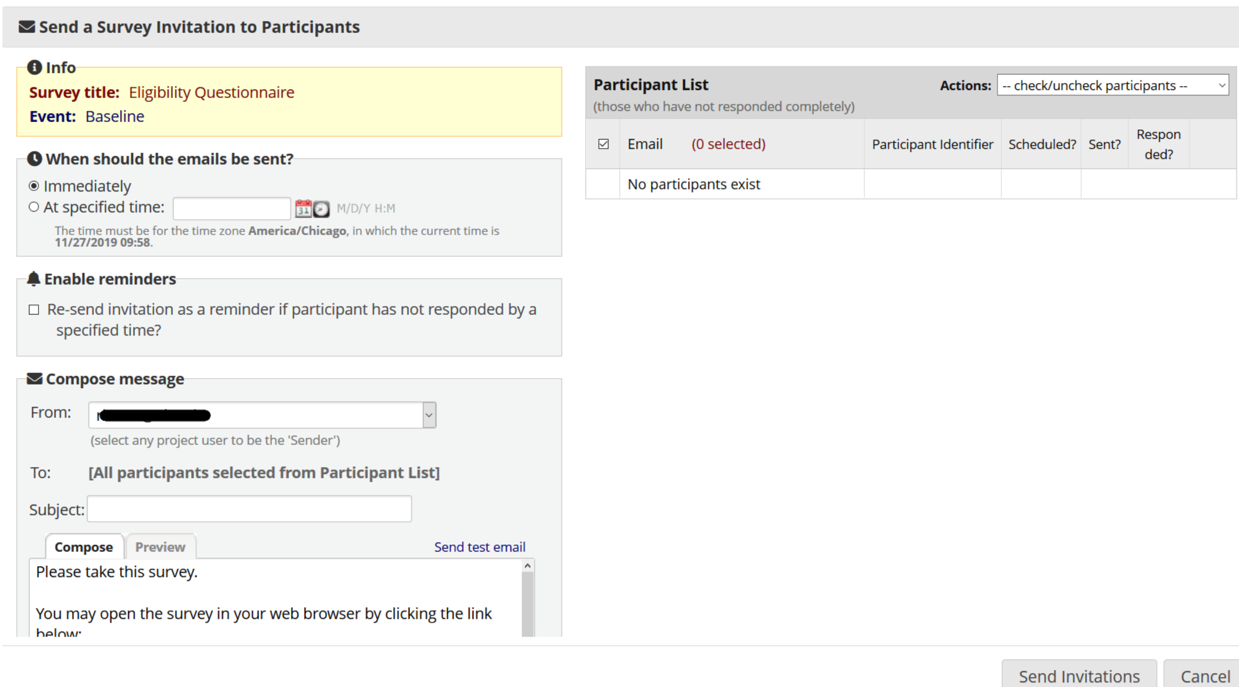


Invite yourself to complete the survey. You will receive an invitation email from REDCap.

1. At the top of the Participant List, click `Compose Survey Invitations`.



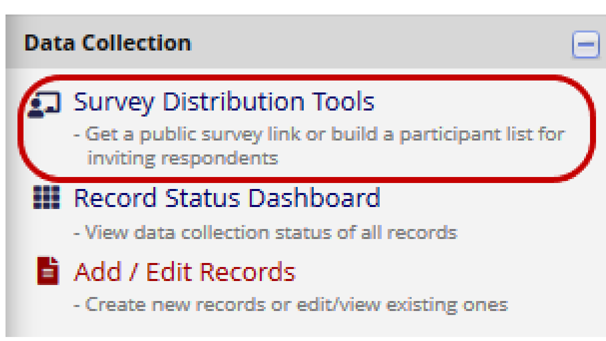
2. Edit the text in the “Compose” box and review the message settings. Make sure your personal email is selected in the Participant List. Click `Send Invitations`.



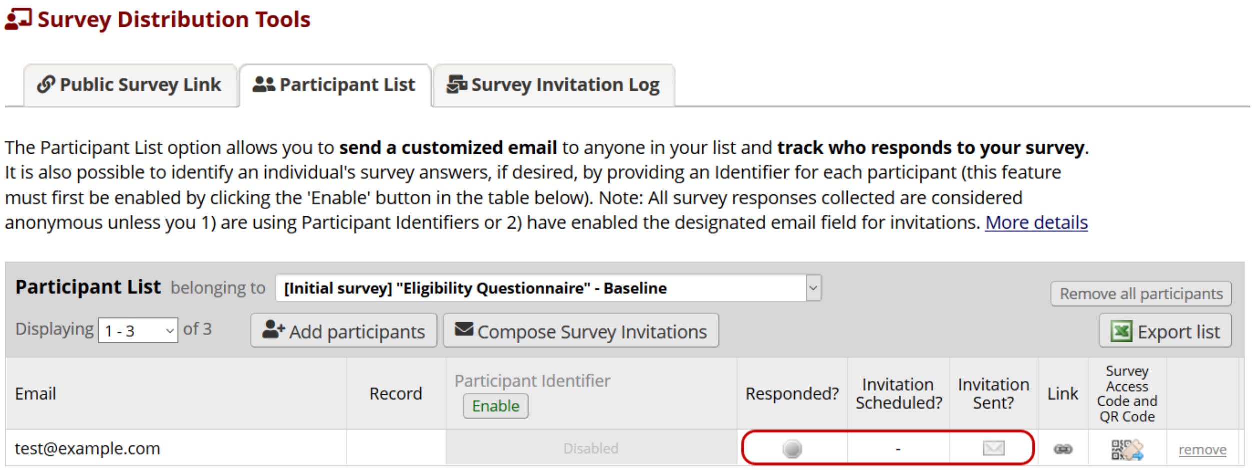
3. Check your email account for the invitation email. Follow the link in the email to complete the survey.

Check the response status of invited participants.

1. Click on `Survey Distribution Tools`.



2. View each participant's status on the "Participant List" tab.



Production Status

After project instruments have been created and tested, the project should be moved to production status. Note that, once a project is in production, a REDCap administrator will need to approve any further edits.

If changes do not cause any critical issues for existing data, they should be approved automatically. You will receive an email notification when changes have been approved.

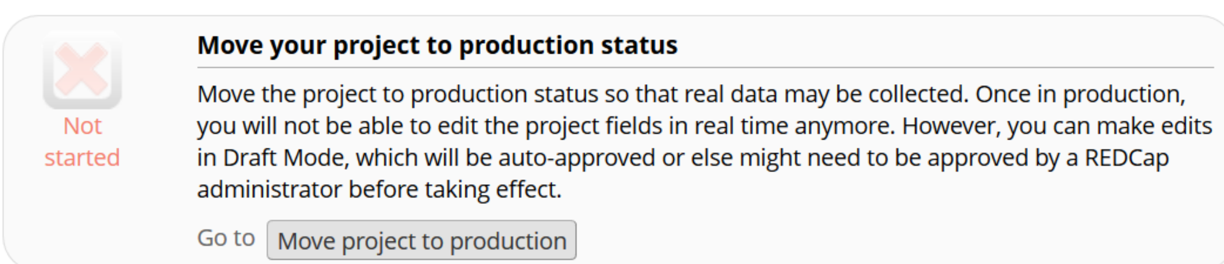
Other changes, like changing field options or deleting a field, may cause critical issues for existing data. This kind of change will not be approved automatically while in production status. Instead, a REDCap administrator will contact you via email to confirm the revision. This process takes up to one business day.

Move Project to Production Status

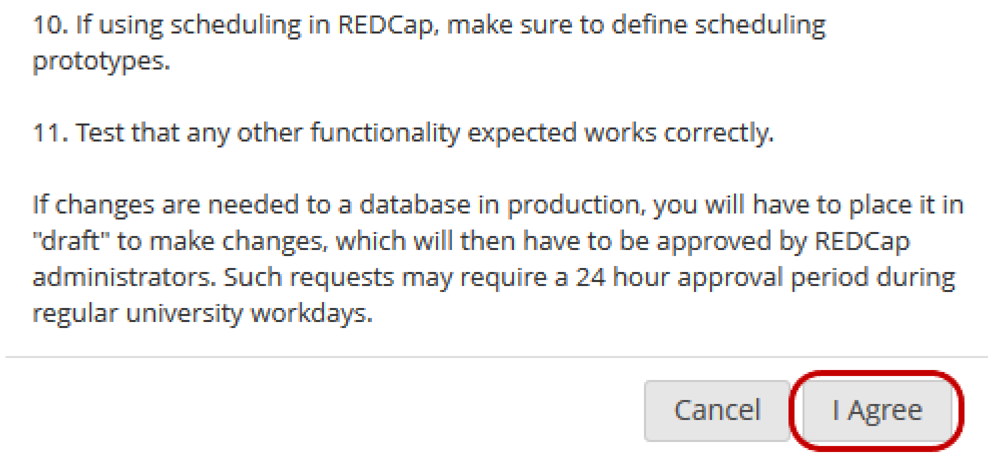
Initiate the move to production status. Keep all records that were created while in development status.

1. Open Project Setup.

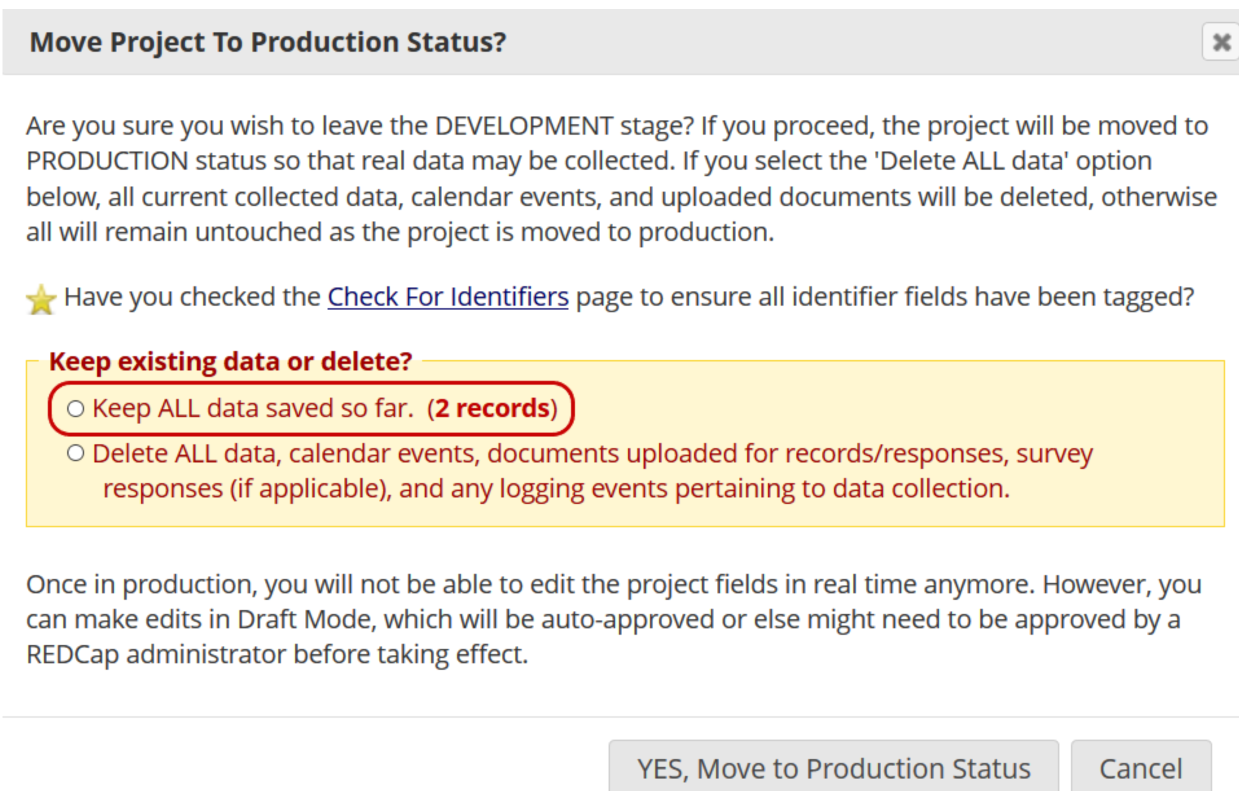
2. At the bottom of the page, click `Move project to production`.



3. Read the notice and click `I Agree`.



4. Select `Keep ALL data saved so far.` Click `YES, Move to Production Status.`

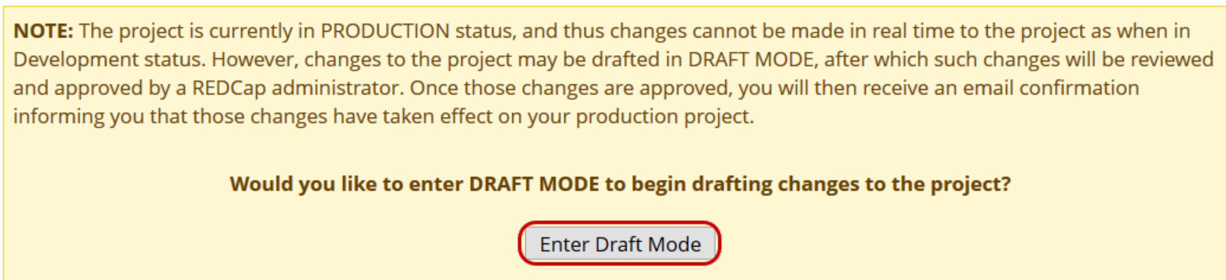


Make Changes in Production Status

Enter draft mode.

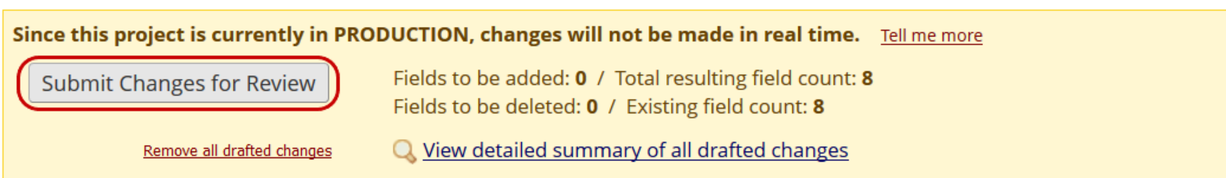
1. Open the Online Designer.

2. Read the notice and then click `Enter Draft Mode`.



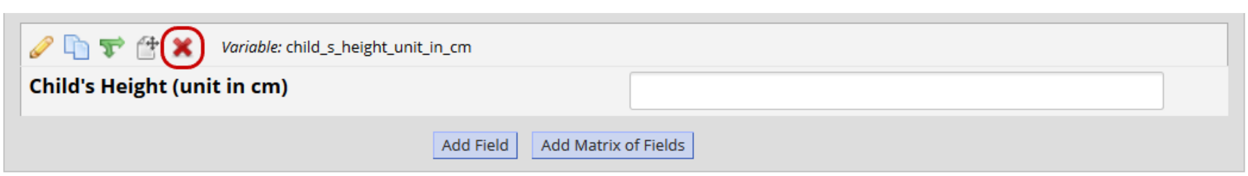
Add a field to a data collection instrument. Submit the changes for review by a REDCap administrator.

1. Open one of the existing instruments and add a new field.
2. Click `Submit Changes for Review`.

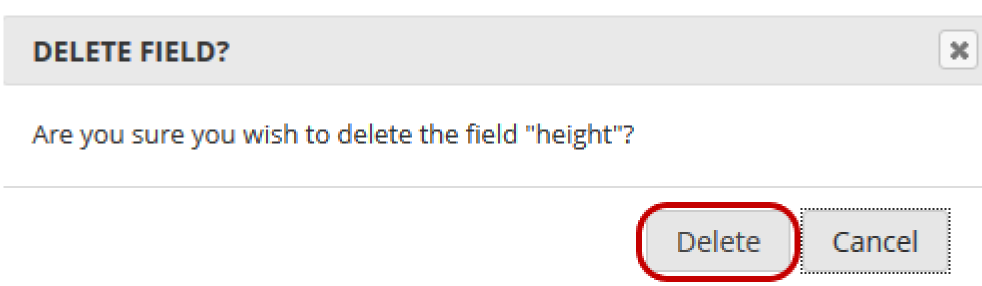


Delete a field from one of the forms.

1. Open one of the existing instruments for editing.
2. Delete a field by clicking the red `X` above the field name.

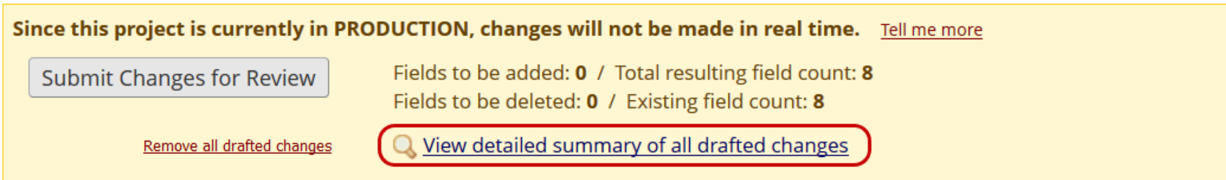


3. Confirm by clicking `Delete`.

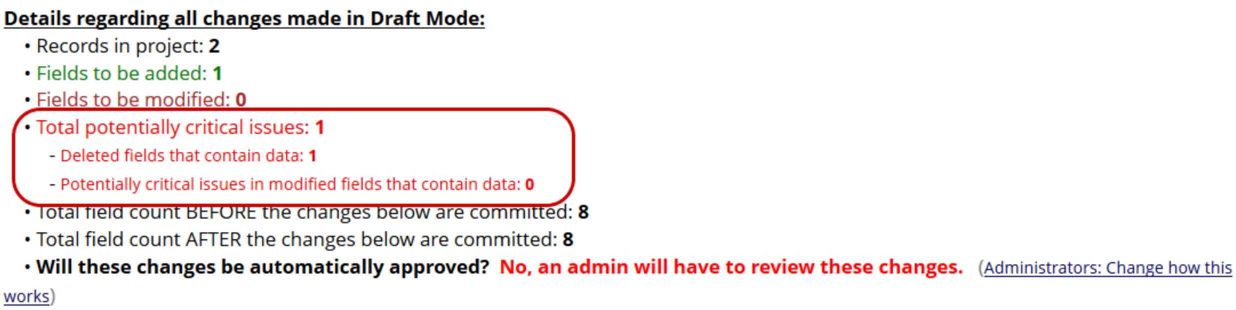


View the draft changes without submitting.

1. Click `View detailed summary of all drafted changes.`



2. Notice the potentially critical issues that will occur if this field is deleted.



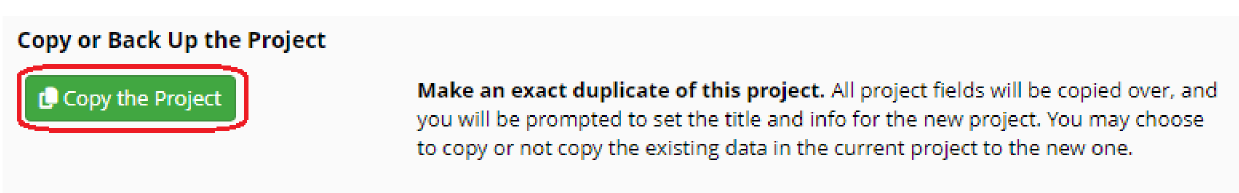
Copy the Project

Make a duplicate of the current project named "[your name]_Test [date]_v2."

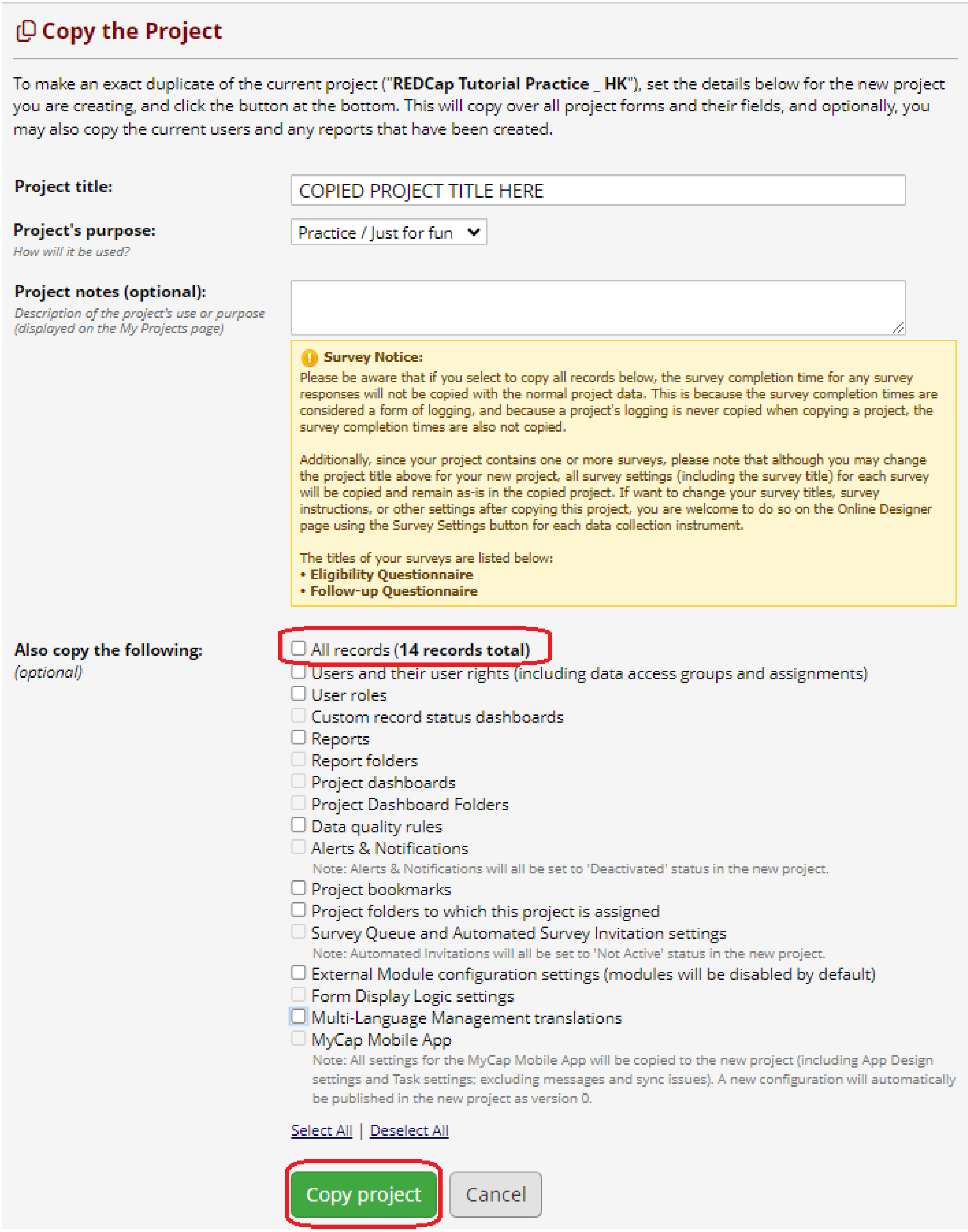
1. On the left menu under Project Home and Design, click `Project Home`.

2. Click on the "Other Functionality" tab.

3. Click `Copy the project.`



4. Edit the project name. Review other options without making changes. Click `Copy Project.`



Copy the Project

To make an exact duplicate of the current project ("**REDCap Tutorial Practice _ HK**"), set the details below for the new project you are creating, and click the button at the bottom. This will copy over all project forms and their fields, and optionally, you may also copy the current users and any reports that have been created.

Project title: COPIED PROJECT TITLE HERE

Project's purpose: Practice / Just for fun
How will it be used?

Project notes (optional):
Description of the project's use or purpose (displayed on the My Projects page)

Survey Notice:
Please be aware that if you select to copy all records below, the survey completion time for any survey responses will not be copied with the normal project data. This is because the survey completion times are considered a form of logging, and because a project's logging is never copied when copying a project, the survey completion times are also not copied.

Additionally, since your project contains one or more surveys, please note that although you may change the project title above for your new project, all survey settings (including the survey title) for each survey will be copied and remain as-is in the copied project. If want to change your survey titles, survey instructions, or other settings after copying this project, you are welcome to do so on the Online Designer page using the Survey Settings button for each data collection instrument.

The titles of your surveys are listed below:
- **Eligibility Questionnaire**
- **Follow-up Questionnaire**

Also copy the following:
(optional)

- All records (**14 records total**)
- Users and their user rights (including data access groups and assignments)
- User roles
- Custom record status dashboards
- Reports
- Report folders
- Project dashboards
- Project Dashboard Folders
- Data quality rules
- Alerts & Notifications
  Note: Alerts & Notifications will all be set to 'Deactivated' status in the new project.
- Project bookmarks
- Project folders to which this project is assigned
- Survey Queue and Automated Survey Invitation settings
  Note: Automated Invitations will all be set to 'Not Active' status in the new project.
- External Module configuration settings (modules will be disabled by default)
- Form Display Logic settings
- Multi-Language Management translations
- MyCap Mobile App
  Note: All settings for the MyCap Mobile App will be copied to the new project (including App Design settings and Task settings; excluding messages and sync issues). A new configuration will automatically be published in the new project as version 0.

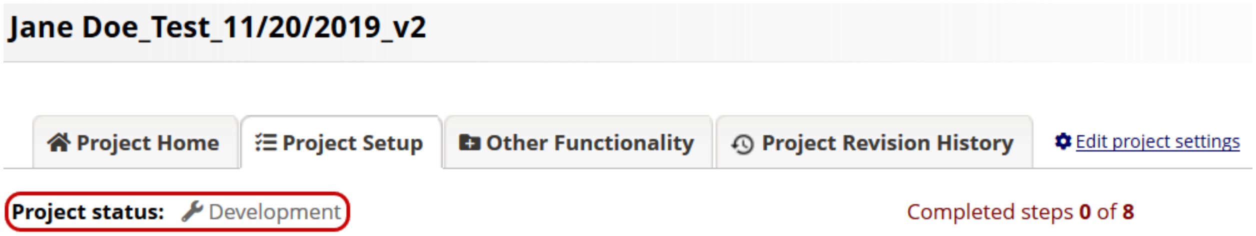
Select All | Deselect All

Copy project | Cancel

Note the structure and status of the duplicate project.

1. Open the “Other Functionality” tab.

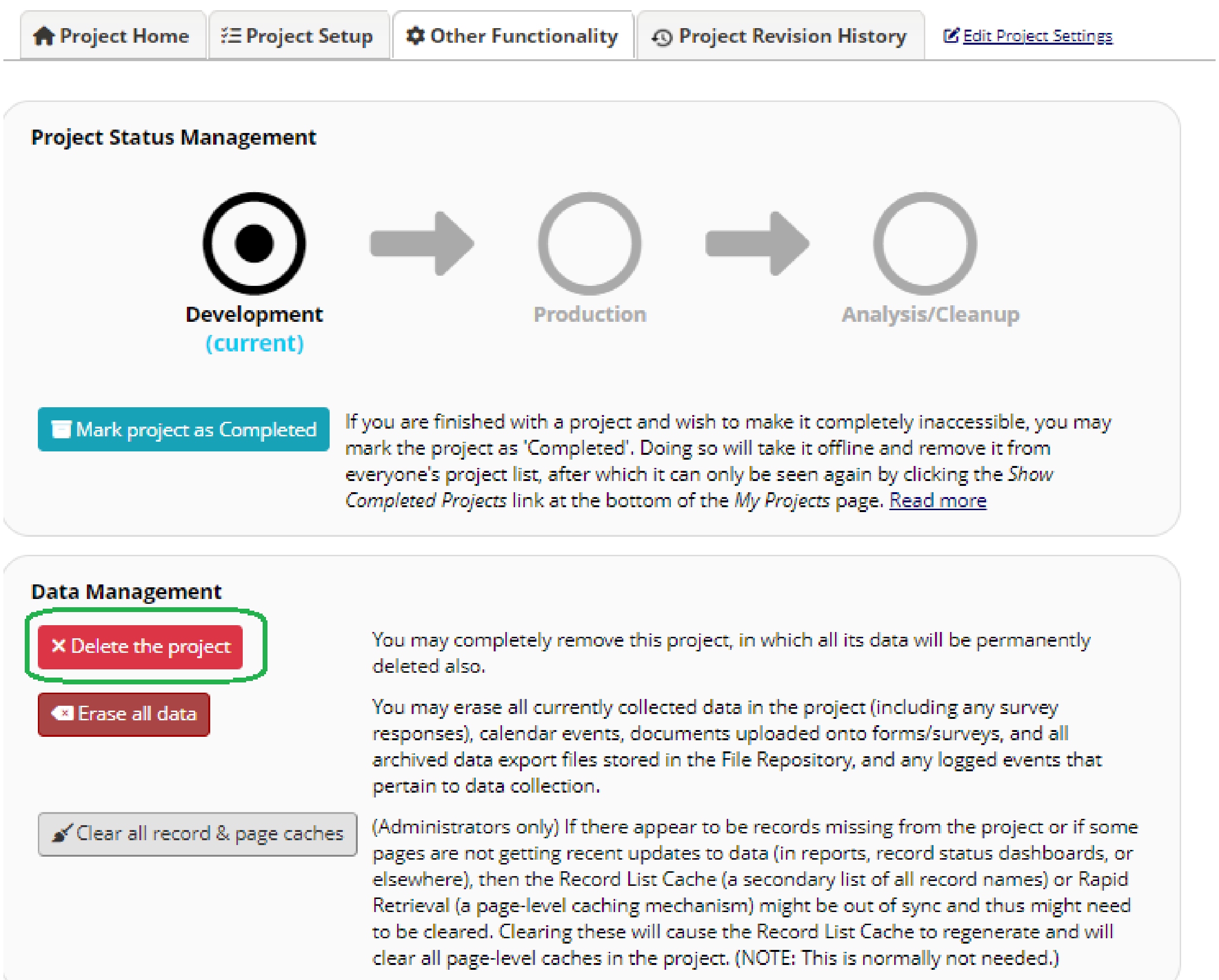
2. The new project should be an exact copy of the original. However, the new project is still in development status, regardless of the status of the original.



Delete the Project

Initiate deletion of the project.

1. Open the “Other Functionality” tab.
2. Click `Delete the project`.



Data Collection Instruments

Use the fields in the tables below to create the two data collection instruments:

1. Eligibility Questionnaire
2. Follow-up Questionnaire

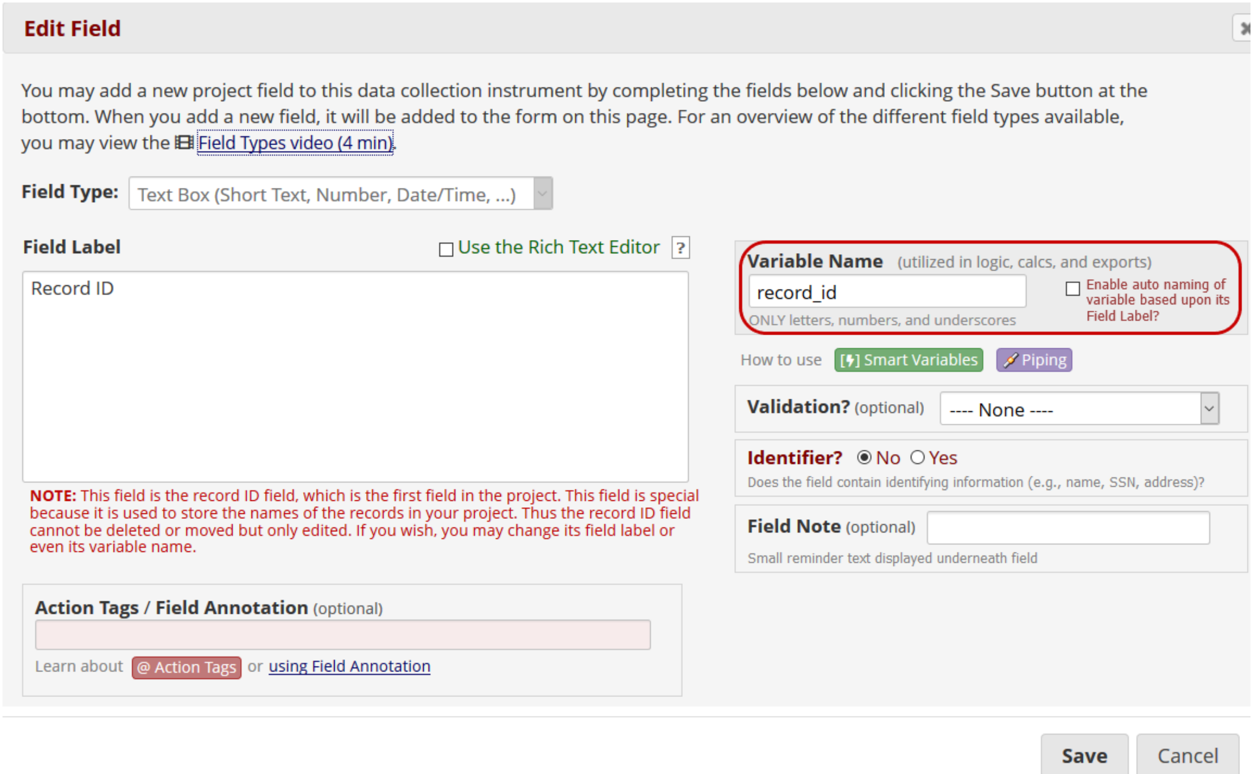
For guidance on creating each question, see see below.

Eligibility Questionnaire

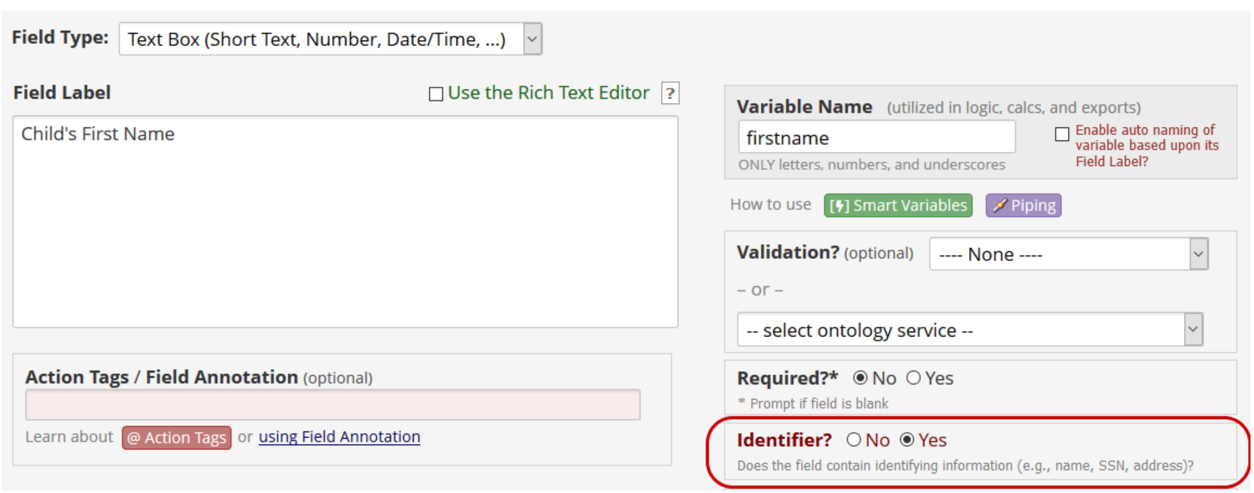
Field	Field Type	Notes
1. Record ID	Text Box	Validation: “Integer”
2. Child’s First Name	Text Box	
3. Child’s Last Name	Text Box	
4. Parent’s Email	Text Box	Validation: “Email”
5. Screening Date	Text Box	Validation: “Date (M-D-Y)”
6. Child’s Date of Birth	Text Box	Validation: “Date (M-D-Y)”
7. Child’s Age	Calculated Field	Write an equation that calculates the child’s age from Screening Date and Child’s Date of Birth.
8. English Fluency (Understood/Spoken)	Yes-No	
9. Ethnicity	Multiple Choice - Radio Buttons (Single Answer)	Options: 1) Hispanic; 2) Non-Hispanic; 9) Other
10. Specify Ethnicity	Text Box	Use branching logic to make this field available when Ethnicity = “Other”
11. Child’s Height (unit in cm)	Text Box	Validation: “Number”
12. Child’s Weight (unit in kg)	Text Box	Validation: “Integer”
13. BMI	Calculated Field	Write an equation that calculates BMI from Child’s Height and Child’s Weight.
14. Are you the parent or legal guardian of [Child’s First Name]?	Multiple Choice - Radio Buttons (Single Answer)	Options: 1) Yes; 0) No (Ineligible). Use piping to display Child’s First Name in the question text.
15. Sorry, you’re not eligible.	Descriptive Text	Use branching logic to show this text when ineligible answers are selected for questions 14.
16. Thanks. You’re eligible to participate in our research study.	Descriptive Text	Use branching logic to show this text when eligible answers are selected for questions 14. Use HTML to make text larger and in the color red (e.g., text!)

Field Properties

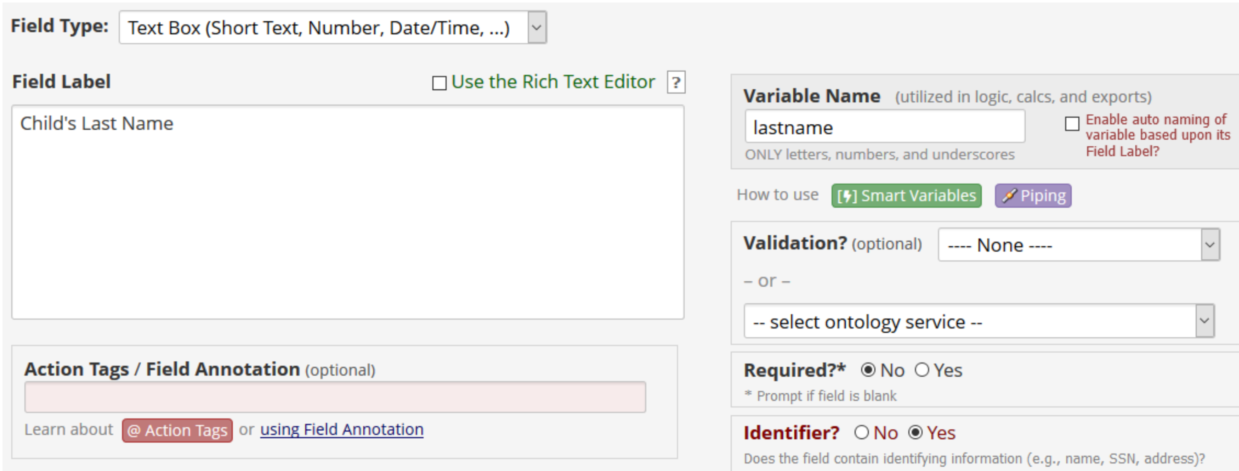
1. Record ID Each field will need a variable name. We highly recommend that you create a short variable name for each field, rather than allowing auto-naming, as shorter names will be easier to use in branching logic, piping, and exported datasets.



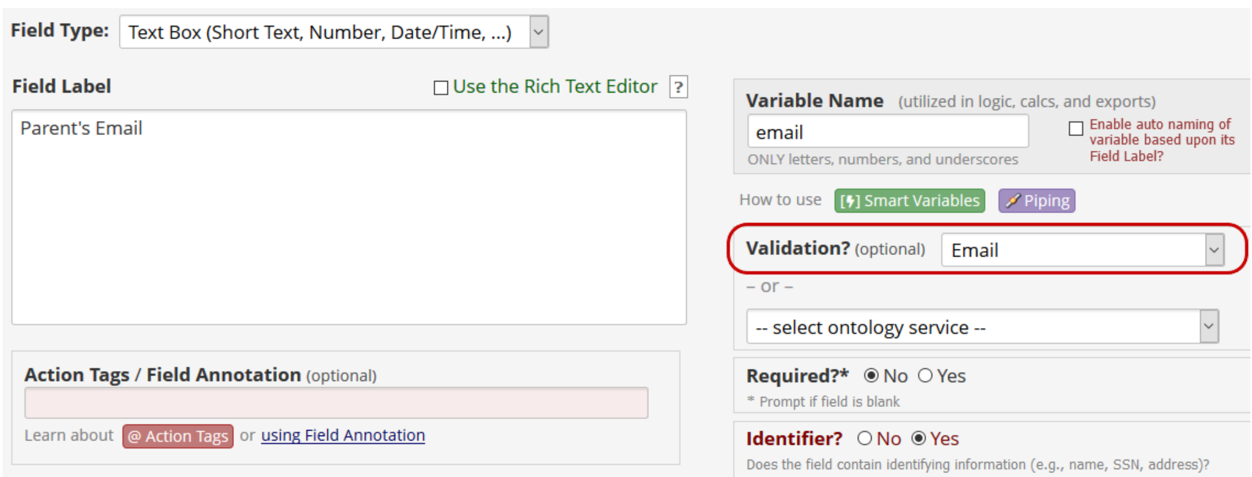
2. Child's First Name If any field contains identifying information such as name, SSN, or address, mark it as an identifier.



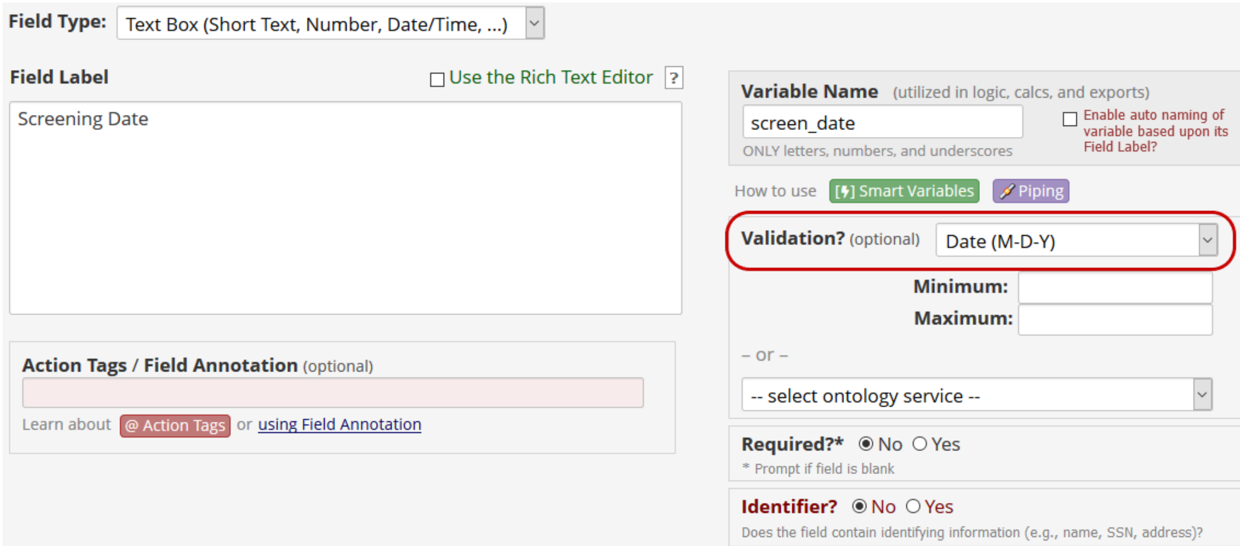
3. Child's Last Name If any field contains identifying information such as name, SSN, or address, mark it as an identifier.



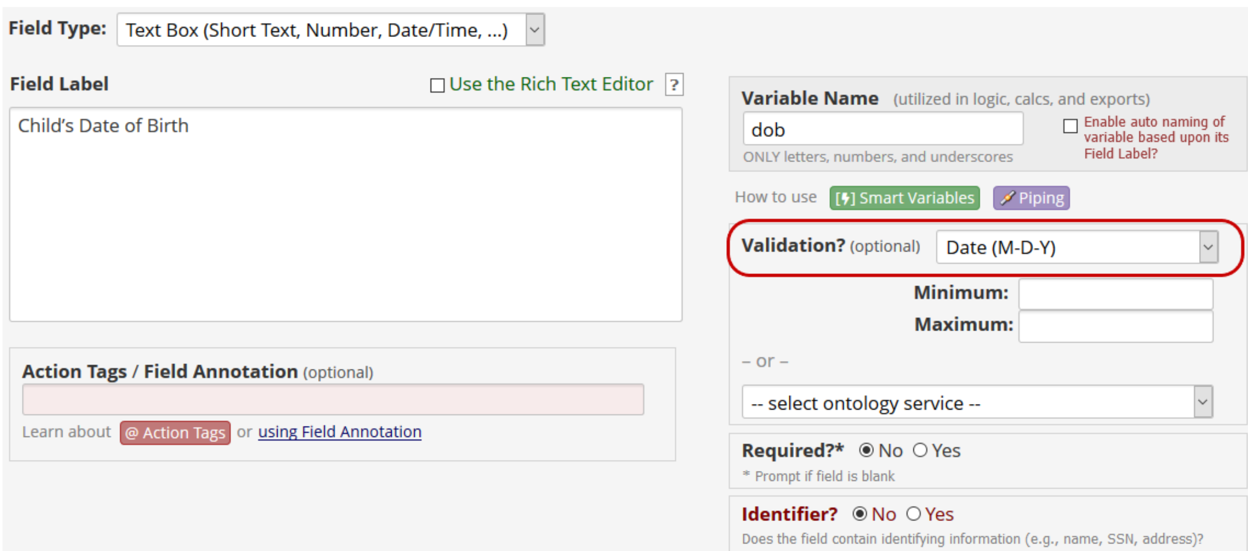
4. Parent's Email Select "Email" as the validation option.



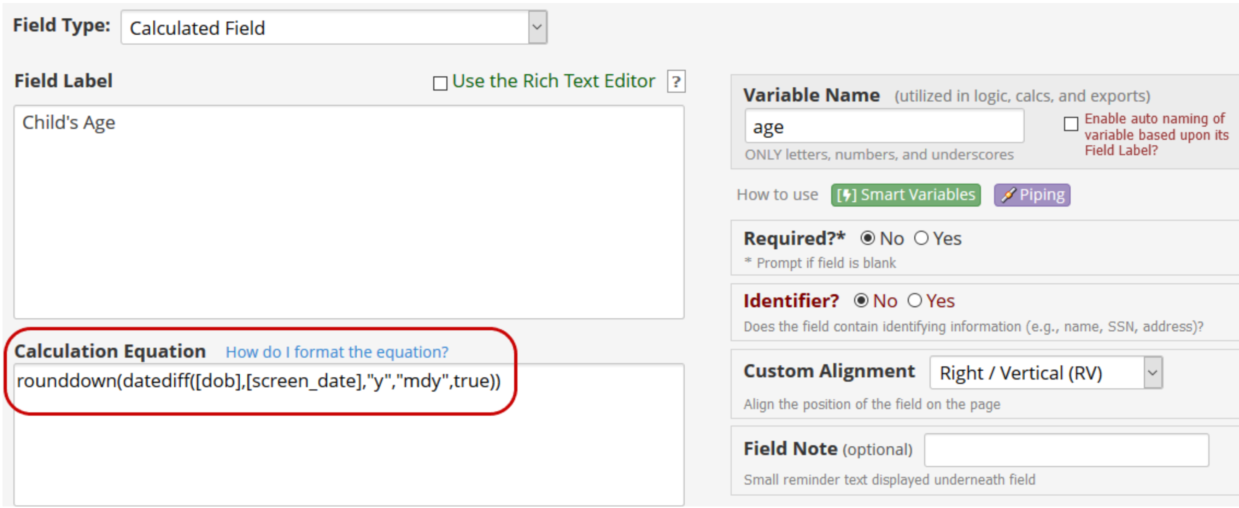
5. Screening Date Select "Date (M-D-Y)" as the validation option.



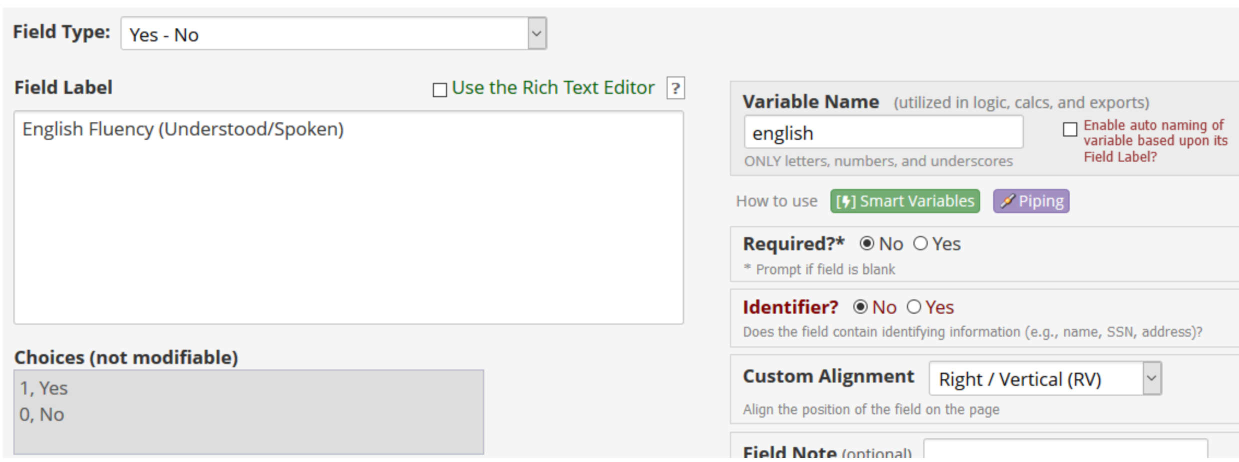
6. Child's Date of Birth Select "Date (M-D-Y)" as the validation option.



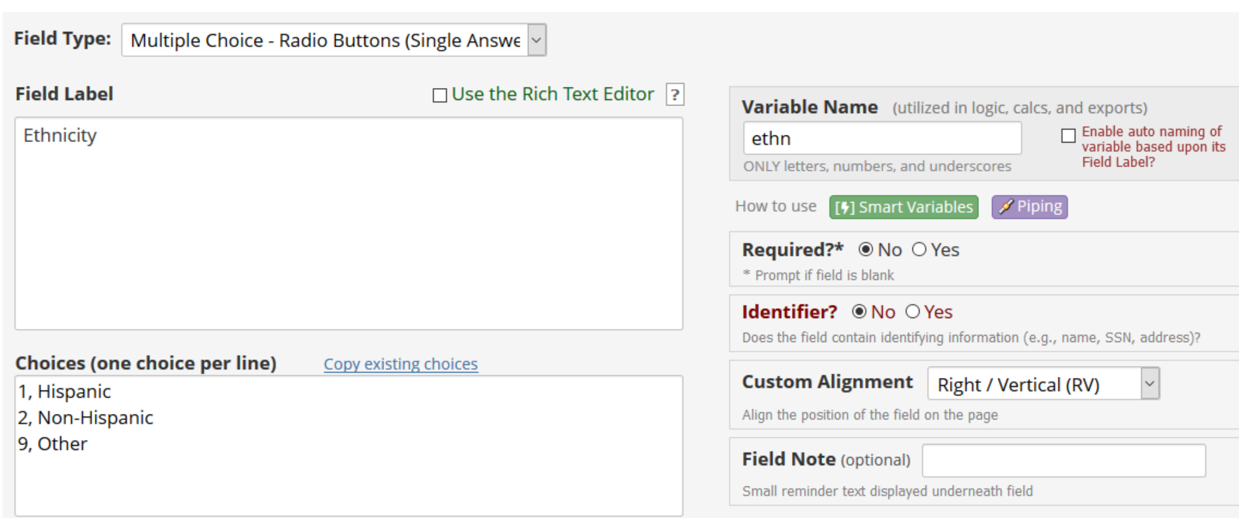
7. Child's Age This field can be calculated with an equation of the form `rounddown(datediff([dob],[screen_date],"y","` Be sure to use the correct variable names for date of birth and screening date. For more information about calculated fields, click 'How do I format the equation?'



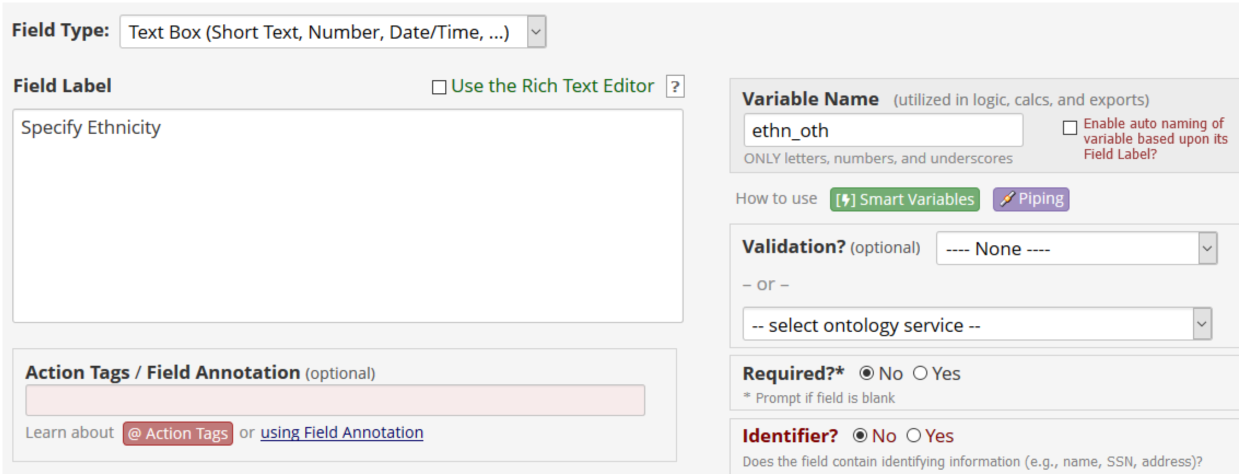
8. English Fluency (Understood/Spoken) Define this question with the built-in Yes-No field type.



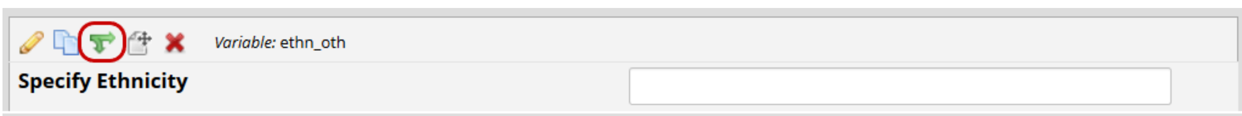
9. Ethnicity Each choice must consist of a numeric code, a comma separator (","), and a text label.



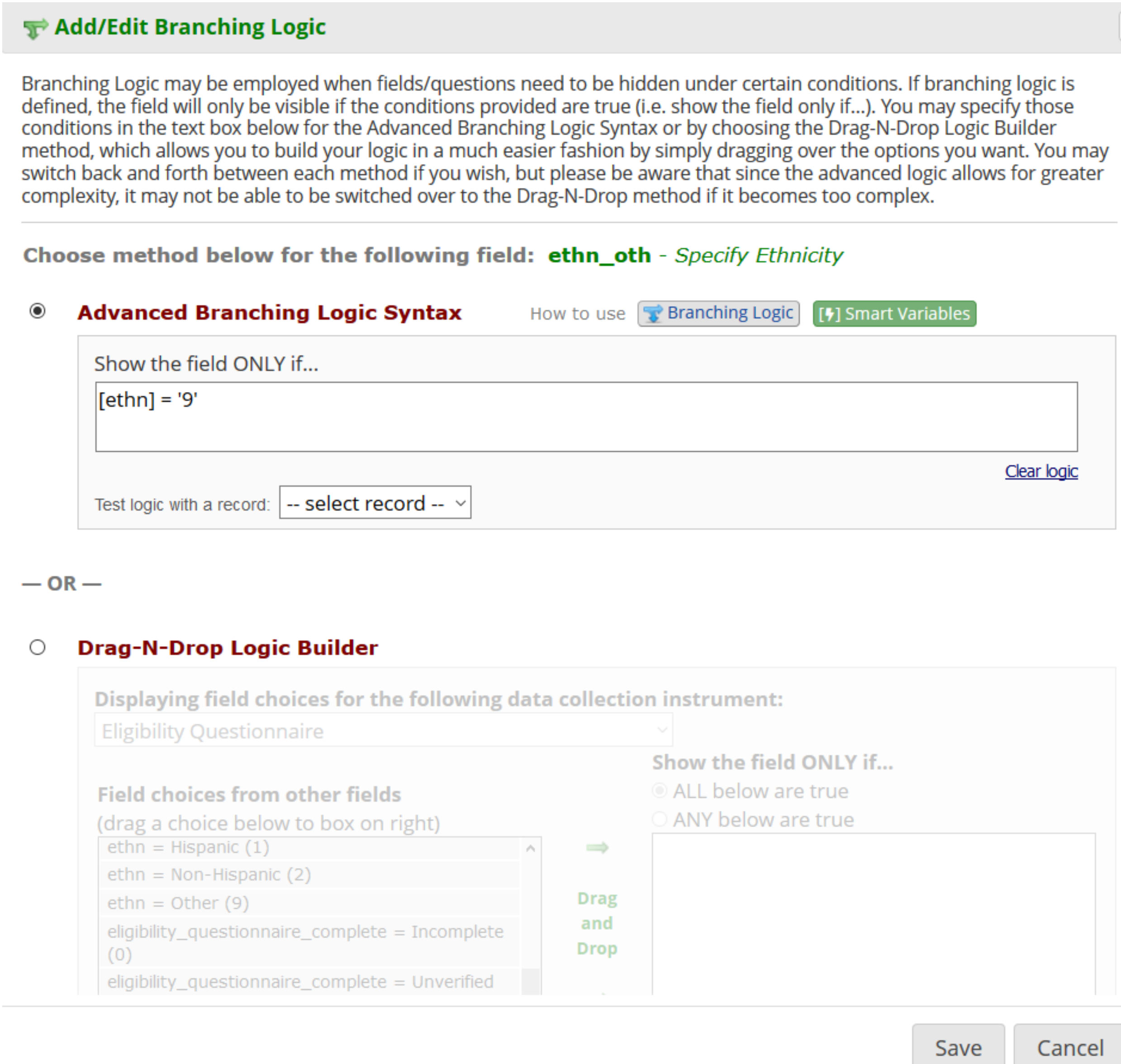
10. Specify Ethnicity Use branching logic to make this field available when Ethnicity = “Other.”



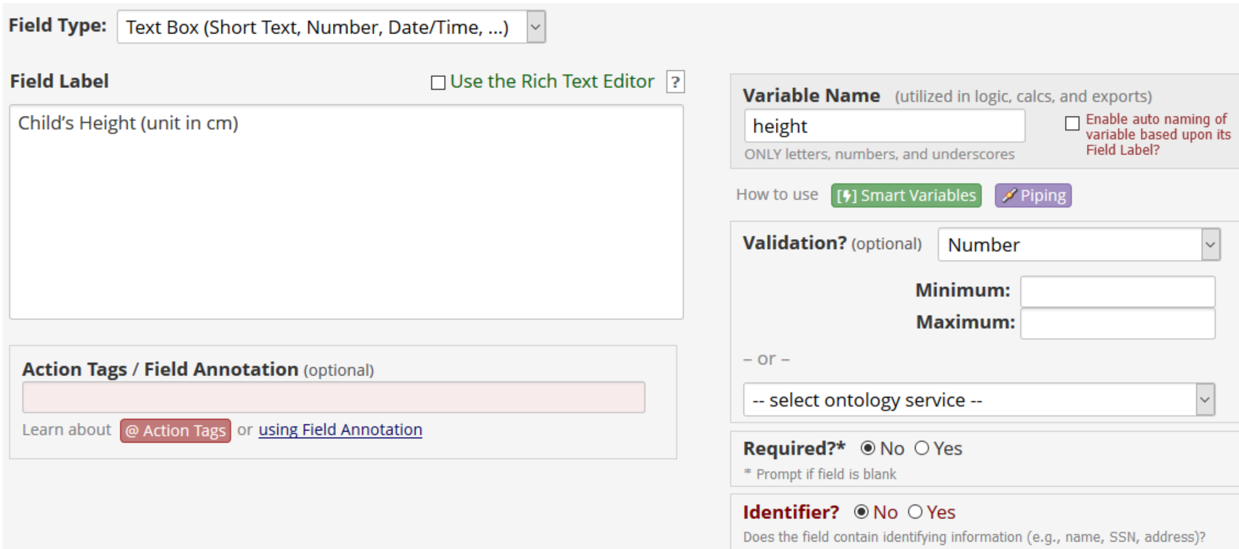
a. To define branching logic, click the green arrows above the question text.



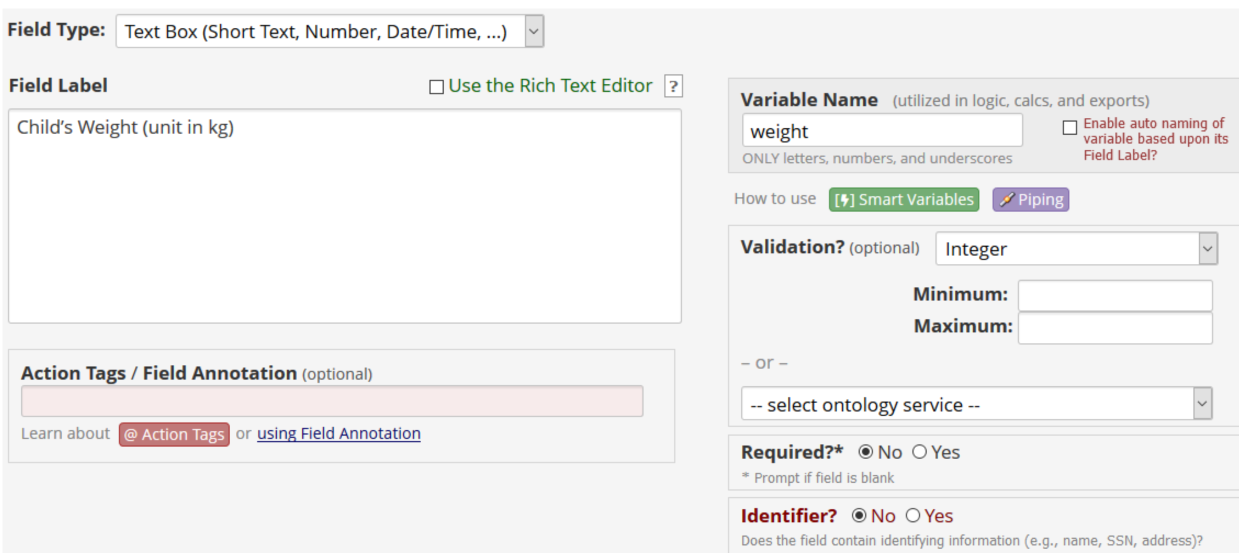
b. Define branching logic by entering the syntax manually or using the Drag-N-Drop Logic Builder. The logic should ensure the field is only visible when the Ethnicity variable (‘ethn’) is equal to ‘Other’ (coded as 9).



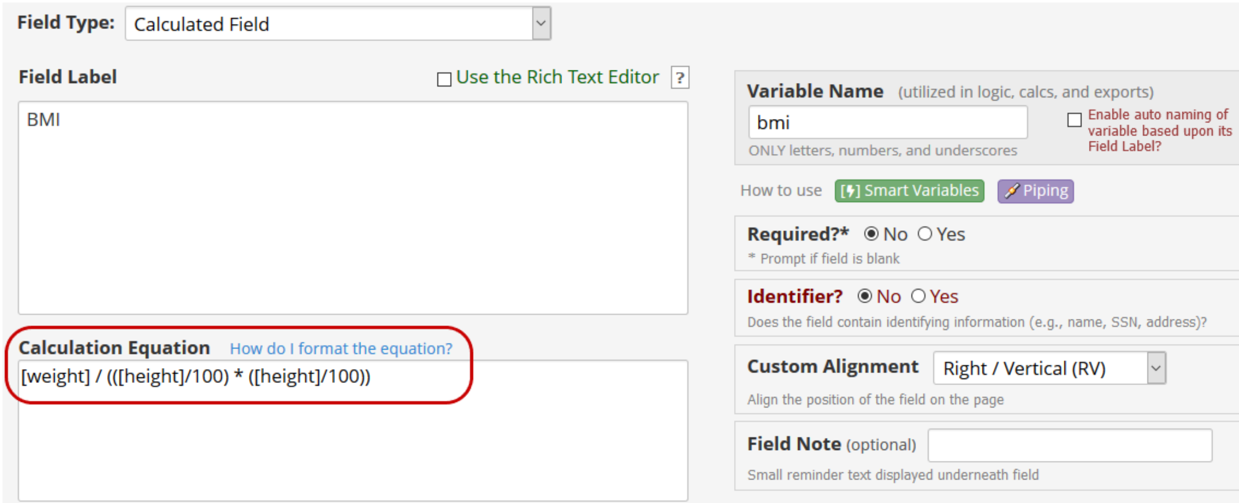
11. Child's Height (unit in cm) Select 'Number' as the validation option.



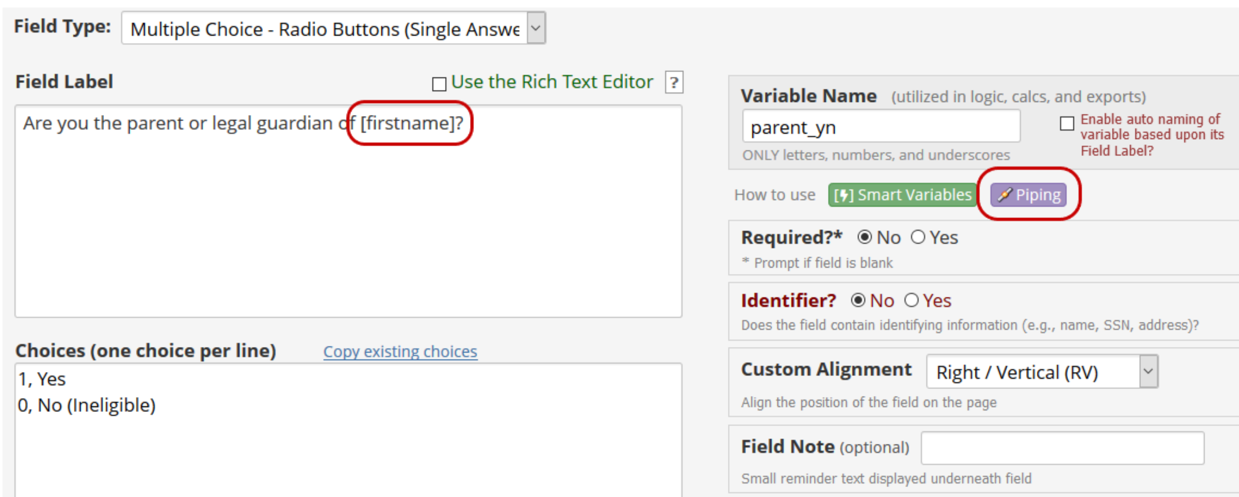
12. Child's Weight (unit in kg) Select 'Integer' as the validation option.



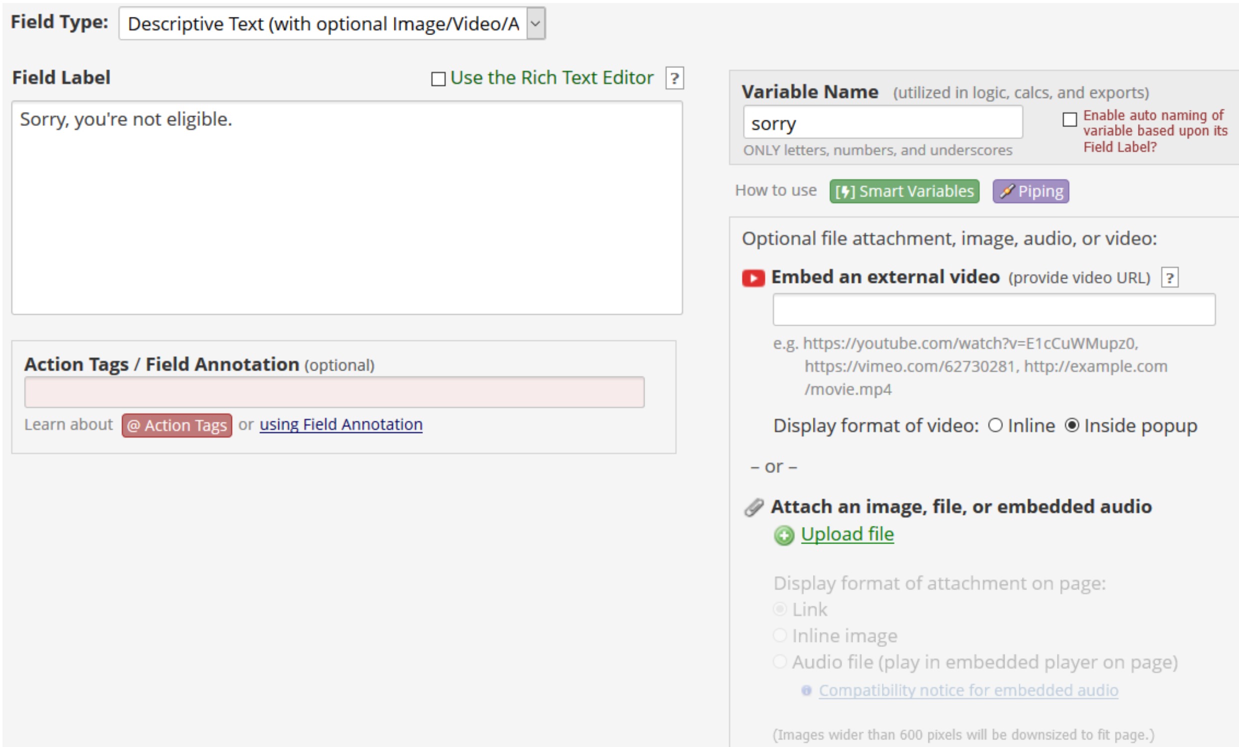
13. BMI This field can be calculated with an equation of the form `[weight] / (([height]/100) * ([height]/100))`. Be sure to use the correct variable names for weight and height.

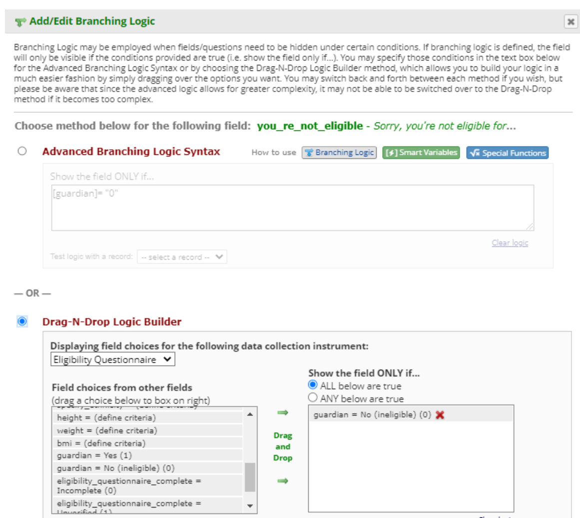


14. Are you the parent or legal guardian of [Child's First Name]? Use piping and the variable name (`firstname`) to reference the text entered in the Child's First Name field. For more information about piping, click the purple `Piping` button. Note that the "Yes-No" field type would also work for this question.



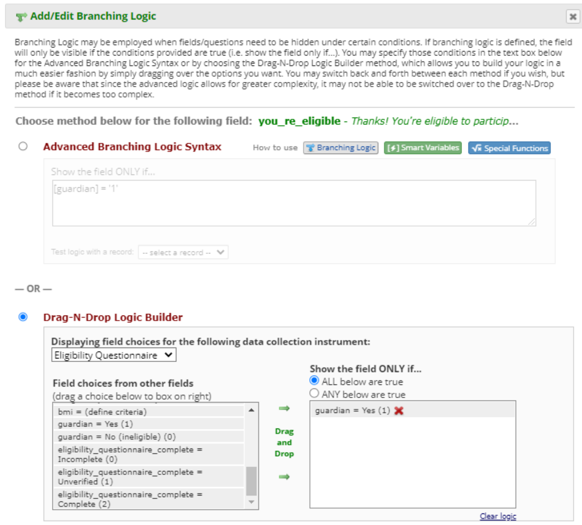
15. Sorry, you're not eligible. Use branching logic to display this text if the question 14 was answered No.



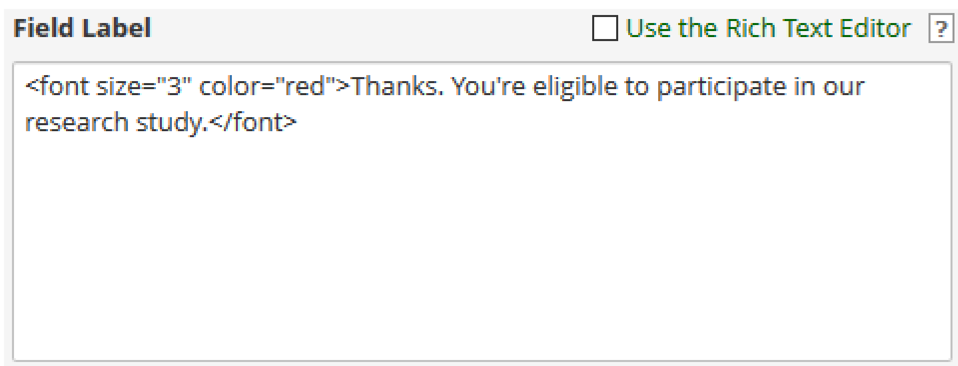


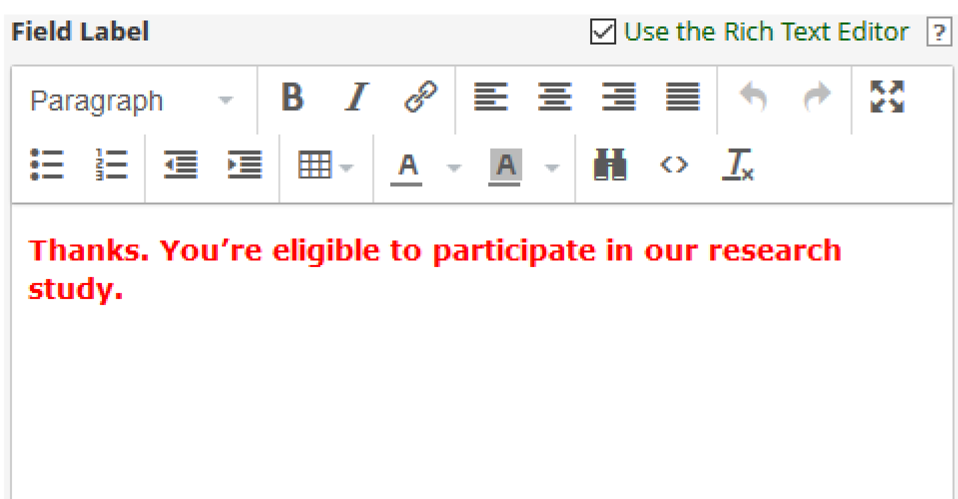
16. Thanks. You're eligible to participate in our research study.

a. Use branching logic to display this text only when question 14 is answered Yes.



b. You can use HTML syntax or the Rich Text Editor to change font size, color, and formatting.



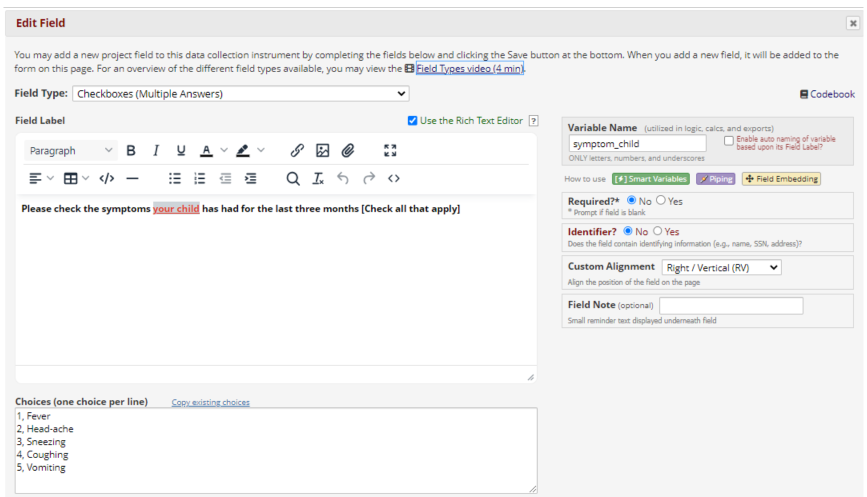


Follow-up Questionnaire

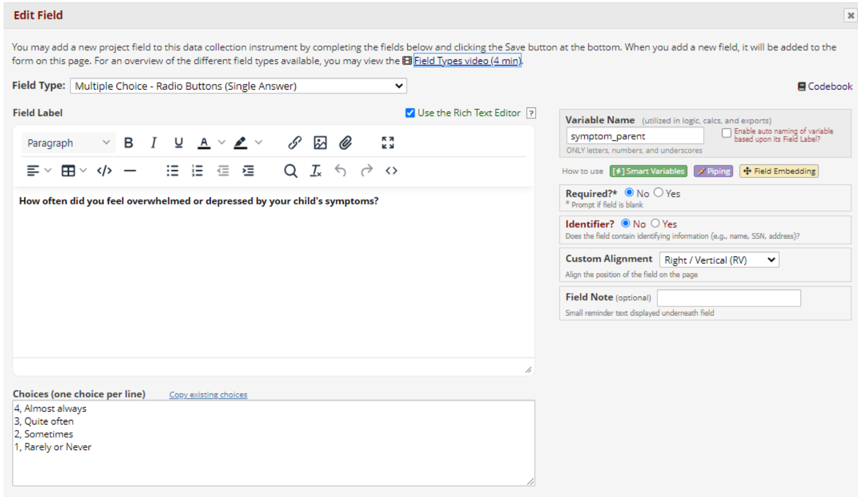
Field	Field Type	Response Options
1. Please check the symptoms your child has had for the last three months [Check all that apply]	Checkboxes(Multiple Answers)	1, Fever 2, Head-ache 3, Sneezing 4, Coughing 5, Vomiting
2. How often did you feel overwhelmed or depressed by your child's symptoms?	Radio-buttons(Single Answer)	4, Almost always 3, Quite often 2, Sometimes 1, Rarely or Never

Field Properties

1. Please check the symptoms your child has had for the last three months [Check all that apply] Allow users to select multiple options. Note that exported data will include an auto-generated dummy variable for each checkbox option. Branching logic based on checkboxes takes the form `[symptom_child(1)]='1'`.



2. How often did you feel overwhelmed or depressed by your child's symptoms? Allow users to select only one option. Assign option codes that match your needs during analysis. In the example, a larger number corresponds to a more negative emotional status.


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: Multiple Choice - Radio Buttons (Single Answer)
Codebook
Field Label
Use the Rich Text Editor
How often did you feel overwhelmed or depressed by your child's symptoms?
Choices (one choice per line)
Copy existing choices
4, Almost always
3, Quite often
2, Sometimes
1, Rarely or Never
Variable Name (utilized in logic, calcs, and exports)
symptom_parent
Enable auto naming of variable based upon its Field Label?
ONLY letters, numbers, and underscores
How to use
Smart Variables
Piping
Field Embedding
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)
Align the position of the field on the page
Field Note (optional)
Small reminder text displayed underneath field