



REDCap Project Creation Guide

Definitions

- **Instrument:** a form or survey created for capturing data
- **Record ID:** a unique identifier for each record in your database
- **Record Status Dashboard:** a table that lists all existing records and their status for every data collection instrument
- **Data Dictionary:** a csv spreadsheet containing the metadata used to construct instruments/fields.
- **Variable:** the name of the field or answer choice that is stored in the database
- **Online Designer:** allows you to create/modify/delete data collection instruments and fields
- **Branching Logic:** logic that can be employed when fields in the database need to be hidden during certain circumstances.
- **Choice Label:** Multiple choice text label
- **Choice (raw coded) Value:** A raw value is a numerical or alphabetical value assigned to a multiple-choice text label. Each multiple-choice label must have an associated raw value.
- **Validation:** By default, the Text field type accepts any characters. If you need a specific type of information, data validation allows you to enforce a validation standard on the field.

Logging into REDCap. Go to REDCap Development at <https://dev-redcap.uchc.edu/redcap> - The Development System is used ONLY for developing and testing your projects. The collection and storage of real data and/or Personally Identifiable Information (PII), Protected Health Information (PHI), or any other type of sensitive data is STRICTLY PROHIBITED.

Need help or have a question? Please click here to contact the REDCap Team: [REDCap Service Request](#)

Welcome to REDCap!

REDCap is a mature, secure web application for building and managing online surveys and databases. Using REDCap's stream-lined process for rapidly developing projects, you may create and design projects using 1) the online method from your web browser using the Online Designer; and/or 2) the offline method by constructing a 'data dictionary' template file in Microsoft Excel, which can be later uploaded into REDCap. Both surveys and databases (or a mixture of the two) can be built using these methods.

REDCap provides automated export procedures for seamless data downloads to Excel and common statistical packages (SPSS, SAS, Stata, R), as well as a built-in project calendar, a scheduling module, ad hoc reporting tools, and advanced features, such as branching logic, file uploading, and calculated fields.

Learn more about REDCap by watching a [brief summary video \(4 min\)](#). If you would like to view other quick video tutorials of REDCap in action and an overview of its features, please see the [Training Resources](#) page.

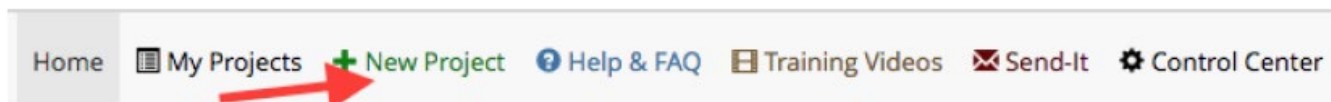
REDCap Features

- Build online surveys and databases quickly and securely** - Create and design your project rapidly using secure web authentication from your browser. No extra software is required.
- Fast and flexible** - Conception to production-level survey/database in less than one day.
- Export data to common data analysis packages** - Export your data to Microsoft Excel, PDF, SAS, Stata, R, or SPSS for analysis.
- Ad Hoc Reporting** - Create custom queries for generating reports to view or download.
- Scheduling** - Utilize a built-in project calendar

Create a New REDCap Project. There are 3 main project types:

1. Survey(s)
2. Data Entry Forms
3. Survey + Data Entry Forms

Click on the “New Project” tab:



Project Title: Enter a title for your project (this can be changed later if needed)

Purpose of this project: Currently, ALL projects MUST be for research purposes only

- **Research:** if this is an IRB approved project, you will be prompted to enter the PI information and the IRB#

A screenshot of the 'Create a new REDCap Project' form. The form has a title bar with a plus icon and the text 'Create a new REDCap Project'. Below the title bar, there is a paragraph: 'You may begin the creation of a new REDCap project on your own by completing the form below and clicking the Create Project button at the bottom.' The form contains four sections: 1. 'Project title:' with a text input field and a red arrow pointing to it. Below the field is the text 'Title to be displayed on project webpage'. 2. 'Purpose of this project:' with a dropdown menu showing '--- Select One ---' and a red arrow pointing to it. Below the dropdown is the text 'How will it be used?'. 3. 'Assign project to a Project Folder?' with a checkbox. 4. 'Project notes (optional):' with a text area. Below the text area is the text 'Comments describing the project's use or purpose that are displayed on the My Projects page.'

Start from scratch project or begin with a template project: it is recommended to “Create an empty project” until you become familiar with REDCap.

Once you are ready, click “Create Project”

Start project from scratch or begin with a template?

☒ Create an empty project (blank slate)
☐ Upload a REDCap project XML file (CDISC ODM format) [?](#)
☐ Use a template (choose one below)

★ **Choose a project template** (comes pre-filled with fields, forms/surveys, and other settings) [Add templates \(Administrators only\)](#)

select template	Template title (sorted by title)	Template description
☐	Adverse Events	Adverse Events template
☐	Adverse Events and Con Meds	Contains the templates for Adverse Events and Concomitant Medications.
☐	APACHE II Scale	Apache II Severity Of Disease Classification System
☐	Basic Demography	Contains a single data collection instrument to capture basic demographic information.
☐	Classic Database	Contains six data entry forms, including forms for demography and baseline data, three monthly data forms, and concludes with a completion data form.



Main Project Settings:

Use longitudinal data collection with repeating forms: Click Enable if your project will contain instruments that will be used to collect data numerous times. For an example, you are going to collect lab results over ten visits for the same participant.

Use surveys in this project: Click Enable if your project will contain surveys.

Modify project title, purpose, etc: Click this icon if you would like to change your project title or purpose.

[Project Home](#)
[Project Setup](#)
[Other Functionality](#)
[Project Revision History](#)
[Edit project](#)

Project status:  Development Completed steps 0 of 8



Not started

Main project settings

☒ Use surveys in this project? [?](#)
[VIDEO: How to create and manage a survey](#)

☒ Use longitudinal data collection with defined events? [?](#)

Once you are finished with your main project settings, click “I’m done”. This will serve as a visual check mark that this section is completed. **Note:** You can always go back and change your settings while in Development mode.


Complete
[Not complete?](#)

Main project settings

[Disable](#)  Use surveys in this project? [?](#)  [VIDEO: How to create and manage a survey](#)

[Enable](#)  Use longitudinal data collection with defined events? [?](#)

[Modify project title, purpose, etc.](#)

Design your data collection instruments (forms/surveys)

Online Designer: Click Online Designer to start building your data collection instruments

Data Dictionary: Alternatively, you may upload your data dictionary via an Excel csv file in order to build your data collection instruments. **Note:** This is considered an advanced step and should not be used unless you are an experienced user.


Not started
[I'm done!](#)

Design your data collection instruments & enable your surveys

Add or edit fields on your data collection instruments (survey and forms). This may be done by either using the Online Designer (online method) or by uploading a Data Dictionary (offline method). You may then enable your instruments to be used as surveys in the Online Designer. Quick links: [Download PDF of all instruments](#) OR [Download the current Data Dictionary](#)

Go to [Online Designer](#) or [Data Dictionary](#)

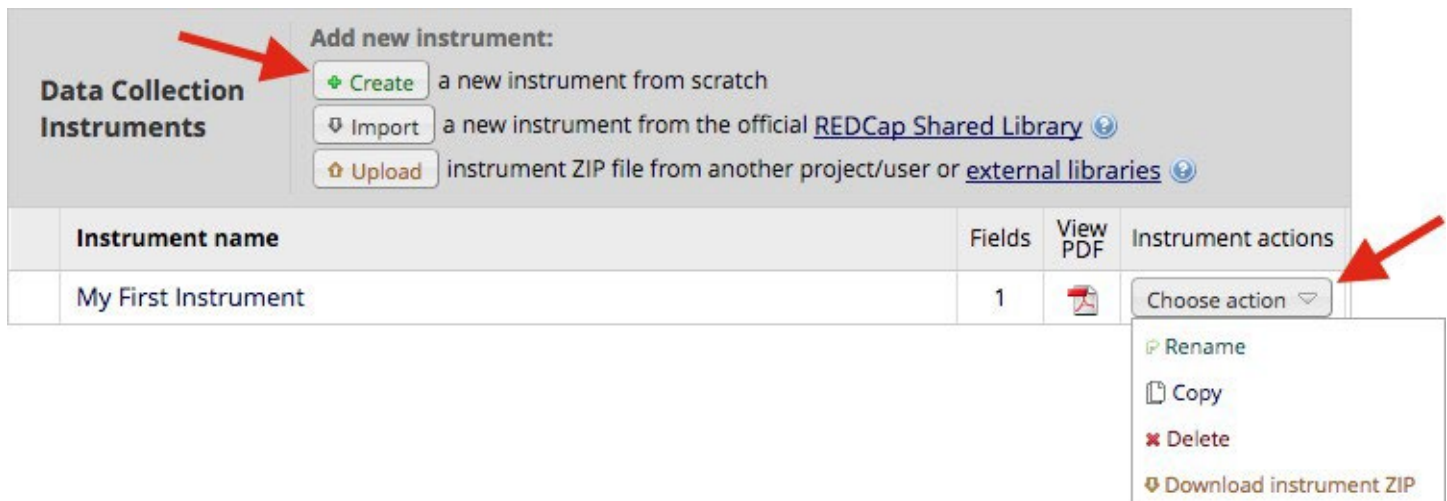
You may also browse for pre-built data collection instruments in the [REDCap Shared Library](#)

Have you checked the [Check For Identifiers](#) page to ensure all identifier fields have been tagged?

Online Designer

REDCap will begin your project with a data collection instrument titled “My First Instrument”. To change the title, click the “Choose action” button.

To add additional data collection instruments, click on the Create icon. Click on Add Instrument here and enter a name for the new instrument.



Data Collection Instruments

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](#)

Instrument name	Fields	View PDF	Instrument actions
My First Instrument	1		Choose action ▾ - Rename - Copy - Delete - Download instrument ZIP

To begin building your data collection instrument, click on the instrument name.



Data Collection Instruments

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](#)

Instrument name	Fields	View PDF	Instrument actions
<u>My First Instrument</u>	1		Choose action ▾

Click to modify instrument
Add new fields/questions to the instrument or modify existing ones.

Record Identifier

The very first field in the first data collection instrument must be used as the record identifier and must be unique. The record identifiers can be automatically sequentially- generated or user-entered. The record identifier field cannot be deleted however you may rename this field by clicking on the pencil icon. It is strongly recommended to not use any PHI as the unique identifier to preserve confidentiality.

[Project Home](#) [Project Setup](#) [Online Designer](#) [Data Dictionary](#)

[Create snapshot of instruments](#) [VIDEO: How to use this page](#)
Last snapshot: never ?

Ready to add fields

You may now begin adding fields to your data collection instrument below using the Online Designer. Alternatively, you may build your fields in the Data Dictionary (offline method) by clicking its tab above.

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 fields/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 page allows you to build and customize your data collection instruments one field at a time. You may add new fields or edit existing ones. New fields may be added by clicking the **Add Field** buttons. You can begin editing an existing field by clicking on the  **Edit** icon. If you decide that you do not want to keep a field, you can simply delete it by clicking on the **✖ Delete** icon. To reorder the fields, simply **drag and drop** a field to a different position within the form below. NOTE: While in development status, all field changes will take effect immediately in real time. **Are you using Action Tags yet? If not, [learn about Action Tags here](#).**

[Return to list of instruments](#)

Current instrument: **My First Instrument** [Preview instrument](#)

 Variable: record_id

Record ID

NOTE: The field above is the record ID field and thus cannot be deleted or moved. It can only be edited.

[Add Field](#) [Add Matrix of Fields](#)

Add Fields to Your Data Collection Instruments

Click the Add Field button  and select one of the several field types available:

Field Types video (4 min).' Below this is a 'Field Type' label and a dropdown menu. The dropdown is open, showing a list of field types: 'Text Box (Short Text, Number, Date/Time, ...)', 'Notes Box (Paragraph Text)', 'Calculated Field', 'Multiple Choice - Drop-down List (Single Answer)', 'Multiple Choice - Radio Buttons (Single Answer)', 'Checkboxes (Multiple Answers)', 'Yes - No', 'True - False', 'Signature (draw signature with mouse or finger)', 'File Upload (for users to upload files)', 'Slider / Visual Analog Scale', 'Descriptive Text (with optional Image/Video/Audio/File Attachment)', 'Begin New Section (with optional text)', and 'Dynamic Query (SQL)'." data-bbox="54 194 942 563"/>

Add New 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 ✓ ---- Select a Type of Field ----

- Text Box (Short Text, Number, Date/Time, ...)
- Notes Box (Paragraph Text)
- Calculated Field
- Multiple Choice - Drop-down List (Single Answer)
- Multiple Choice - Radio Buttons (Single Answer)
- Checkboxes (Multiple Answers)
- Yes - No
- True - False
- Signature (draw signature with mouse or finger)
- File Upload (for users to upload files)
- Slider / Visual Analog Scale
- Descriptive Text (with optional Image/Video/Audio/File Attachment)
- Begin New Section (with optional text)
- Dynamic Query (SQL)

The following pages give an explanation of each field and examples for each field.

Examples of Field Types

Text Box (Short Text) with a validation of Date (M-D-Y)

This field can be used for text, dates, numbers, email addresses, phone numbers etc. Use the Validation drop down (date format, email, phone, time, letters only, SS#, zipcode, integer, number-with/without decimals) to restrict how data should be entered.

Add New 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, ...) ▾

Field Label

[How to use Piping](#)

Today's Date:

Action Tags / Field Annotation (optional)

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

Variable Name (utilized during data export)

date

ONLY letters, numbers, and underscores

☐ Enable auto naming of variable based upon its Field Label?

Validation? (optional) Date (M-D-Y) ▾

Minimum:

Maximum:

– or –

Enable searching within a biomedical ontology ?

-- choose ontology to search -- ▾

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

Save

Cancel

Variable: date

Date of Visit:



Today

M-D-Y

Notes Box (Paragraph Text)

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: Notes Box (Paragraph Text)

Field Label  [How to use Piping](#)

Describe any issues that you had with the visit:

Action Tags / Field Annotation (optional)

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

Variable Name (utilized during data export)

issues ☐ Enable auto naming of variable based upon its Field Label?

ONLY letters, numbers, and underscores

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

Save **Cancel**

     Variable: Issues

Calculated Field

This field can perform real-time calculations based on the data from other fields. For an example, you could create a calculation based off the start time and end time of a test to see how much time elapsed.

Add New 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: Calculated Field

Field Label [How to use Piping](#)

Calculation between start time and end time (in hours)

Calculation Equation [How do I format the equation?](#)

`datediff([end_time],[start_time],"h")`

✓ **Valid** [Clear calculation](#)

Test calculation with a record: -- select record --

Action Tags / Field Annotation (optional)

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

Variable Name (utilized during data export)

calculate_time ☐ Enable auto naming of variable based upon its Field Label?

ONLY letters, numbers, and underscores

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

Save **Cancel**



Variable: calculate_time

Calculation between start time and end time (in hours)

[View equation](#)

Multiple Choice – Drop Down List (Single Answer)

This field will display your answer choices as a drop-down list. When a field contains multiple answer choices, you must give each answer choice a variable name. If you do not, REDCap will automatically assign them for you.

Add New 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 - Drop-down List (Single Answer)

Field Label [How to use Piping](#)

What is your favorite flavor of ice cream?

Variable Name (utilized during data export)

icecream_flavor ☐ Enable auto naming of variable based upon its Field Label?

ONLY letters, numbers, and underscores

Choices (one choice per line) [Copy](#)

1, Chocolate
2, Vanilla
3, Strawberry
4, Mint Chocolate Chip

☐ **Enable auto-complete for this dropdown** [How do I manually add choices?](#)

Action Tags / Field Annotation (optional)

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

Raw values for choices were added automatically

The choices listed below did not appear to have a raw value listed but only had a label, so a raw value has been provided for them automatically. If you are not satisfied with these auto generated values, you may change them before saving your changes for this field. The choices in the 'Choices' text box have automatically been modified to reflect these changes.

1 was set as the raw value for **Chocolate**
2 was set as the raw value for **Vanilla**
3 was set as the raw value for **Strawberry**
4 was set as the raw value for **Mint Chocolate Chip**
5 was set as the raw value for **Butter Pecan**

Close



Variable: icecream_flavor

What is your favorite flavor of ice cream?

Multiple Choice – Radio Buttons (Single Answer)

This field will display your answer choices as radio buttons

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)

Field Label [How to use Piping](#)

What is your favorite flavor of ice cream?

Choices (one choice per line) [Copy existing choices](#)

1, Chocolate
2, Vanilla
3, Strawberry
4, Mint Chocolate Chip

[How do I manually code the choices?](#)

Action Tags / Field Annotation (optional)

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

Variable Name (utilized during data export)

icecream_flavor ☐ Enable auto naming of variable based upon its Field Label?

ONLY letters, numbers, and underscores

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

Save **Cancel**

     Variable: icecream_flavor

What is your favorite flavor of ice cream?

☐ Chocolate
☐ Vanilla
☐ Strawberry
☐ Mint Chocolate Chip
☐ Butter Pecan

reset

Checkboxes (Multiple Answers)

This field will display your answer choices as check boxes and will allow more than one answer.

Note: I added a field note that states “Check all that apply”.

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: Checkboxes (Multiple Answers)

Field Label [How to use Piping](#)

Which are your favorite flavors office cream?

Choices (one choice per line) [Copy existing choices](#)

1, Chocolate
2, Vanilla
3, Strawberry
4, Mint Chocolate Chip

[How do I manually code the choices?](#)

Action Tags / Field Annotation (optional)

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

Variable Name (utilized during data export)

icecream_flavor ☐ Enable auto naming of variable based upon its Field Label?

ONLY letters, numbers, and underscores

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) (check all that apply)
Small reminder text displayed underneath field

Save **Cancel**

Variable: icecream_flavor

Which are your favorite flavors office cream?

☐ Chocolate
☐ Vanilla
☐ Strawberry
☐ Mint Chocolate Chip
☐ Butter Pecan

(check all that apply)

Yes-No

This field will display Yes and No as radio button answer choices.

Add New 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: Yes - No

Field Label [How to use Piping](#)

Do you like ice cream?

Choices (not modifiable)

1, Yes
0, No

Action Tags / Field Annotation (optional)

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

Variable Name (utilized during data export)

like_icecream ☐ Enable auto naming of variable based upon its Field Label?

ONLY letters, numbers, and underscores

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

Save

Cancel



Variable: like_icecream

Do you like ice cream?

☐ Yes
☐ No

reset

True – False

This field will display True and False as radio button answer choices.

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: True - False

Field Label [How to use Piping](#)

You do not like ice cream.

Choices (not modifiable)

1, True
0, False

Action Tags / Field Annotation (optional)

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

Variable Name (utilized during data export)

not_like_icecream ☐ Enable auto naming of variable based upon its Field Label?

ONLY letters, numbers, and underscores

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

Save

Cancel

Variable: not_like_icecream

You do not like ice cream.

☐ True
☐ False

reset

Signature (draw signature with mouse or finger)

This field will allow the participant to add their signature using their mouse or the finger (if using a tablet or touch screen device)

Add New 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: Signature (draw signature with mouse or finger) 

Field Label  [How to use Piping](#)

Sign your name:

Action Tags / Field Annotation (optional)

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

Variable Name (utilized during data export)

signature ☐ Enable auto naming of variable based upon its Field Label?

ONLY letters, numbers, and underscores

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

Save **Cancel**

     Variable: signatureSign your name:  [Add signature](#)

File Upload (for users to upload files)

This field gives the participant the ability to upload a file or image

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: File Upload (for users to upload files) ⬆

Field Label  [How to use Piping](#)

Upload signed informed consent:

Action Tags / Field Annotation (optional)

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

Variable Name (utilized during data export)

icf ☐ Enable auto naming of variable based upon its Field Label?

ONLY letters, numbers, and underscores

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

Save **Cancel**

    Variable: icf**Upload signed informed consent:**  [Upload document](#)

Slider Visual Analog Scale

This field gives you a scale with three answer choices. If you select “Display number value (0-100)”, it will code the answer given.

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: Slider / Visual Analog Scale

Field Label  [How to use Piping](#)

How much pain are you having right now?

Labels displayed above slider (optional):

Left label (bottom, if vertical): No Pain

Middle label: Moderate pain

Right label (top, if vertical): Severe Pain

Display number value (0-100)? ☐

Action Tags / Field Annotation (optional)

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

Variable Name (utilized during data export)

current_pain_level ☐ Enable auto naming of variable based upon its Field Label?

ONLY letters, numbers, and underscores

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 / Horizontal (RH)

Align the position of the field on the page

TIP: Make your sliders vertical with RV or LV alignment.

Field Note (optional)

Small reminder text displayed underneath field

Save **Cancel**



Variable: current_pain_level

No Pain

Moderate pain

Severe Pain

How much pain are you having right now?

Change the slider above to set a response

reset

Descriptive Text (with optional Image/File Attachment)

This field will allow you to add text such as instructions or additional information. It also gives you the option to add an image as a link or as an inline image.

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: Descriptive Text (with optional Image/Video/A )

Field Label [How to use Piping](#)

Please be sure to mark all PHI as identifiers. Refer to the list of patient identifiers.

Action Tags / Field Annotation (optional)

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

Variable Name (utilized during data export)

phi_list ☐ Enable auto naming of variable based upon its Field Label?

ONLY letters, numbers, and underscores

Optional file attachment, image, audio, or video:

 **Embed an external video** (provide video URL) 

e.g. <https://youtube.com/watch?v=E1cCuWMupz0>,
<https://vimeo.com/62730281>,
<http://example.com/movie.mp4>

Display format of video: ☐ Inline ☒ Inside popup

– or –

 **Attach an image, file, or embedded audio**

[HIPAA Identifiers.pdf](#)  Remove

Display format of attachment on page:

☒ Link
☐ Inline image
☐ Audio file (play in embedded player on page)
[Compatibility notice for embedded audio](#)

(Images wider than 600 pixels will be downsized to fit page.)

Save **Cancel**

Link:

 Variable: phi_list

Please be sure to mark all PHI as identifiers. Refer to the list of patient identifiers.

Attachment:  [HIPAA Identifiers.pdf](#) (0.01 MB)

Inline Image:

Please be sure to mark all PHI as identifiers. Refer to the list of patient identifiers.

List of 18 HIPAA Identifiers

1. Names;
2. All geographical subdivisions smaller than a State, including street address, city, county, precinct, zip code, and their equivalent geocodes, except for the initial three digits of a zip code, if according to the current publicly available data from the Bureau of the Census: (1) The geographic unit formed by combining all zip codes with the same three initial digits contains more than 20,000 people; and (2) The initial three digits of a zip code for all such geographic units containing 20,000 or fewer people is changed to 000.
3. All elements of dates (except year) for dates directly related to an individual, including birth date, admission date, discharge date, date of death; and all ages over 89 and all elements of dates (including year) indicative of such age, except that such ages and elements may be aggregated into a single category of age 90 or older;
4. Phone numbers;
5. Fax numbers;
6. Electronic mail addresses;
7. Social Security numbers;
8. Medical record numbers;
9. Health plan beneficiary numbers;
10. Account numbers;
11. Certificate/license numbers;
12. Vehicle identifiers and serial numbers, including license plate numbers;
13. Device identifiers and serial numbers;
14. Web Universal Resource Locators (URLs);
15. Internet Protocol (IP) address numbers;
16. Biometric identifiers, including finger and voice prints;
17. Full face photographic images and any comparable images; and
18. Any other unique identifying number, characteristic, or code (note this does not mean the unique code assigned by the investigator to code the data)

Begin New Section (with optional text)

This field is used as a section header. You can add text or leave blank.

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: Begin New Section (with optional text) ▾

Field Label  [How to use Piping](#)

Demographic Information

Save Cancel

With optional text:

Demographic Information

With no text:

Add Matrix of Fields

If you have a group of questions that all have the same answer choices, you can create a Matrix of Fields. Instead of clicking Add Field, you would click Add Matrix of Fields. You would add an optional header, your field labels and variable names, indicate which fields are required, add your answer choices and select whether these fields should be a single answer (radio button) or multiple answers (checkboxes). If you would like only one answer choice to be selected per column, enable ranking. You must also give your matrix a group name.

Edit Matrix of Fields



You may add or edit a matrix (i.e. grid) of project fields on this data collection instrument by completing the fields below. By providing all necessary info below and clicking Save, the new matrix of fields will be added to the form on this page. A Field Label and Variable name must be provide for each field in the matrix, and you must also set the Choices (i.e. matrix column headers) and answer format (Single Answer vs. Multiple Answers) for the entire matrix. [View a matrix example](#) or [Read more about matrix fields on the Help & FAQ.](#)

Matrix Header Text (optional)

How often do you eat the following ice cream?

Expand

Matrix Rows

Each row represents a different field with its own label and variable name.

☐ Enable auto naming of variable based upon its Field Label?

Field Label

Chocolate

Vanilla

Strawberry

Butter Pecan

Add another row

Variable Name

ONLY letters, numbers, and underscores

Required?*Field Annotation ?

chocolate

☐

vanilla

☐

strawberry

☐

butter_pecan

☐

Matrix Column Choices

Choices (one choice per line)

1, Never
2, Rarely
3, Sometimes
4, Often
5, Always

[How do I manually code the choices?](#)

Other Matrix Info

Answer Format:

Single Answer (Radio Buttons) ▾

Ranking:

[What is a ranked matrix of fields?](#)

☐ Allow only 1 choice to be selected per column (radio buttons only)

Matrix group name: ONLY letters, numbers, and underscores

icecream_matrix

[What is a matrix group name?](#)

   Matrix group: icecream_matrix

How often do you eat the following ice cream?

	Never	Rarely	Sometimes	Often	Always	
 Variable: chocolate	☐	☐	☐	☐	☐	reset
Chocolate	☐	☐	☐	☐	☐	reset
 Variable: vanilla	☐	☐	☐	☐	☐	reset
Vanilla	☐	☐	☐	☐	☐	reset
 Variable: strawberry	☐	☐	☐	☐	☐	reset
Strawberry	☐	☐	☐	☐	☐	reset
 Variable: butter_pecan	☐	☐	☐	☐	☐	reset
Butter Pecan	☐	☐	☐	☐	☐	reset

Edit/Copy/Move/Delete a Field

Edit: To edit a field, click on the pencil icon 

Copy: To copy a field, click on the double paper icon 

Move: To move a field, click on the paper with pointer icon.  You can also move a field by click and hold field and drag the field to a different location.

Delete: To delete a field, click on the red X icon 

Add Branching Logic

Branching logic is used when you have a field/question that you would only like to appear when a specific answer is given. To enable branching logic, click on the double green arrows  on the field you want to hide.

For an example, I only want the “If Other, please specify” field to show if the answer to the question above it was Other.

 Variable: favorite_icecream

Which is your favorite ice cream?

☐ Chocolate ☐ Vanilla ☐ Strawberry ☐ Other

reset

Add FieldAdd Matrix of Fields

 Variable: other_icecream

Please specify other:

After clicking on the double green arrows, scroll through the list of field choices and drag and drop the field you want to base your branching logic on. Click Save once finished.

Add/Edit Branching Logic

Branching Logic may be employed when fields/questions need to be hidden under certain conditions. If branching logic is defined, the field will only be visible if the conditions provided are true (i.e. show the field only if...). You may specify those conditions in the text box below for the Advanced Branching Logic Syntax or by choosing the Drag-N-Drop Logic Builder method, which allows you to build your logic in a much easier fashion by simply dragging over the options you want. You may switch back and forth between each method if you wish, but please be aware that since the advanced logic allows for greater complexity, it may not be able to be switched over to the Drag-N-Drop method if it becomes too complex.

Choose method below for the following field: **other_icecream** - *Please specify other:*

☐ **Advanced Branching Logic Syntax**

[\(How do I use the advanced syntax?\)](#)

Show the field ONLY if...

[Clear logic](#)

Test logic with a record:

— OR —

☒ **Drag-N-Drop Logic Builder**

Field choices from other fields

(drag a choice below to box on right)

start_time = (define criteria)
end_time = (define criteria)
current_pain_level = (define criteria)
calculate_time = (define criteria)
favorite_icecream = Chocolate (1)
favorite_icecream = Vanilla (2)
favorite_icecream = Strawberry (3)
favorite_icecream = Other (4)

Drag
and
Drop

Show the field ONLY if...

☒ ALL below are true

☐ ANY below are true

favorite_icecream = Other (4)

[Clear logic](#)

The field now alerts me that branching logic exists. If I want to view or modify the existing branching logic, I would click on the double green arrows.

Variable: other_icecream [Branching logic exists]

Please specify other: Variable: favorite_icecream

Which is your favorite ice cream?

☒ Chocolate
☐ Vanilla
☐ Strawberry

reset

Variable: often_eat

How often do you eat **Chocolate** ice cream?

☐ Once a week
☐ Twice a week
☐ Three times a week

reset

Add Piping Logic

Piping gives you the ability to insert answers and place it in various places within REDCap.

For an example, I have a field that asks the participant “What kind of ice cream do you like?”. I then have another field that asks the participant “How often do you eat _____ ice cream?”. I have added piping logic in my second question so that it will insert the answer from the first question.

Before:

Variable: favorite_icecream

Which is your favorite ice cream?

☐ Chocolate
☐ Vanilla
☐ Strawberry

reset

Variable: often_eat

How often do you eat _____ ice cream?

☐ Once a week
☐ Twice a week
☐ Three times a week

reset

One the participant answers the first question; the answer is then inserted into my next question.

After:

To add piping, all you have to do is add the variable name of the field you want to pipe in. The variable name must be inserted into square brackets [].

The screenshot displays the REDCap field configuration interface. On the left, two field examples are shown: 'Which is your favorite ice cream?' with variable 'favorite_icecream' and 'How often do you eat [favorite_icecream] ice cream?'. A red arrow points from the variable in the second example to the configuration panel on the right. The configuration panel for 'Multiple Choice - Radio Buttons (Single Answer)' includes: 'Field Label' (How often do you eat [favorite_icecream] ice cream?), 'Variable Name' (often_eat), 'Required?' (No), 'Identifier?' (No), 'Custom Alignment' (Right / Vertical (RV)), and 'Field Note' (optional). A link 'How to use Piping' is also visible.

Piping can be used in many different places in REDCap such as:

- Field Labels
- Field Notes
- Section Headers
- Survey Instructions and Survey Acknowledgment Text

Enable Your Instrument as a Survey

Once you have enabled the “Use surveys in this project” setting under Project Setup, you will want to indicate which data collection instruments are going to be used as surveys.

The screenshot shows the 'Project Setup' tab in REDCap. The 'Main project settings' section is highlighted with a red arrow. It includes a 'Not started' status indicator, an 'I'm done!' button, and two settings: 'Use surveys in this project?' and 'Use longitudinal data collection with defined events?'. Both settings have 'Enable' buttons and a help icon. A link 'VIDEO: How to create and manage a survey' is also present.

For complete instructions on how to create and distribute surveys please review the Creating and Distributing a Single Survey Guide.

Enable Optional Modules and Customizations

Navigate to the Project Setup Page. To view the rest of the optional modules, click on Additional customizations.

- Auto-numbering for records
- Repeating Instruments and Events
- Scheduling Module (longitudinal projects only)
- Randomization Module
- Designate an email address to use for invitations
- Set a customs record label
- Define a secondary unique field
- Order records by another field
- Enable the field comment log or Data Resolution Workflow (data queries)
- Enable the data history widget (displays previous values, who changed value, time value was changed)
- Display the “Today/Now” button
- Require a reason when making changes to existing records
- Data Entry Trigger

For more detailed information on Optional Modules and Customizations please review the Optional Modules and Customizations Guide:

<https://health.uconn.edu/clinical-research-center/wp-content/uploads/sites/50/2024/03/Optional-Modules-and-Customizations-User-Guide.pdf>

There is also a detailed guide for the Repeating Instruments and Events module:

<https://health.uconn.edu/clinical-research-center/wp-content/uploads/sites/50/2024/02/Repeating-Instruments-and-Events-1.pdf>

User Rights and Permissions

If you would like to grant other users access to your project, click on User Rights.

For detailed information on how to add users to your project please review the Assigning Users Rights Guide.

More Information

For more guides and resources, please be sure to check out our website: <https://health.uconn.edu/clinical-research-center/services/informatics-core/redcap/>

Test Your Project Thoroughly

It is **extremely important** to test your project before moving it into production!

Try creating a few test records and enter some data to ensure that your data collection instruments look and behave how you expect, especially branching logic and calculations. You can do this by clicking Add/Edit Records. If you have surveys, complete the surveys as if you were a participant by using the Public Survey Link.

Once you have some test records entered, review them by going to your Record Status Dashboard; create reports and export your data and view in Excel or one of the statistical analysis packages; review your Stats.

The best way to test your project is to use it as if you were entering real production data, and it is always helpful to have colleagues (especially team members) take a look at your project to get a fresh set of eyes looking at it.

Move Your Project to Production

Move the project to production status so that real data may be collected. Once in production, you will not be able to edit the project fields in real time anymore. However, you can make edits in Draft Mode, which will then need to be approved by a REDCap administrator before taking effect.

You are **strongly encouraged to test your project thoroughly before you move your project into production**. Once you have ensured your project is capturing all of the fields you need and has all of the design elements, click on the Move project to production icon. The Move to Production Request form will open automatically. The requester must complete all the required information and provide the appropriate IRB documentation. Upon submission, the REDCap Administrator will begin processing the move to production. After it has been approved and moved to the production system by the REDCap Administrator, the PI, and the requester will be added as users to the project. The REDCap Administrator will then ask the requester to verify and inspect the project one last time in Production; upon confirmation, the project will be finalized in production status and the PI will be automatically notified. It is then the responsibility of the PI or their designated project manager for adding/removing additional users and assigning privilege access to the production project.

Once the project is in Production, changes cannot be made in real-time to the project as it was in Development status. However, changes to the project may be made in DRAFT MODE, after which such changes will be reviewed and approved by a REDCap administrator. Once those changes are approved, you will then receive an email confirmation informing you that those changes have taken effect on your production project. Edits in Production should only be for minor/simple fixes, such as typos. Making major changes to a project that is in Production should only be done as a last resort. Major changes should be tested in Development. Altering a project that is in Production and has data can cause data loss in some instances. If any critical issues are flagged, you will receive an email from the Administrator to confirm that you want to commit to the changes. The requester should be aware that changes to any variables might affect programmed calculations and/or branching logic. It is the responsibility of the requester to review and test all calculated fields and branching logic before submitting changes. The impact on these fields will NOT be tested by the REDCap Administrator.

Best Practices

Attention to detail at the start of a project can save many hours of work further down the line. This document provides some tips that could save effort later.

Record ID: Record ID is the first field of the first form. The Record Identifier field cannot be deleted; however, you may rename the field.

Protected Health Information (PHI): Use the REDCap identifiers function. There are 18 pieces of information that must be marked as identifiers as per HIPAA policies. You can also use the “Check for Identifiers” module found under “Design your data collection instrument” in the Project Setup tab.

Research Project: if your project is research, enter the PI Name, PI Email Address and the IRB#.

Data Validation: By default, the Text field type accepts any characters. If you need a specific type of information, data validation allows you to enforce a validation standard on the field. When you use data validation, the user is prompted to provide correctly formatted data. Validations prevent users or participants from entering data in the incorrect format. Date formats, number validations, etc. are called “hard validations” because REDCap will not let you save the data if it fails to match the validation format. Range checks are called “soft validations” because REDCap will warn you that the value entered is out of the expected range, but it will still allow you to save the data.

Variable Names: Variable names are critical in the data analysis process. If you export your data to a statistical software program, the variable names are what you or your statistician will use to conduct the analysis.

Follow these principles when naming variables:

1. Keep it short and simple – In most cases, variable names should not exceed 26 characters (most stats packages will truncate variable field names to a max of 26 characters).
2. Make it meaningful – Variable names should be clear enough that your statistician will be able to understand which question you are referring to.
3. Keep it consistent – Avoid inconsistencies by noting how you named previous variables. If you have a large number of variables, you may want to consider starting each one with a prefix to indicate what instrument the variable came from or what section of the project it belongs to. For example, all of your demographic data might begin with dem_ , all of your bloodwork with bw_ , all of your physical exam data with phys_ , etc.
4. When you copy a field in the Online Designer, be sure to change the default variable name.

We always recommend reviewing your variable names with a statistician or whoever will be analyzing your data. This is especially important if this is the first time you are building a database.

Free Text Fields: Minimize the use of free text fields because these can be difficult to analyze. Use categorical response field types (i.e. dropdown, radio button, checkbox) instead of free text fields (i.e. text box and notes box). You can add a free text field after to capture additional information.

Numerical Codes: Be consistent when assigning numerical codes. For example, if “unknown” is coded as 99 in one response, it should be coded as 99 wherever it appears in the database. The numerical code does not affect the order that choices are displayed in the REDCap data entry form.

A code of 99 is recommended for “Other” to leave room for later changes.

A code of 98 is recommended for “None of the Above”, “Unknown” like answers. A code of 1 is recommended for “Yes” answers

A code of 0 is recommended for “No” answers

A code of 1 is recommended for “Male” answer

A code of 0 is recommended for “Female” answer

Race/Ethnicity: Consider recording race and ethnicity according to the current NIH guidelines. Ethnicity categories are “Hispanic or Latino” and “Not Hispanic or Latino.” Racial categories are “American Indian or Alaska Native,” “Asian,” “Native Hawaiian or Other Pacific Islander,” “Black or African American,” and “White.”

Field Annotation/Field Note: Do not assume that data entry personnel know the expected units or format. Units for measurement should be clearly identified in the field label and/or field note. The field label should be used so the statistician can see the units when the dataset is exported. The field note does not export, but may be more salient to the data entry personnel. Never mix different units in one data entry field.

Calculations: Reduce the use of calculated fields. REDCap has the ability to make real-time calculations on data entry forms. Calculated fields should only be used when it is necessary to know the calculated value while on that page or the following pages, or when the result of the calculation affects data entry workflow. It is recommended that calculations be performed in a statistical analysis package after exporting the data from REDCap.

It is strongly recommended that you do not use “today” in calculated fields. This is because every time you access and save the form, the calculation will run.

Inexact Dates: For inexact dates, enter day, month, and year separately. Most people will be able to tell you their date of birth. However, very few of them will be able to tell you the date they first noticed symptoms of a particular disease. However, they might be able to tell you the month and year they noticed symptoms.

Standard Measures/Instruments: Don’t develop standard measures from scratch if you can use existing ones. Using standard measures will allow your findings to be compared meaningfully with those of others, and will allow you to reuse your datasets later. Of course, it is vital that these instruments not be modified, or they will no longer be “validated” or comparable. Use the REDCap Shared Library as one resource for standard instruments and already designed data collection forms (demographics, AEs, etc.). Some instruments/forms have branching logic and/or calculations built-in.

Some example instruments: Neuro-QOL, PRISM, PHQ, PROMIS, WHOQOL-BREF, AE Form with Branching Logic