

REDCap the Basics

Presenter

Laura McLeod Relationship Manager

Vanderbilt REDCap Team

Housekeeping Notes...





Today's slides...

...and a link to the User Guide will be emailed to you after this training



Via a REDCap Survey!!

History/REDCap
Support Model

Today

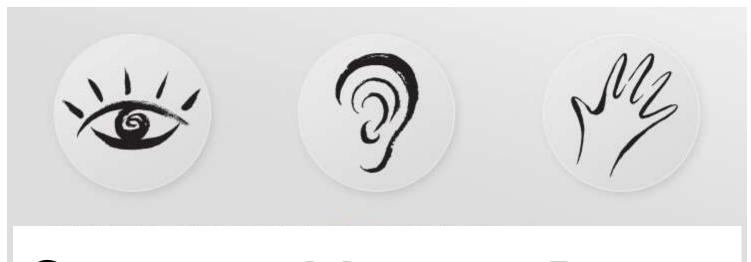
Project Design

Adding Data

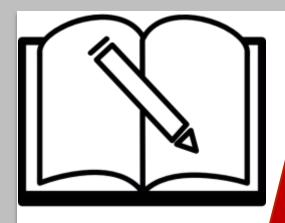
Viewing Data

Collaborating/ Safeguarding Your Data

Different learning styles



See Hear Do

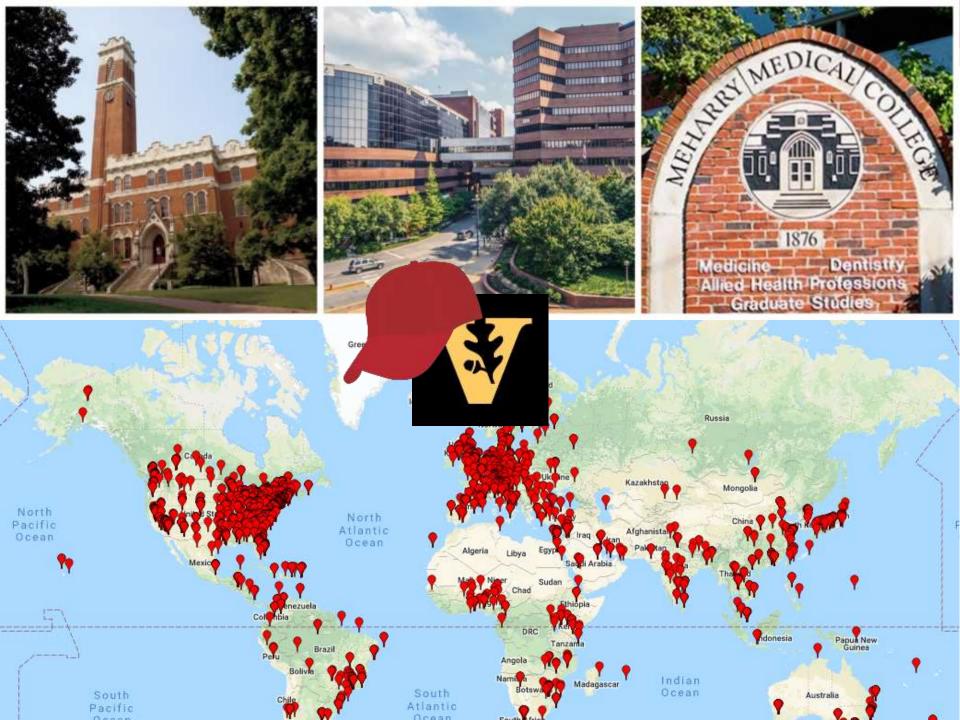


History and Background

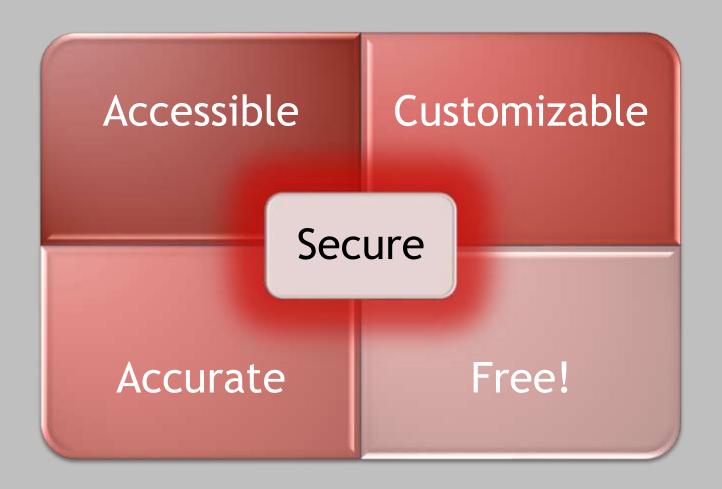


A secure web application for managing your data online



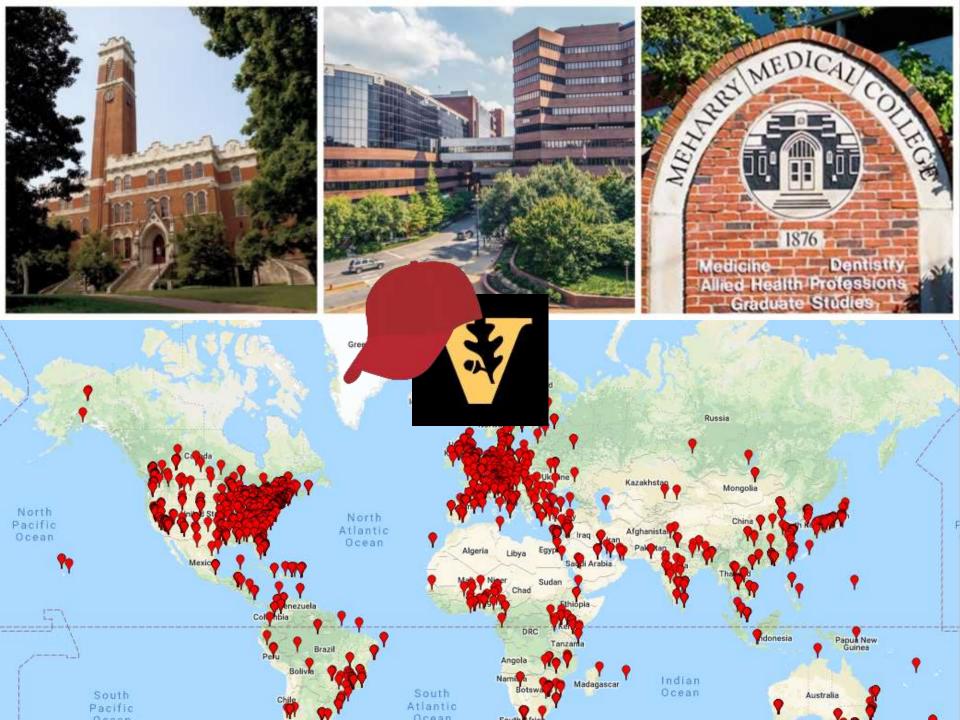


ADVANTAGES









REDCap at Vanderbilt



Generalized Support Individualized Support

Instructional text

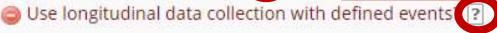




Disable Use surveys in this project ?

VIDEO: How to create and manage a survey.

Enable



Modify project title, purpose, etc.

Help & FAQ/Training Videos



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 prief 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.

Please note that any publication that results from a project utilizing REDCap should cite grant support (UL1 TR000445 from NCATS/NIH).

NOTICE: If you are collecting data for the purposes of human subjects research, review and approval of the project is required by your Institutional Review Board.

If you require assistance or have any questions about REDCap, please contact REDCap Administrator.

REDCap User Guide

dobe Acrobat Pro DC

































How to pavigate this User Cuide





Basic User Guide
For Vanderbilt/Meharry
end users

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REDCap Overview	7
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Purpose of this project	9
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Link to Resource page



Log In



NEED UEL 93 Visit the following FAQ page for help with Vanderbilt/Meharry user accounts and other common issues: http://tinyurl.com/vandy-rc-faq

Resource page for Vanderbilt/Meharry users

Vanderbilt/Meharry REDCap Users FAQ

How to use this page

Welcome to the Vanderbilt/Meharry REDCap user FAQ space.

Several pages are displayed to the right, in the "Vanderbilt/Meharry User FAQ Pages" section. You may access the frequently asked questions (FAO) about each specific topic by clicking on the links in that section or by clicking on the topic category below.

The current content of these pages falls into the following categories:

- Accessing REDCap: user access, login and account information, accessibility on mobile devices and offline
- Project Development: getting started, system security, survey-specific features
- Data Management: production mode, deleting and exporting data
- e-Consent: electronic consent forms for human subjects research
- Clinical Data Pull (CDP): automated import from eStar data; formerly known as DDP on FHIR
- Twilio Module: voice calling and text messaging services for surveys
- External Modules: background about unofficial add-ons available in local REDCap projects



Vanderbilt/Meharry User FAQ Pages:

Vanderbilt/Meharry REDCap Users FAQ Accessing REDCap

Project Development

Data Management e-Consent

Clinical Data Pull from eStar (DDP on FHIR) Twilio Module

External Modules Help Resources

User Guide



Powered by Wanderbilt



https://is.gd/REDCapTrainings

Individualized support - Email



redcap@Vanderbilt.edu







1-2 business days

Individualized support - REDCap Help Clinic



2nd and 4th Tuesdays



*Check the StarBRITE Education Calendar



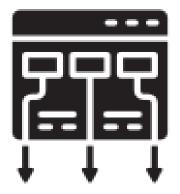


2525 West End Ave

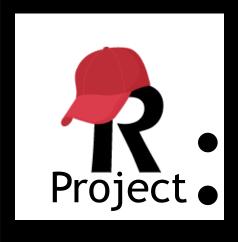




Forms development, special programming and other services available on a fee-for-service basis. Email datacore@vumc.org for more info.



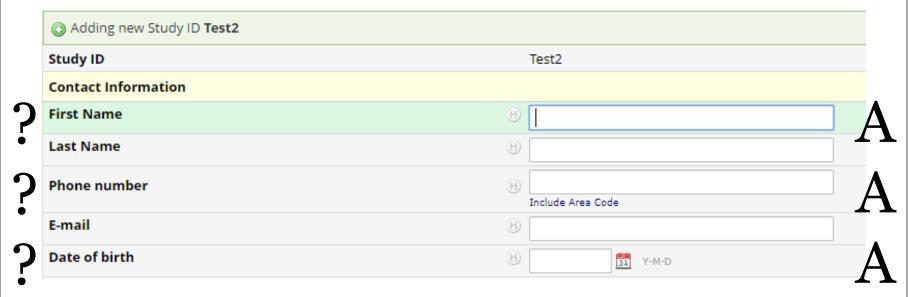
REDCap Framework



- The framework into which your data will be entered
- Contains tools to manage your data
- Contains an instrument

Instrument

Demographics



Instrument

Data entry form

Survey

Data Entry Form - accessed by REDCap users



Survey completed by a participant

Pain Management Survey - PRE					
Please complete the survey below.					
Thank you!					
Are you in pain today?		0	Yes No		reset
What do you think about these medication	features?				
	1 Not important to me	2	3 Neutral	4	5 Very important to me
Pill size	0	0	0	0	0
Pill form (tablet, capsule, etc.)	0	0	0	0	reset
How soon it takes effect	0	0		0	0
How long the effect lasts	0	0	0	0	reset
How many times in a day I have to take it	0	0	0	0	0
Price	0	0	0	0	reset
How has pain affected your life?					Expand
	Submit				
	Save & Return	Later			

Record Home Page

The grid below displays the form-by-form progress of data entered for the currently selected record. You may cli the colored status icons to access that form/event.

☑ Choose action for record ▽

Record ID 77 (Yellow, Yolanda)

Data Collection Instrument	Status
Demographics	

Record ID	Demographics
77 (Yellow, Yolanda)	
78 (Purple, Patty)	
79 (Red, Roger)	
80 (Blue, Brad)	
81 (Celery, Catherine)	
82 (Azure, Aaron)	
83 (Ecru, Ellie)	

Instrument



Data entry form

Survey

Instrument

Data entry form

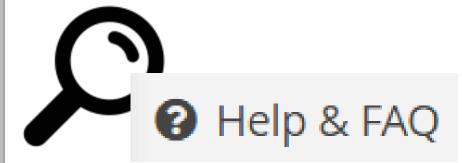
REDCap the Basics

On your own

Individualized Support







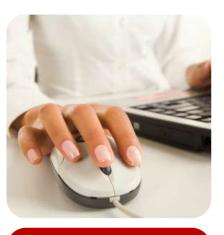


(esp. Survey Wizard!)

Your role in a REDCap project











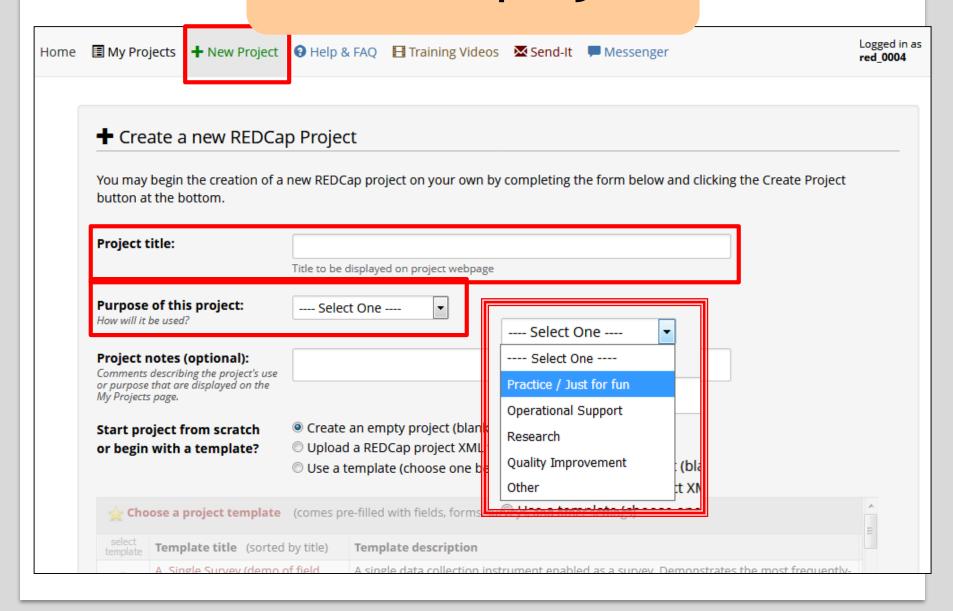
Design

Data entry

Viewing/ Analyzing Data



Create a project



Research project

Research ▼
Name of P.I. (if applicable): First name MI Last name
Email of P.I. (if applicable)
Name of P.I. as cited in publications (if applicable): (e.g., Harris PA)
VUnetID of P.I. (if applicable):
IRB number (if applicable):
Grant number (if applicable):
Please specify: Basic or bench research Clinical research study or trial Translational research 1 (applying discoveries to the development of trials and studies in humans) Translational research 2 (enhancing adoption of research findings and best practices into the community) Behavioral or psychosocial research study Epidemiology Repository (developing a data or specimen repository for future use by investigators) Other

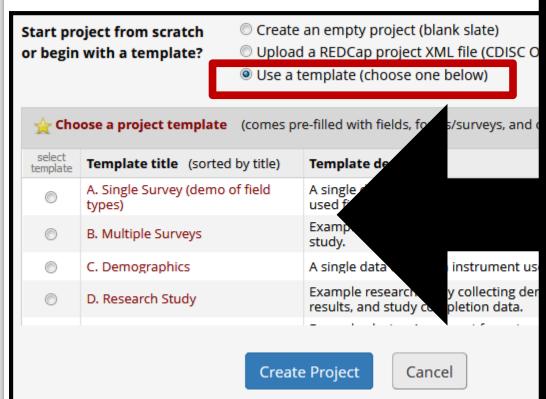
Human Subjects Research

- IRB approval required
- Electronic consent framework is available



(Resource page for Vanderbilt/Meharry users)

Project Creation Options



~20 templates:
Surveys
consent forms
regulatory binders
employee training

Project Setup Page

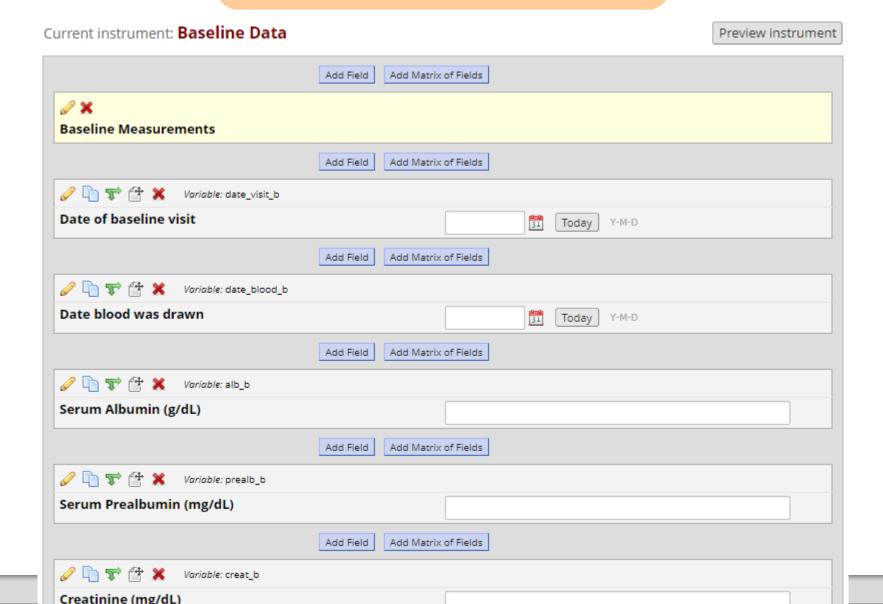




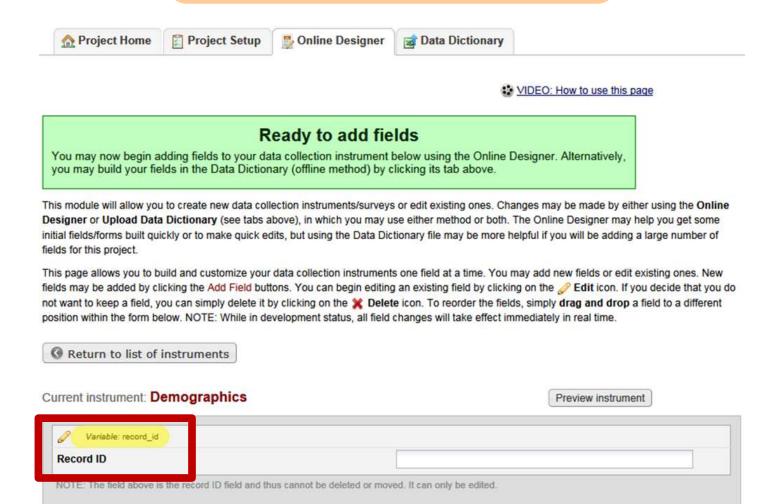
Design Data Collection Instruments



Online Designer



Record Identifier



Add Matrix of Fields



Hands-on Demo

- Build a project test Employee Directory
- Learn how to navigate your project pages
- Rename instrument in Online Designer

Field (question) Types

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)

What form will the answer be in?



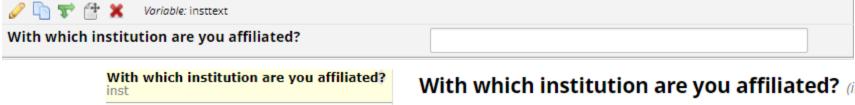
How will the person entering the data enter the answer?

When possible, select a field type that will collect data in a quantitative manner

Provide a list of choices rather than asking an open-ended question

If alpha-numeric text, add validation when possible to restrict the type of text entered

Instead of open-ended (text box field type)...



With which institution are you affil inst	iated?
Vandy	
VUMC	
VU	
Vanderbilt	
Med Ctr	
Vanderbilt University Medical Center	
Vandy	
VUMC	
Vandy	
VU	
Vanderbilt University	

With which institution are you affiliated? (inst)

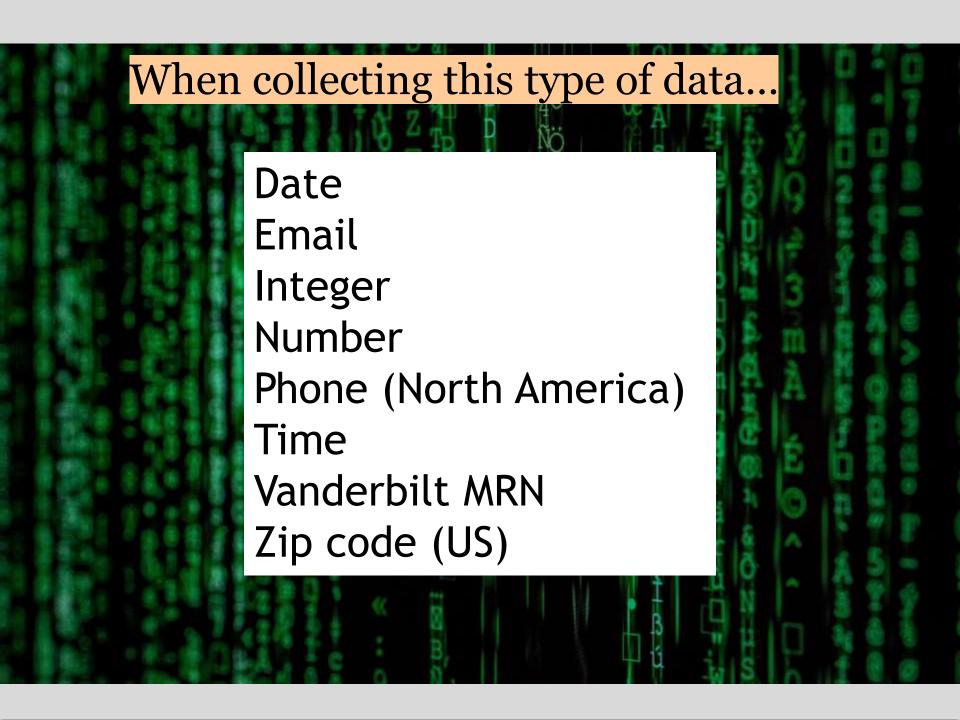
Total Count (N)	Missing
11	1 (8.3%)

...use close-ended (multiple-choice):

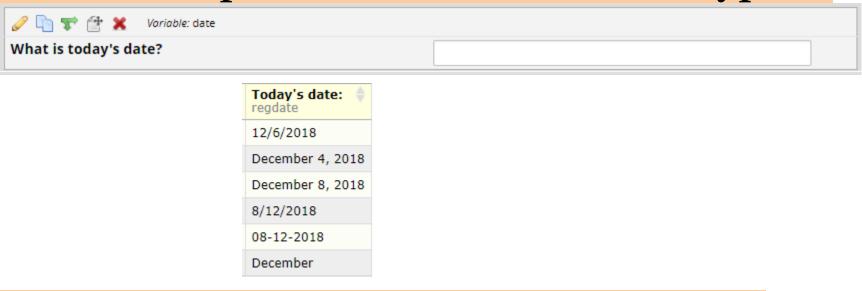


Quantitative questions will yield graphical and statistical results

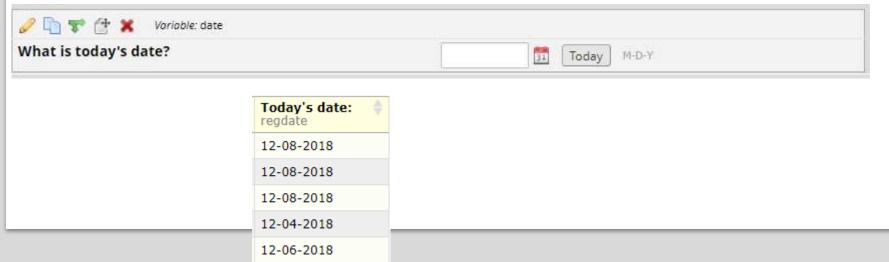


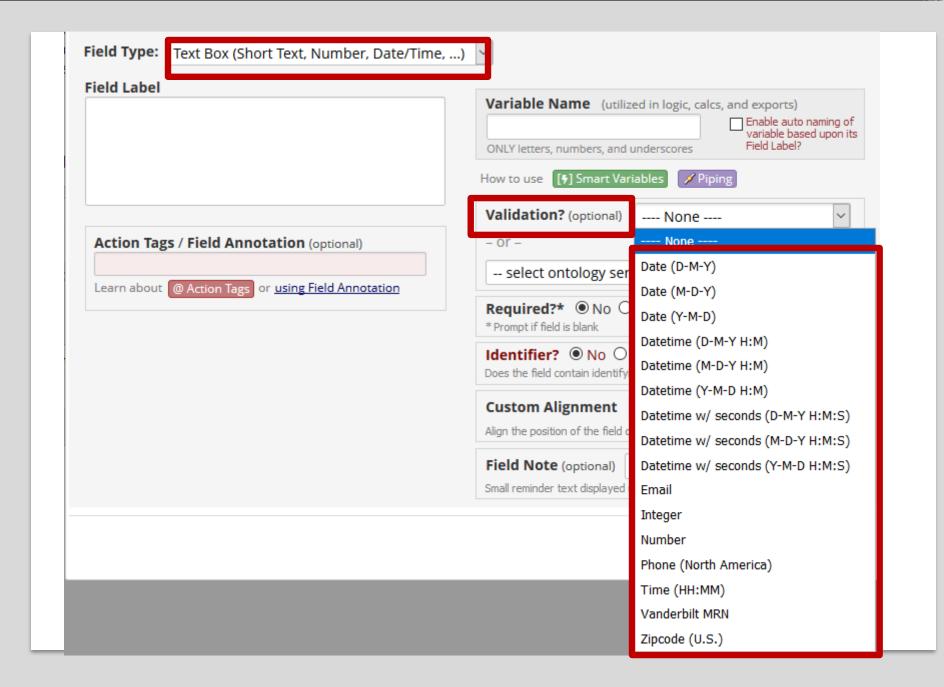


Instead of open-ended (text box field type)...



...use a text box field type with validation





BUT SOME FIELD TYPES ARE SIMILAR, THO...



Multiple Choice options

Add New Field

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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)

165 - 140

True - False

Signature (draw signature with mouse or finger)

File Upload (for users to upload files)

Slider / Visual Analog Scale

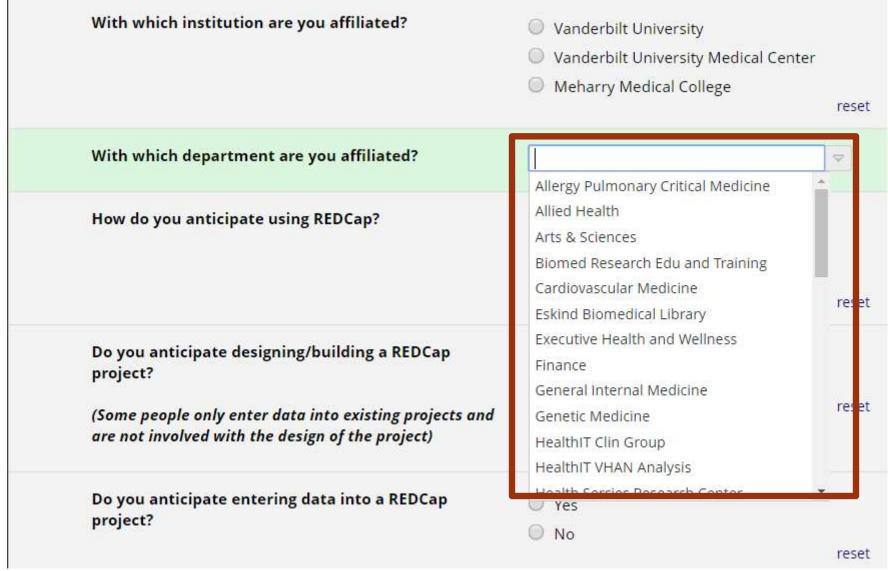
Descriptive Text (with optional Image/Video/Audio/File Attachment)

Begin New Section (with optional text)

Radio buttons - short list of choices

With which institution are you affiliated?	Vanderbilt UniversityVanderbilt University Medical CenterMeharry Medical College
With which department are you affiliated?	reset
How do you anticipate using REDCap?	for databasesfor surveysfor both surveys and databases
Do you anticipate designing/building a REDCap project?	O Yes O No

Drop-down list: Long list of choices



With which institution are you affiliated?	 Vanderbilt University Vanderbilt University Medical Center Meharry Medical College
With which department are you affiliated?	
How do you anticipate using REDCap?	for databasesfor surveysfor both surveys and databasesreset
Do you anticipate designing/building a REDCap project?	O Yes O No

Checkboxes - to mark more than one choice

Action tags
Piping
Surveys
Data Dictionary - when to use
Using the Data Import Tool
Optional Modules and Customizations
Other

Group questions or provide information

Add New Field

×

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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)

Screening information		Begin New Section
Which of the following medications is being taken? (check all that apply)	\mathbb{H}	Celexa Prozac Paxil Zoloft Other None of the above
		consult the $\underline{\text{Study}\ protocol}$ for other examples of meds we need to document!
Height (cm)	H	(130-215)
Weight (kilograms)	\mathbb{H}	(35-200)
ВМІ	\mathbb{H}	View equation
Is the participant currently ACTIVE on the study?	Н	○ Yes ● No rese
This person is no longer of detailed instructions. Ay, so you need to cancel any remaining visits or surveys. Check the study protocol for detailed instructions.		
Attachment: Study Protocol.docx (0.01 MB)		
Date removed from study	H	Today Y-M-D
Comments		H

Alpha-numeric text

Add New Field

×

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Field Type:

Select a Type of Field.

Text Box (Short Text, Number, Date/Time, ...)
Notes Box (Paragraph Text)

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)

Notes - more room

Do you have any suggestions for changes to the presentation?	
This could be:	
- the order in which the material was presented	Н
-material that could have been omitted	9
-material that should have been presented that wasn't	
longth of the session, etc.	
	Evpand
	Expand
	Expand
Compared to tout bou	Expand
Compared to text box	Expand
Compared to text box	Expand
Compared to text box Do you have any suggestions for changes to the presentation?	Expand
Do you have any suggestions for changes to the presentation?	Expand
Do you have any suggestions for changes to the presentation? This could be:	Expand
Do you have any suggestions for changes to the presentation? This could be: - the order in which the material was presented	Expand
Do you have any suggestions for changes to the presentation? This could be: - the order in which the material was presented -material that could have been omitted	Expand
Do you have any suggestions for changes to the presentation? This could be: - the order in which the material was presented -material that could have been omitted -material that should have been presented that wasn't	Expand
Do you have any suggestions for changes to the presentation? This could be: - the order in which the material was presented -material that could have been omitted	Expand
Do you have any suggestions for changes to the presentation? This could be: - the order in which the material was presented -material that could have been omitted -material that should have been presented that wasn't	Expand



Signature

Please sign your name with your finger or mouse:

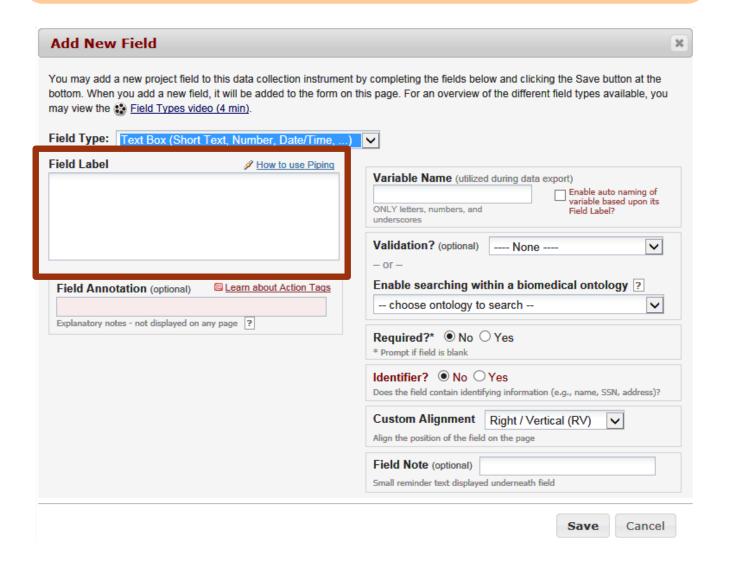


Add signature	
Please sign your name with your finger or mouse:	
Save signature reset	

Please sign your name with your finger or mouse:

signature_2019-02-04_1353.png (0.01 MB)

Field label = your question

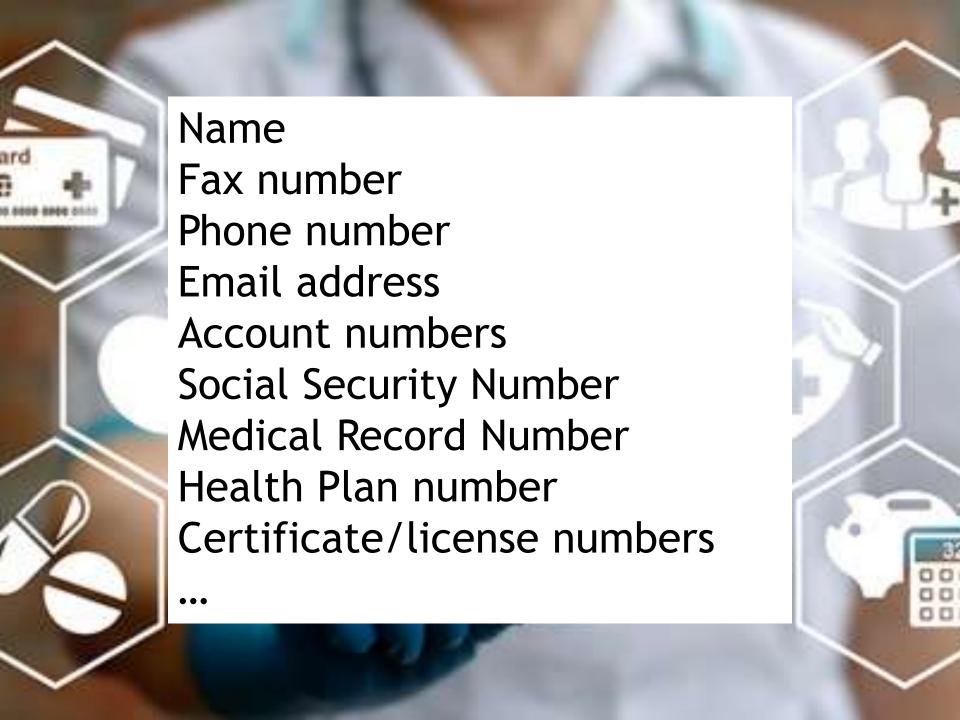


Choices

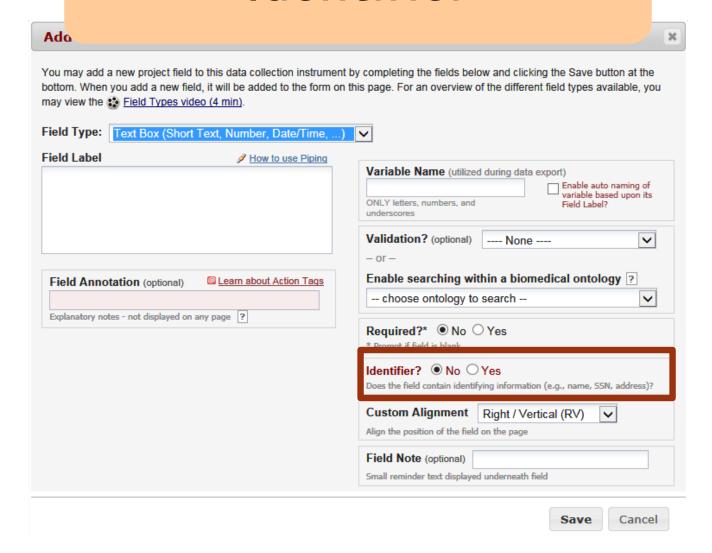
East rieia	ж
You may add a new project field to this data collection ins button at the bottom. When you add a new field, it will be different field types available, you may view the Field T	
Field Type: Multiple Choice - Radio Buttons (Single Answ	W. ▼
Question Number (optional) Displayed only on the survey page Field Label With which institution are you affiliated?	Variable Name (utilized in logic, calcs, and exports) inst ONLY letters, numbers, and underscores Enable auto naming of variable based upon its Field Label?
	How to use [♠] Smart Variables
Choices (one choice per line) Copy existing choices	Identifier? No Yes Does the field contain identifying information (e.g., name, SSN, address)?
1, Vanderbilt University 2, Vanderbilt University Medical Center 3, Meharry Medical College	Custom Alignment Right / Vertical (RV) ▼ Align the position of the field on the page
How do I manually code the choices?	Field Note (optional) Small reminder text displayed underneath field
Action Tags / Field Annotation (optional) Learn about @ Action Tags or using Field Annotation	
	Save Cancel

Variable Name

Add New Field	×		
bottom. When you add a new field, it will be added to the form on may view the Field Types video (4 min).	by completing the fields below and clicking the Save button at the this page. For an overview of the different field types available, you		
Field Type: Text Box (Short Text, Number, Date/Time,)	<u> </u>		
Field Label	Variable Name (utilized during data export) Concly letters, numbers, and underscores Concly letters, numbers, and underscores Concly letters, numbers, and underscores		
	Validation? (optional) None		
	- or -		
Field Annotation (optional) Learn about Action Tags Enable searching within a biomedical ontology ?			
Explanatory notes - not displayed on any page ?	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		

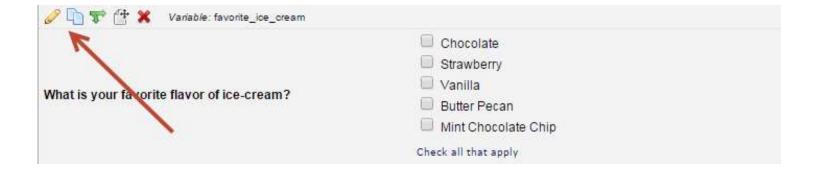


Identifier





Edit/Copy/Move/Delete fields



Branching Logic

Please specify:

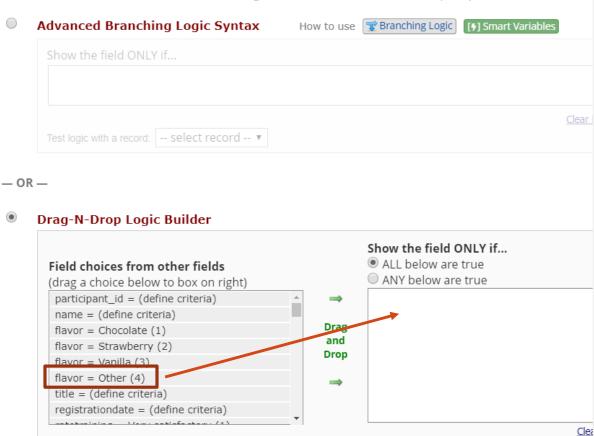
Apply Branching Logic to the follow-up question

Please spe	cify:			

Branching Logic Builder

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: otherflavor - Please specify:





Field choices from other fields

(drag a choice below to box on right)

```
participant_id = (define criteria)

name = (define criteria)

flavor = Chocolate (1)

flavor = Strawberry (2)

flavor = Vanilla (3)

flavor = Other (4)
```

Raw value







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)

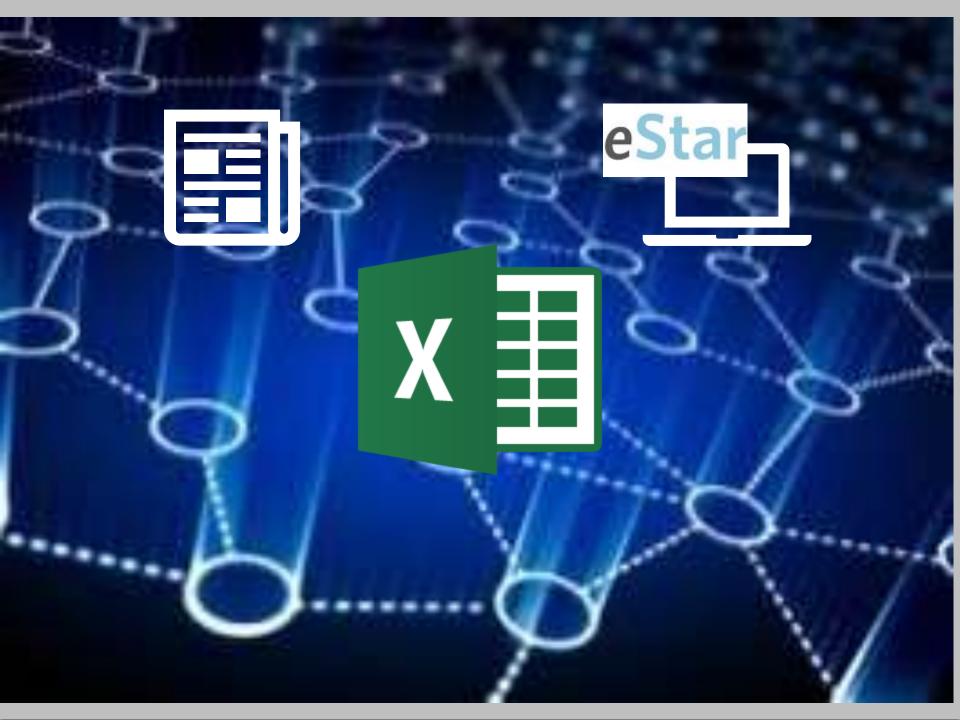
Employee name

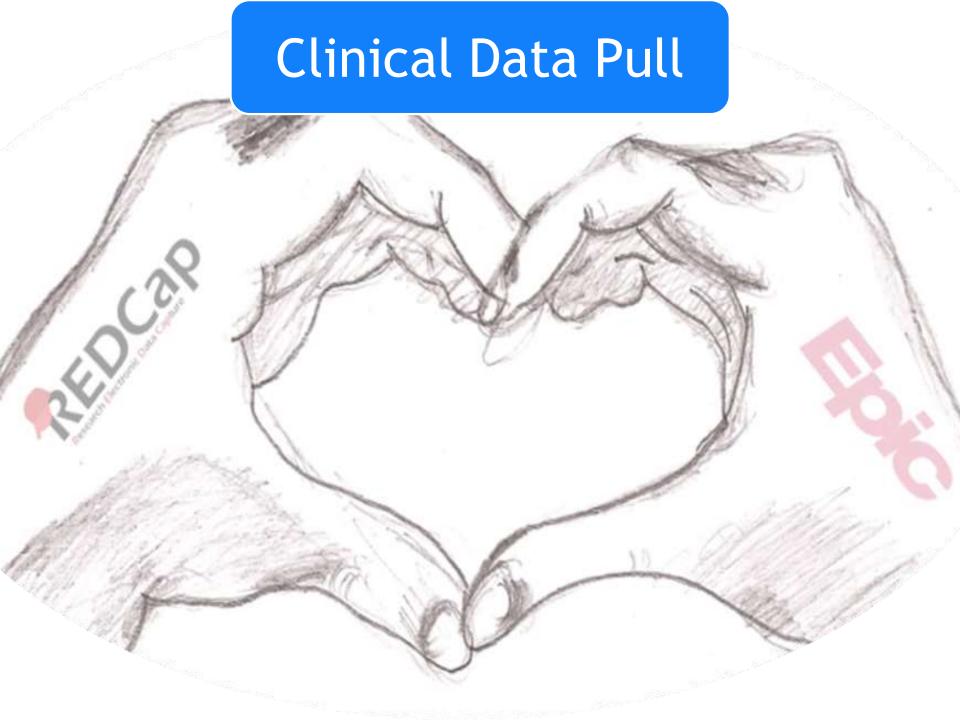
- Employment status
- Employee email address
- Name of employee's supervisor

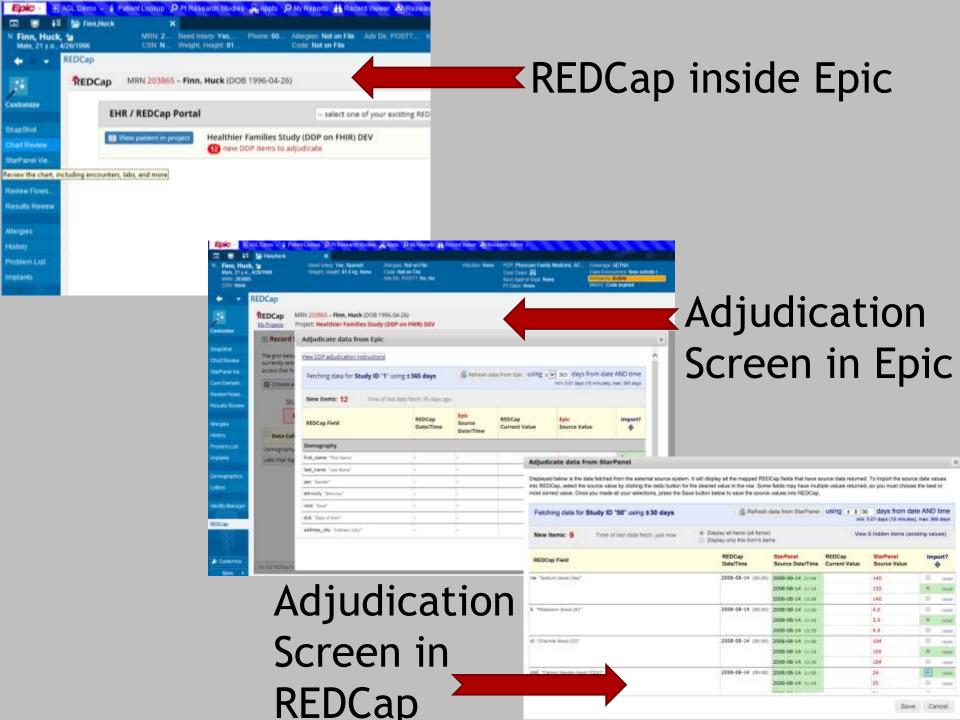


Data Entry Form - accessed by REDCap users

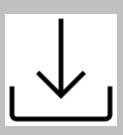














Demographics

Condition

Medications

Allergy Intolerance

Vital Signs

Laboratory

Resource page for Vanderbilt/Meharry users

Vanderbilt/Meharry REDCap Users FAQ

How to use this page

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- External Modules: background about unofficial add-ons available in local REDCap projects
- Help Resources
- User Guide



Vanderbilt/Meharry User FAQ Pages:

Vanderbilt/Meharry REDCap Users FAQ
Accessing REDCap
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Clinical Data Pull from eStar (DDP on FHIR)
Twilio Module
External Modules
Help Resources
User Guide



Powered by Wanderbilt

Before VOU CO that...

Test your project!



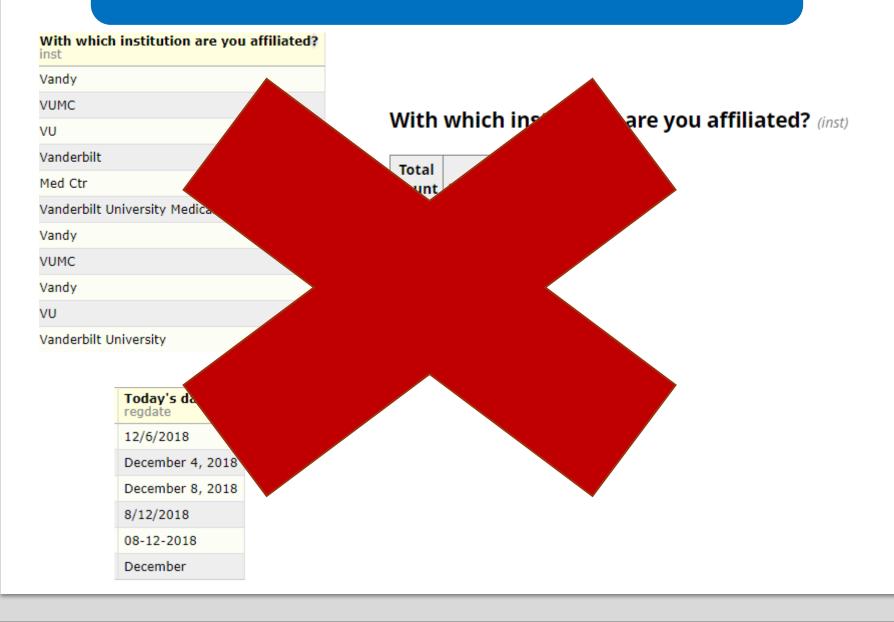
Not complete?

Test your project thoroughly

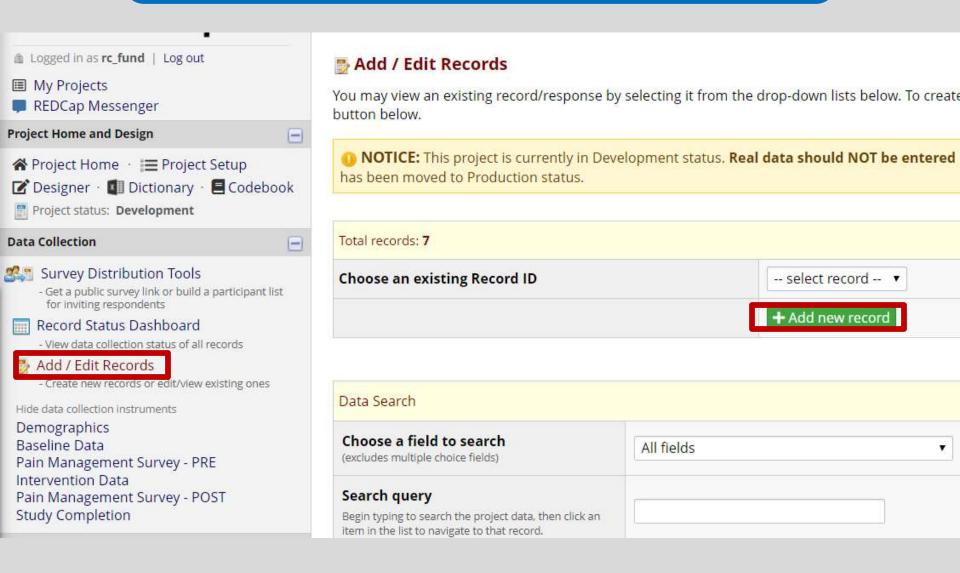
It is important to test the essential components of your project before moving it into production. Try creating a few test records and entering some data for each to ensure that your data collection instruments look and behave how you expect, especially branching logic and calculations. Then review your test data by creating reports and exporting your data to view in Excel or a statistical analysis package. If you have surveys, complete the surveys as if you were a participant by using the Public Survey Link or Participant List by sending a survey invitation to yourself. If other project modules will be used regularly, test them out a bit too. 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.



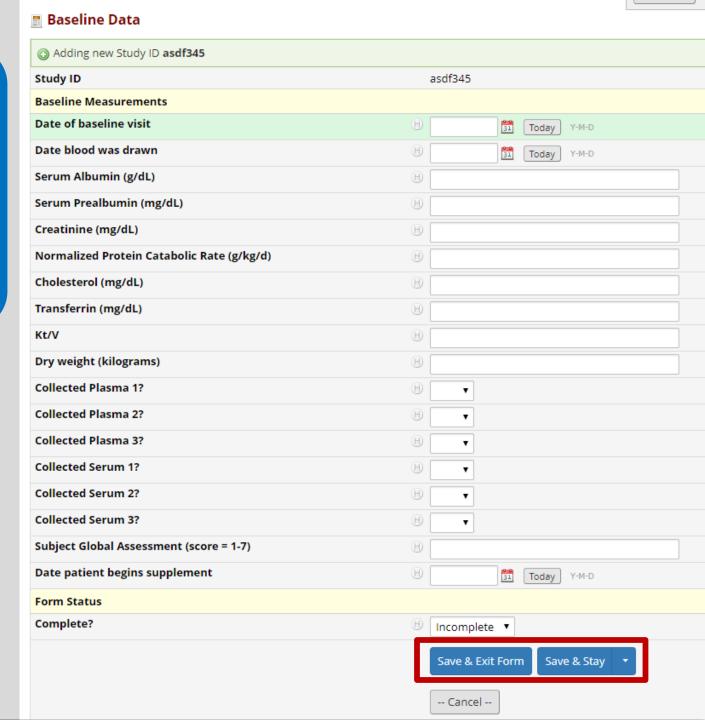
Why enter test data?



Add a test record



View of blank record

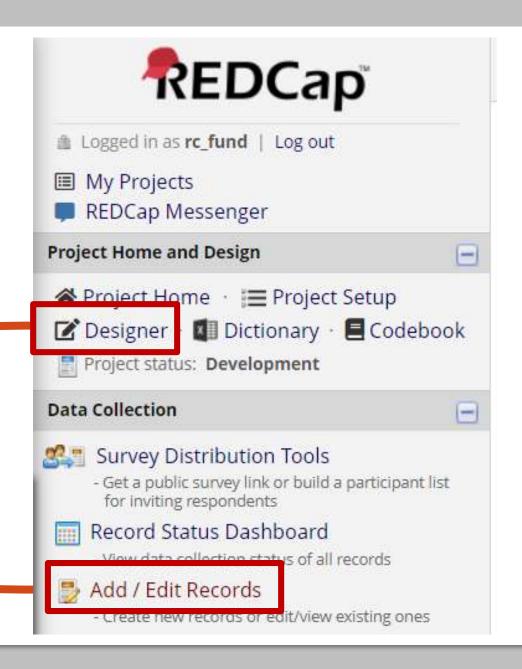


Online Designer view of instrument

ıment

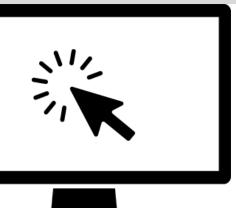
Curren

Baseline Measurements Add Matrix of Fields Add Field Date of baseline visit Y-M-D Today Add Matrix of Fields Add Field √ In Triangle: date_blood_b Date blood was drawn Today Y-M-D Add Field Add Matrix of Fields Ø Im
 Image: A property of the p Serum Albumin (g/dL) Add Matrix of Fields Add Field / Variable: prealb_b Serum Prealbumin (mg/dL) Add Matrix of Fields Add Field Creatinine (mg/dL) Add Matrix of Fields Add Field



Data Entry

- You can use the tab key to move from one question to the next
- Validation will force you to enter data enter a specific way
- Branching logic will determine what questions you see
- Required questions force you to enter an answer for those questions in order to save
- Each entry creates a record

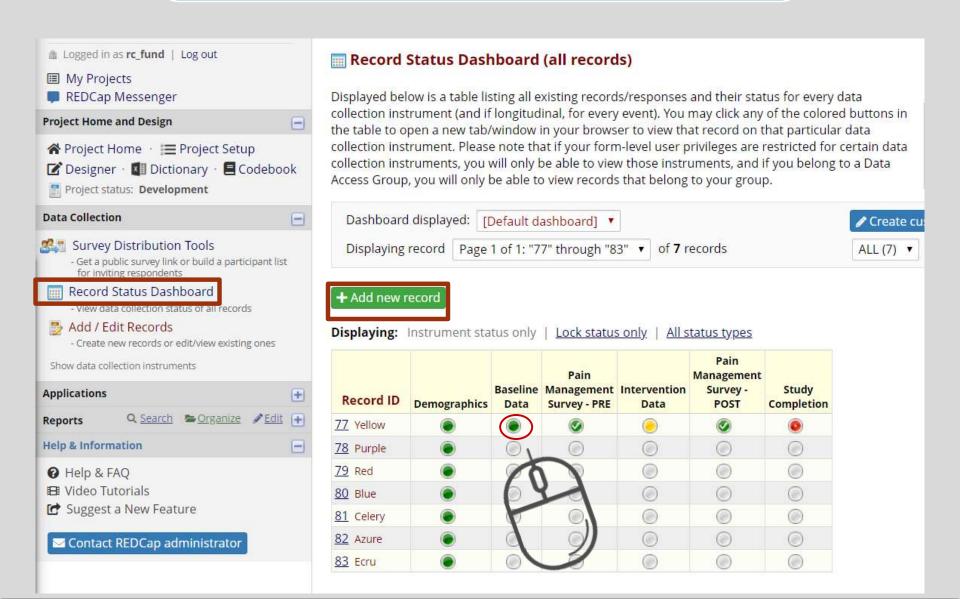


Hands-on Demo

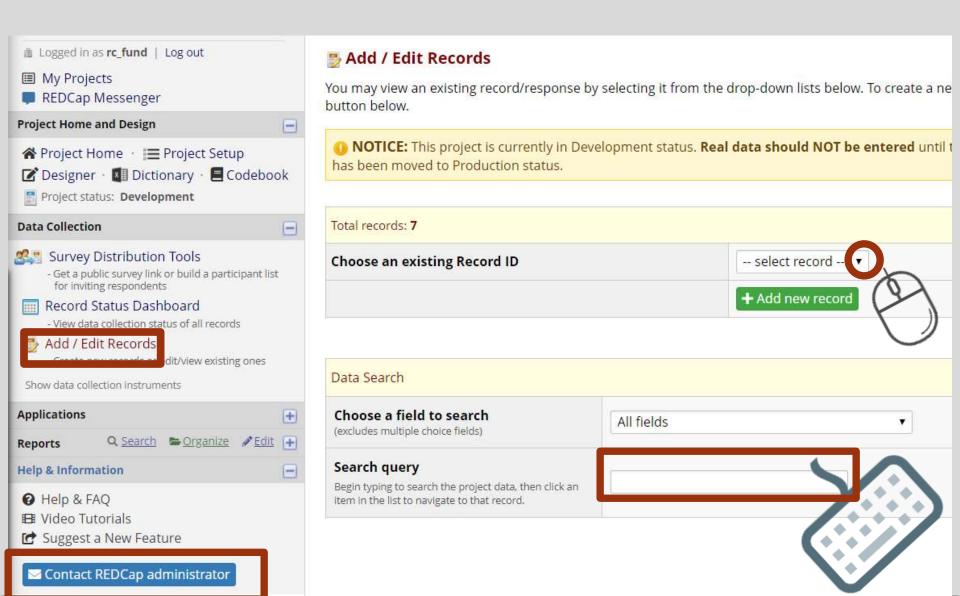
Add test data to your project



Record Status Dashboard



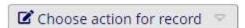
Add/Edit Records



Record Home page



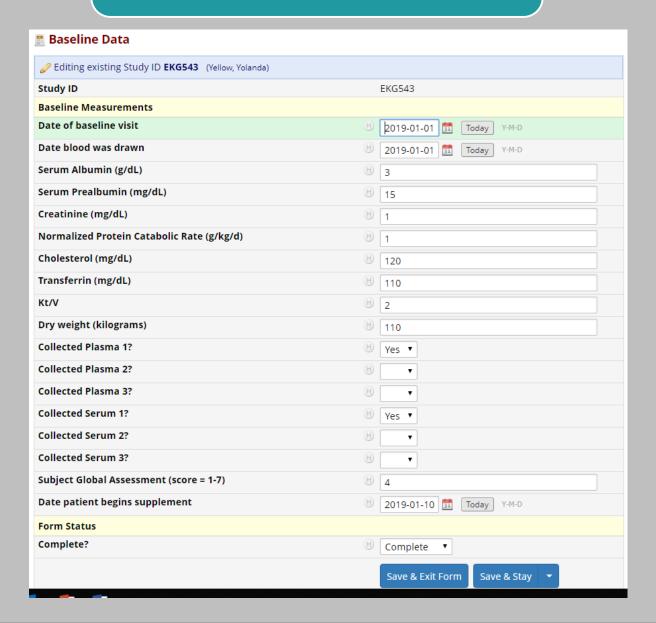
The grid below displays the form-by-form progress of data entered for the currently selected record. You may click on the colored status icons to access that form/event.



Study ID **EKG543** (Yellow, Yolanda)

Data Collection Instrument	Status
Demographics	
Baseline Data	
Pain Management Survey - PRE (survey)	0
Intervention Data	
Pain Management Survey - POST (survey)	0
Study Completion	•

Individual record

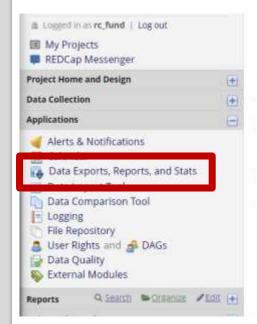


Viewing multiple records

Report name

All data (all records and fields)

Selected instruments (all records)





Export Data

Management Options

Stats & Charts

View/Export Options

View Report

Make custom selections

Aggregate Data (all data)

Number of results returned: 11

Total number of records gueried: 11







All data (all records and fields)





Sub-sets of Data

Example Research Study

Data Exports, Reports, and Stats



- Create New Report



My Repo

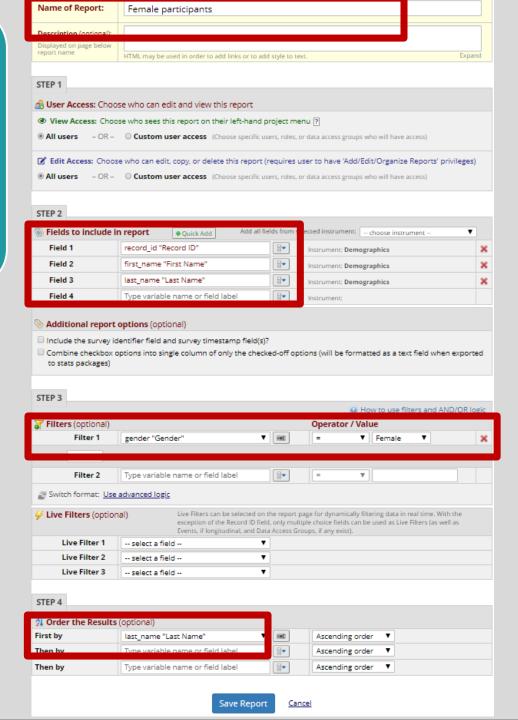
Number of results returned 4

Total number of records queried 7

Female participants

Record ID record_id	First Name first_name	Last Name last_name	
81 Celery	Catherine	Celery	
83 Ecru	Ellie	Ecru	
78 Purple	Patty	Purple	
77 Yellow	Yolanda	Yellow	

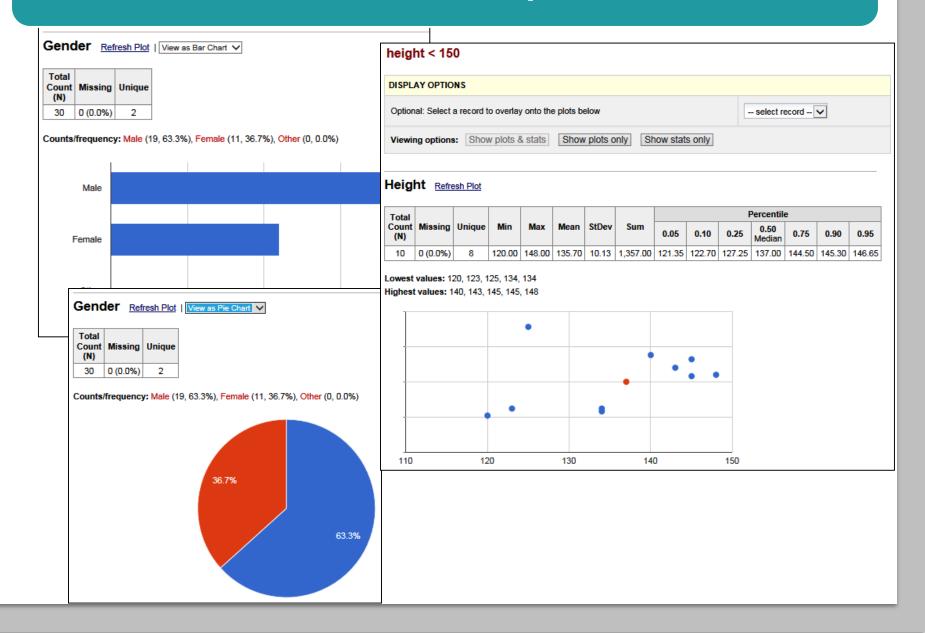
Create a custom report



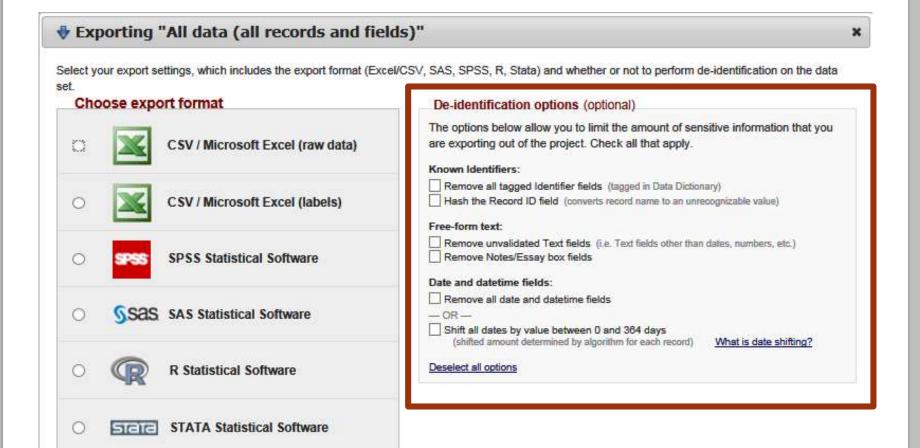
Reports are bookmarked on the navigation bar



Statistics and Graphs/Charts



Export



Export Data

Cancel





Hands-on Demo

View data
Create Custom Report

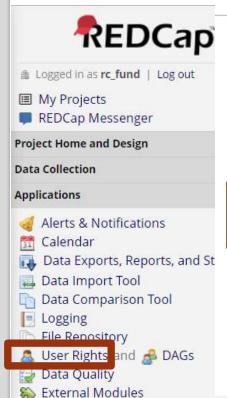


Project Access



User Rights

ss Groups



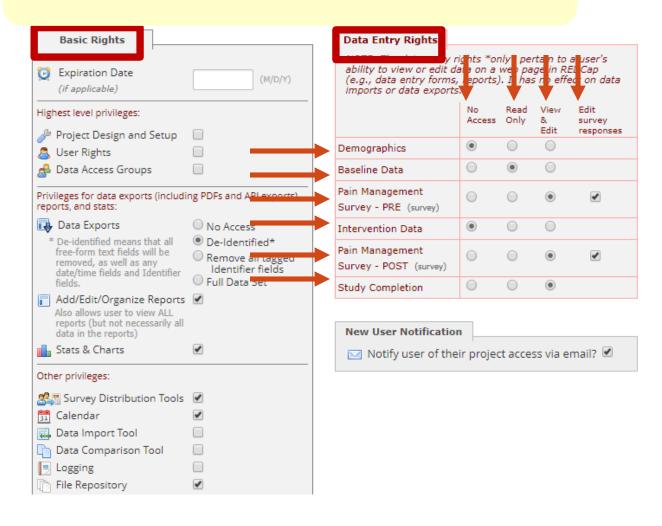
This page may be used for granting users access to this project and for managing the user privileges of those users. also create roles to which you may assign users (optional). User roles are useful when you will have several users we privileges because they allow you to easily add many users to a role in a much faster manner than setting their user individually. Roles are also a nice way to categorize users within a project. In the box below you may add/assign use new roles, and the table at the bottom allows you to make modifications to any existing user or role in the project, as a glimpse of their user privileges.



Two quick notes:

- 1. To request an external user account (for someone outside Vanderbilt/Meharry), see instructions in User Guide
- 2. A REDCap administrator can create a REDCap account for someone, but it is the USER who adds their colleagues to the project

Defining Access Level



The case for multiple instruments

NOTE: The data entry rights *only* pertain to a user's ability to view or edit data on a web page in REDCap (e.g., data entry forms, reports). It has no effect on data imports or data exports. Read View Edit No. Access Only survey Edit responses Camper Application (survey) Camper application review Scholarship Application ((survey) (0) Scholarship Review Follow-Up Survey: Medical Information (survey)

(

Nurse's Notes

Adding team members to the project to enter test data/view data is a great way to **TEST YOUR PROJECT**

Safeguarding your data





Move to Production



Move your project to production status

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.

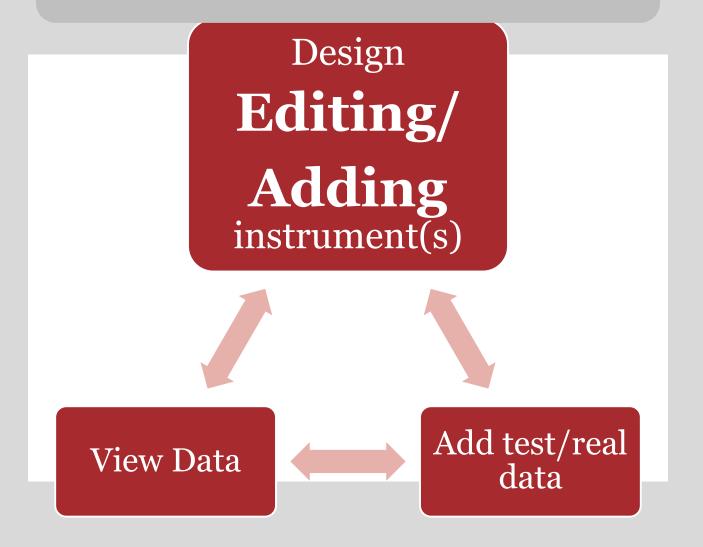
Go to Move project to production

Production mode puts into place safeguards to protect your real data against loss or damage

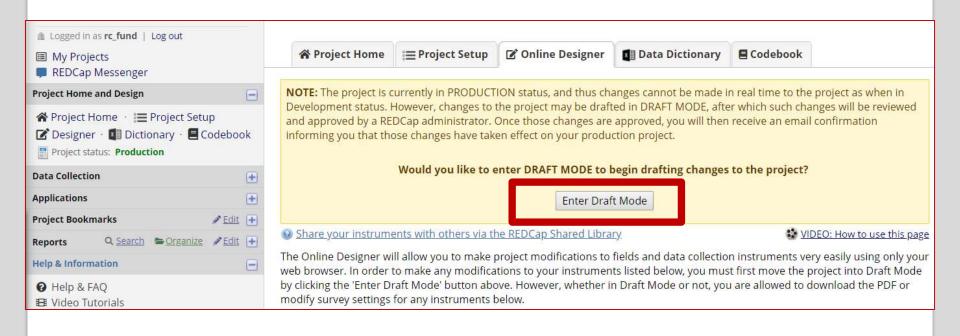
After moving to Production



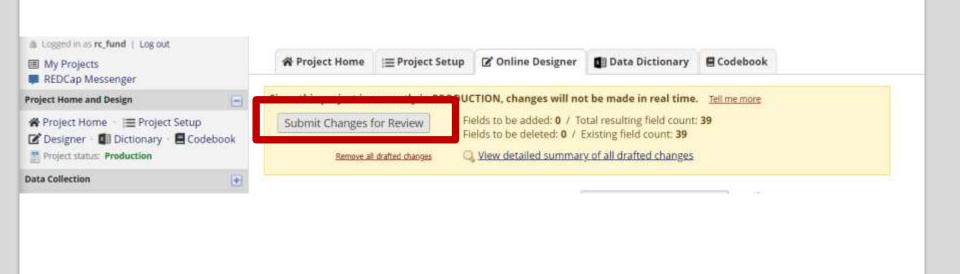
Later stages of a project

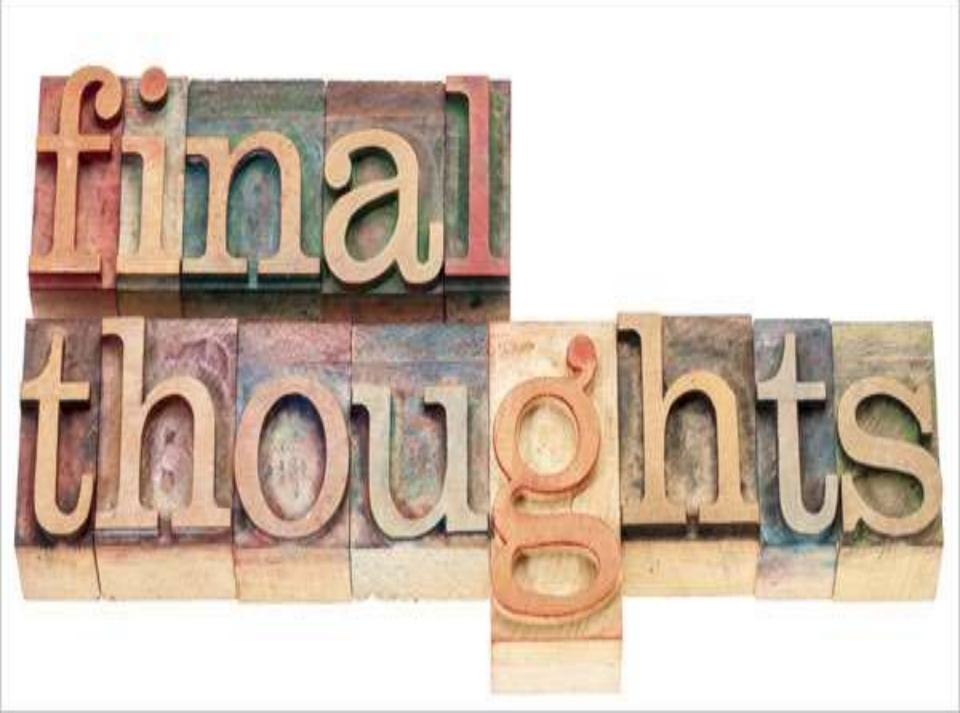


Making changes in Production



Submitting changes







Become a REDCap Mentor!



Upcoming Events – please tell your colleagues!

Name	Date	Time	Location	Registration
Put the CAP in REDCap	Thursday, May 30	9:30 am - 11:00 am	Eskind Library	Required: https://is.gd/REDCa pTrainings
REDCap Basics+	Tuesday, June 4	9:30 am — 11:30 am	Eskind Library	Required: https://is.gd/REDCa pTrainings
REDCap eStar Integration and Use	Friday, June 7	7-8 am OR 3-4 pm	Medical Center North	Required: http://j.mp/2RZf4Sh

Sign in if you haven't already!





These slides were adapted from a presentation developed by REDCap Administrator Julissa Acevedo of the University of Chicago and include content from REDCap administrator Jeff Hawley/Duke University