

Computational Tools for the Clinical Researcher

REDCap 101

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Scientific Computing, Research Data Services

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Icahn
School of
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Introduction – Team Members



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Professor and Dean for
Scientific Computing
and Data Div.



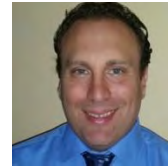
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Farhan Mahmood

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Eric Rosenberg

System Administrator



Rupan Hossain

Database Administrator

Sheersha Kandwal

REDCap Technical Support
Analyst



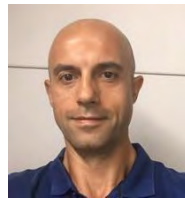
Mark Green

Executive Director
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Masters**

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Savas Sevil

REDCap Product
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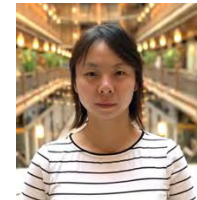
**Cate Bauer-
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Senior REDCap
Analyst



**Priscilla
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REDCap Analyst



**Jing Yang,
PhD**

Applications
Support Analyst

Scientific Computing and Data Science Mission

To enable and accelerate biomedical discovery through collaborative research using high performance computing, biomedical informatics and data science.

- ▶ Scientific Computing
 - High Performance Computing
 - Mount Sinai Data Warehouse
 - Research Data Services
- ▶ Unlike other computing resources, Scientific Computing stakeholders are also actively engaged in research projects
- ▶ We work with investigators to create a robust research environment at Mount Sinai, expand our profile in national research efforts, and partner for grant funding success

REDCap at Mount Sinai

- Research Electronic Data Capture – a platform developed by Vanderbilt University as a proper replacement for pen and paper data collection
- We are working towards 21 CFR Part 11 compliance – joint effort by Scientific Computing, IT Security, IRB and Privacy Offices
- Data resources and integration between many existing systems with more to come
 - Import clinical data into REDCap from Epic
 - –Basic Demographics
 - –Condition/Problem list
 - –Medications
 - –Vital signs
 - –Laboratory
- We host more than 11,000 databases with over 20,000 active users
- Services for project building, data protection, support, and training

REDCap at Mount Sinai

- ▶ Useful as a tool for different stages of research and operations
 - Industry sponsored studies
 - Private and Government grant funded research projects and programs
 - Hospital Quality Improvement initiatives
 - Flexible platform that is finding uses in new contexts
- ▶ Easily accessible and well-rounded open-source learning materials
 - Training and Presentation Materials Repository
 - Language Center translation sharing
 - Plugin and Hook Libraries
 - External Modules
 - Survey Library
- ▶ Collaborative platform that reduces barriers for research

Digital Concierge Service

- ▶ Virtual REDCap Office Hours: Wednesdays at 3:30pm to 4:30pm
 - Open to all users
 - Get help with specific project questions

<https://zoom.us/my/digitalconcierge>

Overview

Project Setup

- Templates
- Project page
- Online Designer
 - Surveys
 - Variables
- Obtaining Data
- Longitudinal Studies

Managing Users

Project Life Cycle

Data Management

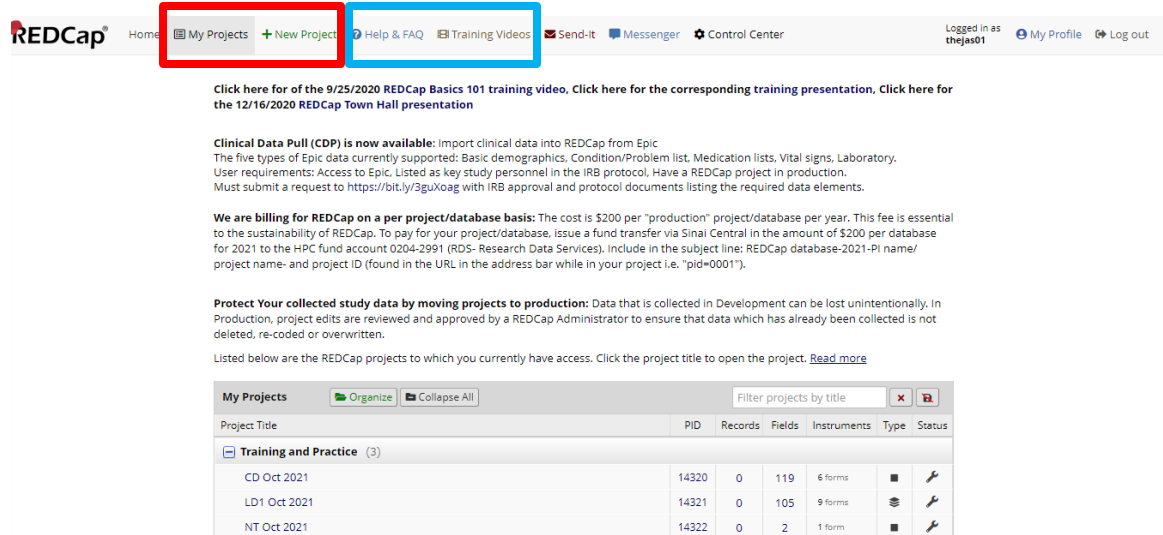
REDCap Access for Mount Sinai Users

Ensure that you're able to log into REDCap

- ▶ Mount Sinai faculty, students and staff can log into REDCap using their regular Mount Sinai username and password here:
<https://redcap.mountsinai.org>
- ▶ Users new to Mount Sinai's REDCap instance will need to verify their email. After email verification, and 2FA authentication you can log in to create new projects or be added to existing ones.

REDCap Homepage

- ▶ Mount Sinai REDCap:
<https://redcap.mountsinai.org>
- ▶ Users can find the projects they have access to under **My Projects** at the top of the page. These are projects they've been added to or have created.
- ▶ To create a project, click on the adjacent **New Project** button.
- ▶ Along the top bar, users will also find great resources under **Help & FAQ** as well as **Training Videos** for learning to use REDCap.



The screenshot shows the REDCap homepage. At the top, there is a navigation bar with the following links: Home, My Projects (highlighted with a red box), New Project (highlighted with a blue box), Help & FAQ (highlighted with a blue box), Training Videos, Send-it, Messenger, and Control Center. On the right side of the navigation bar, it says "Logged in as thejas01" with links for My Profile and Log out.

Below the navigation bar, there are several announcements:

- Click here for of the 9/25/2020 REDCap Basics 101 training video. Click here for the corresponding training presentation. Click here for the 12/16/2020 REDCap Town Hall presentation
- Clinical Data Pull (CDP) is now available:** Import clinical data into REDCap from Epic. The five types of Epic data currently supported: Basic demographics, Condition/Problem list, Medication lists, Vital signs, Laboratory. User requirements: Access to Epic, Listed as key study personnel in the IRB protocol, Have a REDCap project in production. Must submit a request to <https://bit.ly/3guXoag> with IRB approval and protocol documents listing the required data elements.
- We are billing for REDCap on a per project/database basis:** The cost is \$200 per "production" project/database per year. This fee is essential to the sustainability of REDCap. To pay for your project/database, issue a fund transfer via Sinai Central in the amount of \$200 per database for 2021 to the HPC fund account 0204-2991 (RDS- Research Data Services). Include in the subject line: REDCap database-2021-PI name/ project name- and project ID (found in the URL in the address bar while in your project i.e. "pid=0001").
- Protect Your collected study data by moving projects to production:** Data that is collected in Development can be lost unintentionally. In Production, project edits are reviewed and approved by a REDCap Administrator to ensure that data which has already been collected is not deleted, re-coded or overwritten.

Listed below are the REDCap projects to which you currently have access. Click the project title to open the project. [Read more](#)

Project Title	PID	Records	Fields	Instruments	Type	Status
Training and Practice (3)						
CD Oct 2021	14320	0	119	6 forms	■	✎
LD1 Oct 2021	14321	0	105	9 forms	☰	✎
NT Oct 2021	14322	0	2	1 form	■	✎

Creating a New Project Cont'd

- ▶ When creating a new project, users can fill out **project details** and the type of research that will be conducted
- ▶ On the same page are **templates** for getting started on a new project

+ Create a new REDCap Project

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.

Project title:
Title to be displayed on project webpage

Purpose of this project:
How will it be used?

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)

IRB 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

Assign project to a Project Folder?

Project notes (optional):
Comments describing the project's use or purpose that are displayed on the My Projects page.

Start project from scratch or begin with a template?

- Create an empty project (blank slate)
- Upload a REDCap project XML file (CDISC ODM format) ?
- Choose a project template

★ 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
<input type="radio"/>	Basic Demography	Contains a single data collection instrument to capture basic demographic information.
<input type="radio"/>	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.
<input type="radio"/>	Longitudinal Database (1 arm)	Contains nine data entry forms (beginning with a demography form) for collecting data longitudinally over eight different events.
<input type="radio"/>	Longitudinal Database (2 arms)	Contains nine data entry forms (beginning with a demography form) for collecting data on two different arms (Drug A and Drug B) with each arm containing eight different events.

Getting Familiar with the Project Page

CD Oct 2021 PID 14328

Project Home | Project Setup | Other Functionality | Project Revision History

Main project settings

Not started

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

Disable Use longitudinal data collection with defined events? [?]

Design your data collection instruments & enable your surveys

Not started

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 or Explore the

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

Learn how to use

Define your events and designate instruments for them

In progress

Create events for re-using data collection instruments and/or set up scheduling.

Go to or

Enable optional modules and customizations

Optional

Enable Repeatable instruments [?]

Disable Auto-numbering for records [?]

Enable Scheduling module (longitudinal only) [?]

Enable Randomization module [?]

Enable Designate an email field for sending survey invitations [?]

Settings displayed to Administrators only:

Enable Clinical Data Pull from Epic [?]

Enable Twilio SMS and Voice Call services for surveys and alerts [?]

- Manage a project

- Check and edit participants' records, share survey invitation links and QR code

- Import, Export, and run Reports on collected data
- Modify User Access
- Configure External Modules

- Modify project title, PI, and descriptions
- Enable Longitudinal data collection

- Access the Online Designer
- Access/download the data dictionary
- Find information on unique REDCap functions

- Define how a longitudinal study is structured

- Extended customizations and modules options

Online Designer – Instruments/Surveys

- ▶ Create, Import, and Manage data collection forms
- ▶ Enable instruments as surveys
- ▶ Edit data collection instruments and variables
- ▶ Define how participants can get automated invitations by email

The screenshot shows the 'Data Collection Instruments' section of the REDCap Online Designer. It features a top navigation bar with 'Survey options' (Survey Queue, Survey Login, Survey Notifications, Upload or download Auto Invitations) and 'Add new instrument' (Create, Import, Upload). Below this is a table listing instruments with columns for name, fields, PDF view, survey status, actions, and options.

Instrument name	Fields	View PDF	Enabled as survey	Instrument actions	Survey-related options
Demographics	25			Choose action ▾	Survey settings + Automated Invitations
Baseline Data	18			Choose action ▾	Survey settings + Automated Invitations
Month 1 Data	19		Enable	Choose action ▾	
Completion Data	5		Enable	Choose action ▾	

Online Designer – Variables


- ▶ Variables allow users to define discrete data points for collection
- ▶ Short, simple, and identifiable names for variables are preferred
- ▶ Choose the field type that best fits the data point


The screenshot displays the 'Contact Information' section of the Online Designer. It features two input fields: 'First Name' and 'Last Name'. Each field is associated with a variable: 'Variable: first_name' and 'Variable: last_name'. Below the 'Last Name' field, a red box highlights the 'Add Field' button, which is linked to the 'Add New Field' dialog box. The dialog box is open, showing a list of field types. The 'Text Box (Short Text, Number, Date/Time, ...)' option is selected. The dialog also includes sections for 'Field Label', 'Validation', 'Required', 'Identifier', 'Custom Alignment', and 'Field Note'. The 'Save' and 'Cancel' buttons are visible at the bottom right of the dialog.


Obtaining Data

- ▶ Invite participants to take a survey by sharing Public Survey URLs or QR codes
- ▶ Monitor follow-up surveys and previously sent invitations, manage the survey's participants list

Survey Distribution Tools


 Public Survey Link


 Participant List

 Survey Invitation Log


Using a public survey link is the simplest and fastest way to collect responses for your survey. You may obtain the survey link below to email it to your participants. Responses will be collected anonymously (unless the survey contains questions asking for identifying data from the participant). **NOTE:** Since this method uses a single survey link for all participants, it allows for the possibility of participants taking the survey multiple times, which may be necessary in some cases.

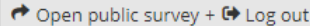

To obtain the survey link, copy the URL below and paste it into the body of an email message in your own email client. Your email recipient(s) can then click the link to begin taking your survey.


Public Survey URL: 



OR Short Public Survey URL: 

Link Actions


 Open public survey


 Open public survey +  Log out


 Send me URL via email

 Survey Access Code or  QR Code

Link Customizations

 Get Short Survey Link

 Create Custom Survey Link

 Get Embed Code

Obtaining Data – Data Entry Form

- ▶ For data points that are not collected during the surveys, they can be entered in the **Record Home Page**
- ▶ Can enter new data, overwrite data, or make notes on data for the record

The screenshot shows the REDCap interface for entering data for a specific record. The left sidebar contains navigation options like 'My Projects', 'Control Center', and 'Data Collection'. The main area is titled 'Demographics' and includes fields for 'Study ID', 'Date subject signed consent', 'Contact Information' (First Name, Last Name, Street, City, State, ZIP, Phone number, E-mail, Date of birth, Age), and an 'Upload file' button for the consent form.

Study ID 1







Data Collection Instrument	Event 1	Event 2	Event 3
Demographics (survey)	✓		
Baseline Data (survey)	●		
Month 1 Data		●	
Completion Data			⊙
Delete all data on event:	✗	✗	

Longitudinal Studies

- ▶ With longitudinal studies, additional options are available
- ▶ Define each of the study **Arms** and **Events** for those Arms
- ▶ Designate Instruments for each Arm and Event

Arm 1: Arm 1 +Add New Arm

Arm name: Arm 1 [Rename Arm 1](#)

	Event #	Event Name	Custom Event Label (optional)	Unique event name (auto-generated)
 	1	Event 1		event_1_arm_1
 	2	Event 2		event_2_arm_1
 	3	Event 3		event_3_arm_1

Add new event


Descriptive name for this event

Custom Event Label (optional)
Example: [visit_date], [weight] kg

Project Setup Define My Events Designate Instruments for My Events

Since you have defined multiple events on the [Define My Events](#) page, you may now select which data collection Instruments that you wish to utilize for each event by using the table below. This allows you to enter data on any data collection form multiple times for any given project record. Any and all data collection instruments can thus be used for any event defined.

Click the *Begin Editing* button to change the relationships below by designating which forms you wish to utilize for which events. When you are finished making changes, click the *Save* button to finalize your changes.

 Upload or download instrument mappings

Begin Editing Save

Data Collection Instrument	Event 1 (1)	Event 2 (2)	Event 3 (3)
Demographics (survey)	✓		
Baseline Data (survey)	✓		
Month 1 Data		✓	
Completion Data			✓

Managing Project Users

Basic Rights

Expiration Date: (if applicable)

Highest-level privileges:

- Project Design and Setup
- User Rights
- Data Access Groups

Privileges for data exports (including PDFs and API exports, reports, and data):

Data Exports

- No Access
- De-identified*
- Remove all tagged identifier fields
- Full Data Set

Add/Edit/Organize Reports:
Also allows user to view ALL reports (add role, edit/delete all data in (if required))

Stats & Charts:

Other privileges:

- Survey Distribution Tools
- Calendar
- Data Import Tool
- Data Comparison Tool
- Logging
- File Repository
- Data Quality Create & edit rules
[What is Data Quality?](#) Execute rules
- API API Export
[What is the REDCap API?](#) API Import/Update

Settings pertaining to the REDCap Mobile App:

- RDCCap Mobile App [What is the REDCap Mobile App?](#) Add role(s) to collect data within the mobile app.
- Allow user to download data for all records to the app?

Settings pertaining to project records: [Review these settings](#)

- Create Records
- Rename Records
- Delete Records

Data Entry Rights

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.

	No Access	Read Only	View & Edit	Edit Survey responses
Demographics (Survey)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Baseline Data (Survey)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Month 1 Data	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Completion Data	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Add new users: Give them custom user rights or assign them to a role.

— OR —

Create new roles: Add new user roles to which users may be assigned.

(e.g., Project Manager, Data Entry Person)

Role name (click role name to edit role)	Username or users assigned to a role (click username to edit or assign to role)	Expiration (click expiration to edit)	Project Design and Setup	User Right
—	thejas01 (Sai Theja)	never	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

- ▶ Users with accounts can be added to a project in the **User Rights** section of your project
- ▶ When adding or modifying existing users, a long checkbox section will appear to manage their access
- ▶ It is important to properly manage user rights to protect data and PHI, control project design and life cycle, and maintain accountability

Project Life Cycle

- ▶ **Development** phase of the project is best for creating and testing a project. Avoid entering real data if changes still need to be made.
- ▶ **Production** phase protects collected data by flagging project changes for data loss review. The bulk of data collection should be performed in this phase if feasible.
- ▶ **Analysis/Cleanup** phase for finalizing analysis and ending a study.



Data Management

- ▶ **Data Exports, Reports, and Stats** contain methods to export collected data in various formats
- ▶ Custom selections can be made to isolate data of interest from larger project databases

The screenshot shows a dashboard with a left sidebar and a main content area. The sidebar has sections for 'Data Collection' (Survey Distribution Tools, Record Status Dashboard, Add / Edit Records) and 'Applications' (Alerts & Notifications, Calendar, Data Exports, Reports, and Stats, Data Import Tool, Data Comparison Tool, Logging). The main content area is titled 'My Reports & Exports' and contains a table with two rows, A and B. Row A is 'All data (all records and fields)' with buttons for 'View Report', 'Export Data', and 'Stats & Charts'. Row B is 'Selected instruments and/or events (all records)' with a 'Make custom selections' button. A '+ Create New Report' button is at the bottom.

	Report name	View/Export Options
A	All data (all records and fields)	View Report Export Data Stats & Charts
B	Selected instruments and/or events (all records)	Make custom selections

The dialog box is titled 'Exporting "All data (all records and fields)"'. It contains several sections for configuring the export:

- Choose export format:** Radio buttons for CSV / Microsoft Excel (raw data) (selected), CSV / Microsoft Excel (labels), SPSS Statistical Software, SAS Statistical Software, R Statistical Software, Stata Statistical Software, and CDISC ODM (XML).
- De-identification options (optional):** Checkboxes for 'Remove all tagged identifier fields', 'Hash the Record ID field', 'Free-form text' (Remove unvalidated text fields, Remove Notes/Essay box fields), and 'Date and datetime fields' (Remove all date and datetime fields, OR Shift all dates by value between 0 and 364 days, Also shift all survey completion timestamps).
- Additional export options:** Check 'Export survey identifier field and survey timestamp field(s)?'.
- Advanced data formatting options:** 'Set CSV delimiter character' (comma - default) and 'Force all numbers into a specified decimal format?' (Use fields' native decimal format (default)).

Buttons for 'Export Data' and 'Cancel' are at the bottom right.

The notification states: 'You may download the survey results in CSV (comma-separated) format, which can be opened in Excel. You have the choice of downloading the data either with the full headers and answer labels or just with the answer codes (i.e. raw data). NOTE: If you are using a version of Microsoft Excel prior to Excel 2007, due to limitations the data will only be read to 255 columns when opened.'

you get the exact data you want. Once you have created a report, you may view it as a webpage, export it out of format (Excel, SAS, Stata, SPSS, R), or view the plots and descriptive statistics for that report.

Part A: To be able to create a web-based survey form with a link that can be emailed to the subjects.

- ▶ Modified BDI questions
- ▶ **Field label & Variable name:** Q1
 - **Choices:**
 - 0, I do not feel sad.
 - 1, I feel sad
 - 2, I am sad all the time and I can't snap out of it.
 - 3, I am so sad and unhappy that I can't stand it.
- ▶ Q2
 - 0, I am not particularly discouraged about the future.
 - 1, I feel discouraged about the future.
 - 2, I feel I have nothing to look forward to.
 - 3, I feel the future is hopeless and that things cannot improve. cannot improve.
- ▶ Q3
 - 0, I do not feel like a failure.
 - 1, I feel I have failed more than the average person.
 - 2, As I look back on my life, all I can see is a lot of failures.
 - 3, I feel I am a complete failure as a person.
- ▶ Q4
 - 0, I get as much satisfaction out of things as I used to.
 - 1, I don't enjoy things the way I used to.
 - 2, I don't get real satisfaction out of anything anymore.
 - 3, I am dissatisfied or bored with everything.

Database vs Longitudinal

1. Classic Database – Each form can only be completed once. One record per subject.
2. Longitudinal –
 - Data collected multiple times per subject
 - Fixed number of collection points that correspond to pre-defined events (e.g. initial evaluation, 3mo. follow-up, 6mo. follow-up, 1yr follow-up)
 - Optional scheduling via a project calendar
 - Can have multiple study arms

Building Forms: Branching Logic

- ▶ You can use a *Drag-N-Drop Logic Builder* or *Advanced Branching Logic Syntax*
- ▶ You can use fields on the current data entry form OR other forms
- ▶ If fields from different events are used in branching logic, the field name needs to be preceded by an event name, e.g. [screening_arm_1][field1]
 - Event names can be found in 'Define My Events' page

Drag-N-Drop Logic Builder

Displaying field choices for the following data collection instrument:
Screening & Enrollment Form

Field choices from other fields
(drag a choice below to box on right)

- testrow2 = Best (4)
- testrow2 = Worst (5)
- test_field2 = (define criteria)
- age = (define criteria)
- ageout = Yes (1)
- ageout = No (2)
- agegroup1 = 21-30 (1)

Show the field ONLY if...

ALL below are true

ANY below are true

ageout = No (2) ✘

Drag and Drop

Advanced Branching Logic Syntax

Show the field ONLY if...

[ageout] = '2'

Test logic with a record: -- select record --

Building Forms: Piping

Without Piping:



What kind of ice cream do you like?

Chocolate
 Strawberry
 Vanilla

reset

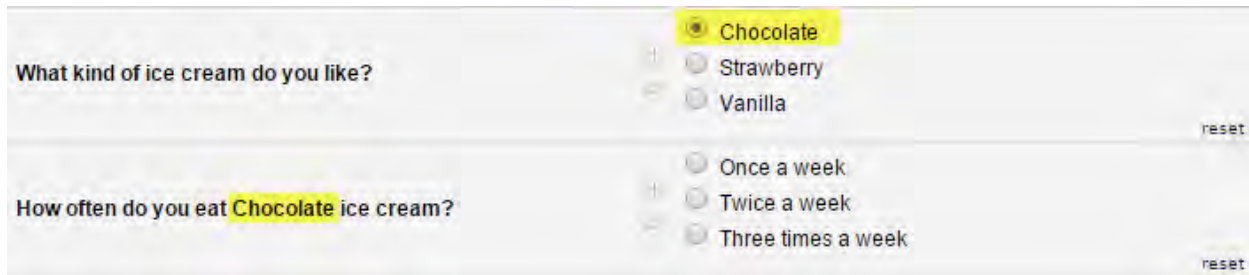
How often do you eat _____ ice cream?

Once a week
 Twice a week
 Three times a week

reset

This screenshot shows a form with two questions. The first question, "What kind of ice cream do you like?", has three radio button options: Chocolate, Strawberry, and Vanilla. The second question, "How often do you eat _____ ice cream?", has three radio button options: Once a week, Twice a week, and Three times a week. A "reset" button is located at the bottom right of each question's options.

With Piping:



What kind of ice cream do you like?

Chocolate
 Strawberry
 Vanilla

reset

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

Once a week
 Twice a week
 Three times a week

reset

This screenshot shows the same form as above, but with piping. The first question, "What kind of ice cream do you like?", has the "Chocolate" option selected and highlighted in yellow. The second question, "How often do you eat **Chocolate** ice cream?", has the word "Chocolate" highlighted in yellow, indicating that the selected value from the first question is being piped into the second question's text.

Building Forms: Piping



How to use piping:

The screenshot shows the REDCap form builder interface. On the left, there are two survey questions: "What kind of ice cream do you like?" and "How often do you eat [ice_cream] ice cream?". The second question has a red arrow pointing to the "[ice_cream]" part of its label, which is highlighted in yellow. On the right, the "Edit Field" dialog box is open, showing the configuration for the selected field. The "Field Label" is "How often do you eat [ice_cream] ice cream?". The "Field Type" is "Multiple Choice - Radio Buttons (Single Answer)". The "Variable Name" is "icecream_often". The "Required?" option is set to "No". The "Identifier?" option is set to "No". The "Custom Alignment" is set to "Right / Vertical (RV)". The "Field Note" is empty. The "Save" and "Cancel" buttons are at the bottom right of the dialog box.

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)**

Question Number (optional)

Displayed only on the survey page

Field Label [How to use Piping](#)

How often do you eat **[ice_cream]** ice cream?

Choices (one choice per line)

1. Once a week
2. Twice a week
3. Three times a week

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

Variable Name (utilized during data export)

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

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

Looking for Branching Logic? Try clicking the icon for this field after clicking the Save or Cancel button below.

Save **Cancel**

Building Forms: Field Embedding

No field embedding:

Field Embedding

Test Date 1	<input type="text"/>	Today	M-D-Y
Test Result 1A	<input type="text"/>		
Test Result 1B	<input type="text"/>		
Test Date 2	<input type="text"/>	Today	M-D-Y
Test Result 2A	<input type="text"/>		
Test Result 2B	<input type="text"/>		

With field embedding:

Date	Test Result A	Test Result B
<input type="text"/> Today M-D-Y	<input type="text"/>	<input type="text"/>
<input type="text"/> Today M-D-Y	<input type="text"/>	<input type="text"/>

Defining Events

Longitudinal Projects



- ▶ Defining Events allows you to:
 - Use data collection forms multiple times for any given project record.
 - Generate new schedules to display on the Calendar.



A screenshot of a notification box from REDCap. On the left, there is a green checkmark icon and the word "Complete!" in green. Below that, the text "Not complete?" is visible in a smaller font. The main content of the box is titled "Define your events and designate instruments for them" in bold. Below the title, it says "Create events for re-using data collection instruments and/or set up scheduling." At the bottom, it says "Go to" followed by two buttons: "Define My Events" and "Designate Instruments for My Events", separated by the word "or".

Define your events and designate instruments for them

Create events for re-using data collection instruments and/or set up scheduling.

Go to [Define My Events](#) or [Designate Instruments for My Events](#)

Not complete?

How to Define Events

WARNING:

Deleting any events below will result in data loss. Please proceed with caution.

Upload or download arms/events

Arm 1: U19













Arm 2: IMAGIN

+Add New Arm

Arm name: **U19**

[Rename Arm 1](#)

[Delete Arm 1](#)

	Event #	Days Offset	Offset Range Min / Max	Event Name	Custom Event Label (optional)	Unique event name (auto-generated)
 	1	0	-0/+0	Flu Clinic		flu_clinic_arm_1
 	2	2	-0/+2	Day 2-4 Blood Draw		day_24_blood_draw_arm_1
 	3	7	-0/+0	Day 7 Blood Draw		day_7_blood_draw_arm_1
 	4	28	-0/+0	Day 28 Blood Draw		day_28_blood_draw_arm_1
 	5	70	-0/+0	Day 70 Blood Draw		day_70_blood_draw_arm_1
 	6	100	-0/+0	Non-Flu Blood Draw		nonflu_blood_draw_arm_1
Add new event		Days - 0 + 0		<input type="text"/>	<input type="text"/>	
		Convert from other units		Descriptive name for this event	Custom Event Label (optional) Example: [visit_date], [weight] kg	

Unique event name is auto-generated.

This is where you will find the event names for use in branching logic.

How to Designate Instruments to Events

Upload or download instrument mappings

Arm 1: U19 Arm 2: IMAGIN


Arm name: U19

Begin Editing Save Select All Deselect All

Data Collection Instrument	Flu Clinic (1)	Day 2-4 Blood Draw (2)	Day 7 Blood Draw (3)	Day 28 Blood Draw (4)	Day 70 Blood Draw (5)	Non-Flu Blood Draw (6)
Screening & Enrollment Form	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Phone Interview	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Blood Draw Form	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Frailty Assessment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Study Withdrawal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Genetic Data Repository Consent	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Additional Blood Draw Form (Non-Flu)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The event list and instrument mappings can be downloaded from one project and uploaded to another project.

How to Set Up your Project



Complete!

Not complete?

Main project settings

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

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

Modify project title, purpose, etc.



Complete!

Not complete?

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](#) Explore the [REDCap Shared Library](#)

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

Learn how to use [Smart Variables](#) [Piping](#) [Action Tags](#)




Complete!

Not complete?

Define your events and designate instruments for them

Create events for re-using data collection instruments and/or set up scheduling.

Go to [Define My Events](#) or [Designate Instruments for My Events](#)



Optional

[I'm done!](#)

Enable optional modules and customizations

Modify Repeatable instruments and events [?](#)

Enable Auto-numbering for records [?](#)

Disable Scheduling module (longitudinal only) [?](#)

Disable Randomization module [?](#)

Disable Designate an email field for sending survey invitations [?](#)
Field currently designated: **testemail** ("Test email")

Additional customizations

Optional Modules: Repeatable Instruments

REDCap can repeat a data collection instrument or an entire event an unlimited number of times without having to pre-specify the frequency.

Event Name	Repeat entire event or selected instruments?	Instrument name <small>(select instruments to repeat)</small>	Custom label for repeating instruments (optional) <small>Example: [visit_date] [weight] kg</small>
Baseline (Arm 1: Intervention)	Repeat Instruments (repeat)	<input type="checkbox"/> Screening	
		<input type="checkbox"/> Tracking Visits	
		<input checked="" type="checkbox"/> Goal Facilitation Visit	[gfdate]
		<input checked="" type="checkbox"/> PCP Visit	[pcpdate]
		<input checked="" type="checkbox"/> Cardiology Visit	[carddate]
		<input type="checkbox"/> OPACIC	
		<input type="checkbox"/> Collaborate V5.0	
		<input type="checkbox"/> MoCA Recall Introduction	
		<input type="checkbox"/> TBQ	
		<input type="checkbox"/> Global Health Promis Scale V1.2	
		<input type="checkbox"/> MoCA Recall	
		<input type="checkbox"/> Demographics	
		<input type="checkbox"/> Interviewer Observation	
		<input type="checkbox"/> Discontinuation	
		<input type="checkbox"/> Eligibility Waiver	
		<input type="checkbox"/> Medication	
		<input checked="" type="checkbox"/> Chronic Condition	[diagnosiscode], [problemname]
		<input type="checkbox"/> Chronic Condition Category	
		<input type="checkbox"/> OPACIC	
		<input type="checkbox"/> Collaborate V5.0	
		<input type="checkbox"/> TBQ	
		<input type="checkbox"/> Global Health Promis Scale V1.2	
FU (Arm 1: Intervention)	-- not repeating --		

Optional Modules: Repeatable Instruments



- ▶ Repeatable instruments shown on record home page:

Repeating Instruments

Goal Facilitation Visit		
Baseline (Arm 1: Intervention)		
1		08-03-1966
2		08-10-1966
4		11-24-1966
+ Add new		

PCP Visit		
Baseline (Arm 1: Intervention)		
1		10-10-1966
2		01-24-1967
3		03-20-1967
4		04-12-1967
5		04-27-1967
6		05-25-1967
+ Add new		

Chronic Condition		
Baseline (Arm 1: Intervention)		
1		F32.9, Depression
2		I10, Hypertension
3		K21.9, Esophageal reflux
4		Z00.00, Encounter for preventive health examination
5		G20, Parkinson's disease
6		M54.6, Pain, upper back
7		I49.3, Premature ventricular contractions

Questions?