



REDCap 101 Training

Introduction to building projects in REDCap

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Introduction and Learning Objective

- Learn what a 'study account' is and how to set up a study account
- O Understand how to provide users access to REDCap (Yale and YNHH servers)
- o Learn where to access training materials
- O Understand how to create a new REDCap project
- o Learn how to manage user rights



What is REDCap?

Web-based software used to create and manage research databases and participant surveys.

Developed as a tool to help researchers collect and manage data effectively and responsibly.



REDCap All Purpose Data Tool Training Slides: <u>https://portal.redcap.yale.edu/resources/training</u>



How do I get set up in REDCap?



1. To request a new account, select **Request Study Account** on the REDCap@Yale portal website:

https://portal.redcap.yale.edu/

 Data System Triage (YCCI) will review your request and refer you to a REDCap service:

REDCap at Yale University





Yale Center for Clinical Investigation



How does REDCap work at Yale?

NAME OF SERVER	SERVER LOCATION	URL	REGULATORY COMPLIANCE	SPECIALIZATION
REDCap I	Yale	https://poa-redcap.med.yale.edu/	HIPAA, GDPR	International research
REDCap II	Yale	https://redcap.research.yale.edu/	HIPAA, GDPR	
Standard REDCap	YNHH	https://redcapynh.ynhh.org/	HIPAA	EPIC/CDIS Integration
21 CFR Part 11 Validated REDCap	YNHH	<u>https://redcapynh-p11.ynhh.org/</u>	HIPAA, 21 CFR Part 11	



What is a REDCap Study Account?

- A Study Account is a collection of REDCap projects being used for the same purpose (e.g. research protocol).
- To create a REDCap project on an <u>existing</u> study account:

Open the My Project page in REDCap and click the + New Project option.



Note: You will be asked to provide information to confirm this is part of an existing protocol.



Yale Servers: How do I add new users?

REDCap at Yale University

Step #1: Allow list: Server-Level Access

- 1. Email <u>redcap@yale.edu</u> to add a first-time user to the Yale REDCap server (REDCap I or REDCap II).
- 2. They will receive an email with an authentication link to activate their REDCap user-account.

Step #2: User Rights: Project Level Access

1. Once activated, you can provide access to the project through 'User Rights'.



Yale Servers: User Accounts & Access

REDCap at Yale University

All users must have a Yale NETID

You CANNOT reset your password in REDCap. Reset your Yale NETID password through Yale ITS

Question: My project involves people outside Yale. How do they login?Answer: You can provide a Yale NET ID. Refer to the ITS website on how to obtain sponsored NetID for external collaborators.



YNHH Servers: How do I add new users?



Step #1: Server-Level Access

 To obtain user access to the Yale New Haven Hospital (YNHH) servers (21 Part 11 or Standard REDCap), complete the <u>YNHH User Account</u> <u>Request Form (i.e. ticket).</u>

Step #2: User Rights: Project Level Access

 You can provide access to the project through 'User Rights'.



YNHH Servers: User Accounts & Access



All users must have a Yale NETID

You CAN reset password in REDCap.

Question: My project involves people outside Yale. How do they login?Answer: You can provide a Yale NET ID. Refer to the ITS website on how to obtain sponsored NetID for external collaborators.



Training Resources: Within REDCap

Training Videos: 26 training videos currently available



Just Getting Started?

Explore these overviews of fundamental concepts and features.

Title	Description	Watch Video
Brief Overview	A quick summary of what REDCap is and what it can do.	4 minutes
Detailed Overview	This video provides an overview of basic functions and features within a REDCap project. It will serve as a starting point for learning about the basic concepts of REDCap, what REDCap projects are, how to create them, and how to use them.	14 minutes
Data Entry Overview	A focused exploration of basic data entry workflow. Suitable for training data entry staff.	19 minutes



Training Resources: Within REDCap

Help & FAQ: This is also a good place to look up syntax for calculated field, branching logics or piping.





Training Resources: Within REDCap

'How to' links throughout REDCap. For example, in online designer:





Training Resources: REDCap@Yale Website

Library of step-by-step tutorials to address commonly asked questions from our Yale end-users:



Login to Login t REDCap I REDCap	to Reset Request Study Reactiv p II Password Account User Acc	ate Add R ount Users P	eport a Need roblem Help?
ME GET HELP AB	BOUT US RESOURCES CONTACT US		
OME > RESOURCES > FA	AQS		
requently	Asked Questions		
Categories	Search Keyword		
- Any -	Search Keyword	APPLY	SHOW ALL
- Any -	Search Keyword	APPLY	SHOW ALL
- Any - Project Design	Search Keyword	APPLY	SHOW ALL
- Any - Project Design	Search Keyword	APPLY	SHOW ALL
- Any - Project Design > New Project	Search Keyword	APPLY	SHOW ALL
Categories - Any - Project Design - New Project - Appearance and For	Search Keyword	APPLY	SHOW ALL
- Any - Project Design - New Project - Appearance and Form How do Linsert an in	Search Keyword matting	APPLY	SHOW ALL
Categories - Any - Project Design > New Project Appearance and Form How do Linsert an in How do Linsert a vio 	Search Keyword matting mage? deo?	APPLY	SHOW ALL



How do I insert a video?

I want to include a video in the survey project I am using for eConsent.

Videos can be inserted into a REDCap form or survey using the *Descriptive Text* field type and can appear within the form/survey page (inline) or in a separate window (popup). You must first obtain the URL (link) to the video that you want to insert. YouTube and Vimeo are compatible sources, but other video sources can be used as well.

To insert a video into a form/survey:

1. Within the 'Online Designer', add a new field to your form and select the 'Descriptive Text' field type.

Add New	Field
You may add bottom. Whe you may view	i a new project field to this data collection instrument by completing t en you add a new field, it will be added to the form on this page. For a w the ❸ Field Types video (4 min).
Field Type:	Descriptive Text (with optional Image/Video/. 🗸
Field Label	Use the Rich Text Editor ?



QUESTIONS?



VERY BRIEF TOUR



REDCap: Homepage

+)

Home I My Projects + New Project I Help & FAQ Help & FAQ Help & FAQ

Logged in as Control Center bt24

e Profile ● Log out

Yale University REDCap

REDCap at Yale University REDCap@Yale

OUR MISSION

To promote excellence through empowerment, on an informatics platform that encourages innovation and collaboration.

ADDITIONAL LINKS

Check out our portal website REDCap@Yale activity charts

Welcome to REDCap!

REDCap is a secure web platform for building and managing online databases and surveys. REDCap's streamlined process for rapidly creating and designing projects offers a vast array of tools that can be tailored to virtually any data collection strategy.

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.

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 the REDCap@Yale team.

REDCap Features

Build online surveys and databases quickly and securely in your browser -Create and design your project using a secure login from any device. No extra software required. Access from anywhere, at any time.

Fast and flexible - Go from project creation to starting data collection in less than one day. Customizations and changes are possible any time, even after data collection has begun.

Advanced instrument design features - Auto-validation, calculated fields, file uploading, branching/skip logic, and survey stop actions.

e-Consent - Perform informed consent electronically for participants via survey.

Diverse and flexible survey distribution options - Use a list of email addresses or phone numbers for your survey respondents and automatically contact them with personalized messages, and track who has responded. Or

REDCap@Yale

REDCap: My Projects

EDCap .) PID Home	My Projects	+ New Project	Pelp & FAQ	e 🖪 Training video		lessenger	~ COI		bt24		O Profile	L- Log
				Yale Univ	ersity REDCap								
		RJ	EDCa	ip at S	Yale U Cap@Yale	niv	vers	ity					
	OUR MISSION To promote exc informatics pla	cellence throug tform that enc	h empowermen ourages innovat	nt, on an tion and	ADDITIONA Check out ou REDCap@Ya	IL LINKS Ir <u>porta</u> Ile <u>activi</u>	S I website ity charts						
	conaboration.												
	Listed below are the users still have acce	e REDCap projec ess to your proje	ts to which you c	currently have ac	cess. Click the proje <mark>ard</mark> .	ect title to	o open the	e project.	. <u>Read more</u> T	ō revie	w which		
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Bookmarking REDCap

Don't bookmark project pages:



Bookmark My Projects page:

REDCap	\times +
C	○ 合 ब https://poa-redcap.med.yale.edu/index.php?action=myprojects



REDCap: Project Navigation Bar

REDCap
Logged in as bt24 Log out My Projects or Control Center REDCan Messenger
Contact REDCap administrator View project as user: select a user Inter PID to go to project Inter PID to go to project
Project Home and Design
 ♠ Project Home · ﷺ Project Setup ☑ Designer · ☑ Dictionary ·
Data Collection 📃
Survey Distribution Tools Stat public survey link or build a participant list for limiting respondents Record Status Dashboard View data collection status of all records Add / Edit Records Craste and second sec
Show data collection instruments
 Project Dashboards Alerts & Notifications Multi-Language Management Calendar Data Exports, Reports, and Stats Data Import Tool Data Comparison Tool Logging and & Email Logging Field Comment Log Field Comment Log Field Comment Log Field Repository User Rights and ¥ DAGS Customize & Manage Locking/E-signatures Data Quality All and @ API Playground RECap Mobile App
Project Dashboards / Add/Edit
1) test
External Modules
Help & FAQ Help & FAQ Sideo Tutorials C Suggest a New Feature
Contact REDCap administrator

Access to most parts of REDCap:

- Project design pages
- Data Collection
- Applications
- Reports and Dashboards
- Help and Training

Your Navigation Bar will vary based on your user rights



REDCap: Project Setup





SETTING UP YOUR PROJECT:

WHERE DO I BEGIN?



How do I create a new project in REDCap?



Click the '+New Project' tab, complete the form

- Remember to enter the PI and study information

Home	🗐 My Projects	+ New Project 3 Help & FAQ	🖪 Training Videos	🗭 Messenger	Control Center
+ Cre	eate a new REDC	ap Project			
You may button a	y begin the creation of at the bottom.	a new REDCap project on your own by con	npleting the form below an	d clicking the Create F	Project
Project	title:	Title to be displayed on project webpage			
Purpos How will i	e of this project: it be used?	Select One 🗸			
Project Comment or purpos My Projec	notes (optional): ts describing the project's use se that are displayed on the cts page.				
Start pi or begi	roject from scratch n with a template?	Create an empty project (blank slate) Upload a REDCap project XML file (CI Use a template (choose one below)	DISC ODM format)		

 After we verify you have a study account, we will create the project and notify you via email within 1-2 business days.



Big Picture Questions

What type of project is needed?

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



Big Picture Questions

How will you collect the data?

- o Data Entry
 - Data entered by REDCap users (i.e. research staff)
 - Offline data collection available via mobile app
- o Survey
 - Online survey completed by participants
 - Participants do not need to have a Yale NetID

A project can have both surveys and data entry forms.



How to Set Up your Project





Project Setup: Enable Settings

If applicable:

- Enable survey setting
- Enable longitudinal setting





Project Setup: Build your Instruments

Design your project instruments

Method 1: Online Designer Method 2: Data Dictionary

	🗲 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: <u>Download PDF of all instruments</u> OR Download the current Data Dictionary
I'm done!	Go to 🕜 Online Designer or 📓 Data Dictionary Explore the 🔹 REDCap Instrument 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 🕂 Field Embedding √ Special Functions



Project Set Up: Building with the Online Designer

Online Designer

- Allows you to create/modify/delete data collection instruments and fields (questions) in your web browser.
- Changes are made in real time and available immediately for review and testing.

🕈 Project H	ome	žΞ Project Setup	C Online Designer	Data Dictionary	E Codebook
UIDEO: How 1	<u>o use th</u>	<u>iis page</u>	Create snapshot of ins	truments Last snapshot:	never ?

The Online Designer will allow you to make project modifications to fields and data collection instruments very easily using only your web browser. NOTE: While in development status, all field changes will take effect immediately in real time.

Data Collection Instruments				options:	Survey o	Survey options:			
+	 + Create a new instrument from scratch Import a new instrument from the official <u>REDCap Instrument Library</u> Upload instrument ZIP file from another project/user or <u>external libraries</u> 			Rorm Display Logic		vey Notifications			
	Instrument name	Fields	View PDF	Enabled as survey	Instrument action	s Survey related options			
	Form 1	1	PDF	Enable	Choose action 🗢				



Project Set Up: Building with the Online Designer

A Project Home	ž∃ Project Setup	🗹 Online Designer	🛯 Data Dictionary	E Codebook	
B VIDEO: How to use th	<u>iis page</u>	Create snapshot of ins	struments Last snapshot:	never ?	
his page allows you to existing ones. New field dit icon. If you decide ields, simply drag and hanges will take effect	build and customize Is may be added by c that you do not wan drop a field to a diff immediately in real t	your data collection ins licking the Add Field bu t to keep a field, you car erent position within the time.	struments one field at a ttons. You can begin ed n simply delete it by clicl e form below. NOTE: Wh	time. You may ad iting an existing f king on the 💥 De nile in developme	dd new fields or edit ield by clicking on the <i>J</i> elete icon. To reorder the nt status, all field
• Return to list of inst	ruments				Next instrument >>
Current instrument: F	orm 1				Preview instrument
Variable: record_id					
NOTE. The field above is	the record ID field and the	hus cannot be deleted or m	oved. It can only be edited.		

This field's value can be auto-assigned by REDCap

(Project Setup \rightarrow Enable optional modules \rightarrow Enable auto-numbering for records)

Add Matrix of Fields | Import from Field Bank



Project Set Up: Building with the Online Designer





Building Forms: Field Types





Building Forms: Field Types

Matrix fields:



Pleas	se let us know your weekly schedul	e for the following	g:			
		Monday	Tuesday	Wednesday	Thursday	Friday
6)	Gym (Weight Training)					
7)	Aerobics					
8)	Eat Out (Dinner/Lunch)					
9)	Drink (Alcoholic Beverages)					



Building Forms: Field Name

• Each field name must be:

- Unique
- Lowercase
- Contain fewer than 26 characters
- Contain only letters, numbers, and underscores
- In general, field names should be as short in length as possible and maintain meaning.

Instead of 'q1' or 'what_was_your_sex_at_birth', use 'birth_sex'!



Building Forms: Drop Down Field

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	Туре
-------	------

e: Multiple Choice - Drop-down List (Single Ansv 🗸

Field Label			
Race	Variable Name (utilized in logic, calcs, and exports) race Enable auto naming of variable based upon its Field Label? ONLY letters, numbers, and underscores Field Label?		
	How to use [+] Smart Variables / Piping		
Choices (one choice per line) Copy existing choices	Required?* O No Yes * Prompt if field is blank		
1, White ^ 2, Black or African-American 3, Asian	Identifier? No O Yes Does the field contain identifying information (e.g., name, SSN, address)?		
4, American Indian or Alaskan Native 🗸	Custom Alignment Right / Vertical (RV)		
Enable auto-complete for this drop-down ?	Align the position of the field on the page		
How do I manually code the choices?	Field Note (optional)		
Action Tags / Field Annotation (optional)	Small reminder text displayed underneath field		
Learn about <i>Action Tags</i> or <u>using Field Annotation</u>			



×

Building Forms: Using Field Validation

Edi

Validation is an important tool that can be used to prevent errors. It also helps when exporting data to statistical packages.

Edit Field	1			×
You may add outton at the different fiel	l a new project field to this data collection in e bottom. When you add a new field, it will b d types available, you may view the 🎲 <u>Field</u>	strument by completing the e added to the form on this Types video (4 min).	e fields below and clicking tl s page. For an overview of tl	he Save he
ield Type:	Text Box (Short Text, Number, Date/Time,) ~		
ield Label				
Date of screening		Variable Name (utilized in logic, calcs, and exports) screendate Enable auto naming of variable based upon its Field Label? ONLY letters, numbers, and underscores Field Label?		
		How to use [+] Smart Vari	ables 📝 Piping	
		Validation? (optional)	Date (M-D-Y)	~
Action Tag	s / Field Annotation (optional)	Mi	None	
		Ma	Date (M-D-Y)	
Learn about	@ Action Tags or using Field Annotation	- 0r -	Date (Y-M-D)	
		Enable coarching wit	Datetime (M-D-Y H:M)	
			Datetime (Y-M-D H:M)	
		choose ontology to	Datetime w/ seconds (M-D-Y	H:M:S)
		Required?* ONO 🖲	Datetime w/ seconds (Y-M-D I	H:M:S)
		* Prompt if field is blank	Email	
		Identifier? No 	Integer	
		Does the field contain identify	Letters only	
		Custom Alignment	Number	
		Align the position of the field	Number (1 decimal place)	
		Field Note (optional)	Number (2 decimal places)	
		Small reminder text displayed	Phone (North America)	
			Social Security Number (U.S.)	
			Time (HH:MM)	
			Time (MM:SS)	


Building Forms: Tagging Identifiers

Fields that constitute protected health information (PHI) should be marked as an "Identifier"

These fields can then be excluded on data export, allowing for analysis of "deidentified" data

Users can also be restricted in their ability to export Identifier fields based on access rights

Variable Name (utilized in logic, calcs, and exports) dob Enable auto naming of variable based upon its Field Label? ONLY letters, numbers, and underscores
How to use [1] Smart Variables Piping + Field Embedding
Validation? (optional) Date (D-M-Y)
Minimum:
Maximum:
Tip for min/max limits: You may pipe a value from another field to set dynamic range limits - e.g., [visit_date] or [event_1_arm_1][age]. You may also use the word today or NOW (not wrapped in quotes) for date/time fields.
- or -
select ontology service 🗸
Required?* No OYes * Prompt if field is blank
Identifier? No OYes Does the field contain identifying information (e.g., name, SSN, address)?



Building Forms: Action Tags



Action tags allow you to modify fields in very specific ways. Once applied, a corresponding action is performed.

In REDCap, action tags begin with the '@' sign and are placed inside a field's "Action Tags/Field Annotation" box.





Building Forms: Smart Variables

Allow reference information other than data fields (e.g., event, repeat instance, DAG or users)

Example: Set the default value of a field to be the value of the previous event.

Field Label	Event: Event 1	
Glucose	Record ID	1
	Glucose	H 💬 75
	Event: Event 2	
	Record ID	1
Action Tags / Field Annotation (optional)	Glucose	H 💬 75
Learn about @ Action Tags or <u>using Field Annotation</u>		



Building Forms: Smart Variables

mart Variables				×
Name of Smart Variable	Description	Examp	le of Usage	^
		Example input	Example output	
User			[+] Sm	art
[user-name]	The current user's REDCap username.	[user-name]	jane_doe	
[user-fullname]	The current user's first and last name (as listed on their My Profile page).	[user-fullname]	Jane Doe	
[user-email]	The current user's primary email address (as listed on their My Profile page).	[user-email]	jane.doe@example.edu	
[user-dag-name]	The Data Access Group (the unique group name) to which the current user belongs (blank if not in a DAG).	[usen-dag-name]	vanderbilt_group	
[user-dag-id]	The group ID number of the Data Access Group to which the current user belongs (blank if not in a DAG).	[user-dag-id]	324	
[user-dag-label]	The name/label of the Data Access Group to which the current user belongs (blank if not in a DAG).	[user-dag-label]	Vanderbilt Group	
Record				
record-name]	The record name of the current record.	[record-name]	108	
record-dag-name]	The Data Access Group (the unique group name) to which the current record belongs (blank if not in a DAG).	[record-dag-name]	harvard_site	
[record-dag-id]	The group ID number of the Data Access Group to which the current record belongs (blank if not in a DAG).	[record-dag-id]	96	
[record-dag-label]	The name/label of the Data Access Group to which the current record belongs (blank if not in a DAG).	[record-dag-label]	Harvard Site	
Form				
is-form]	Detects if the current instrument is being viewed as a data entry form (returns 1 for True 0 for False) as opposed to a survey	[is-form]	1	



Building Forms: Smart Variables Examples

Branching logic based on event name

```
[event-name]='baseline_arm_1'
```

- Survey duration
 - [survey-duration-completed:demographics]
- Auto-capture user's name

@DEFAULT='[user-name]'



Building Forms: Branching Logic

Choose method below for the following field: longcovid_yn - Long COVID?

Show the field ONLY if		
[covid_yn] = '1'		
		<u>Clear loo</u>

— OR —

Drag-N-Drop Logic Builder

Field choices from other fields (drag a choice below to box on right)			Show the field ONLY if ALL below are true ANY below are true		
sex = Female (1)		\rightarrow	covid_yn = Yes (1) 💥		
sex = Male (2)					
age = (define criteria)		Drag			
pregnant = Yes (1)		and			
pregnant = No (0)		Drop			
covid_yn = Yes (1)					
$covid_yn = No(0)$		-			
sts = (define criteria)					
weight = (define criteria)	•				
				<u>Clear logic</u>	
				Save	C

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]



Building Forms: Piping

What kind of ice cream do you like? What kind of ice cream do you like? How often do you eat _____ ice cream? Chocolate Chocolate Strawberry Vanilla reset Once a week Twice a week Twice a week Twice a week Three times a week

With Piping:

What kind of ice cream do you like?	 Chocolate Strawberry Vanilla 	set
How often do you eat Chocolate ice cream?	Once a week Once a week Twice a week Three times a week	set



Building Forms: Piping





Building Forms: Field Embedding

Without field embedding:

Test Date 1	H Today M-D-Y	Field Embedding
Test Result 1A		
Test Result 1B		
Test Date 2	H Today M-D-Y	
Test Result 2A		
Test Result 2B		

With field embedding:

Date	Test Result A	Test Result B
Today M-D-Y		
Today M-D-Y		



QUESTIONS?



How to Set Up your Project

	Main project settings
	Disable Olse surveys in this project? ?
Complete!	Disable 🖉 Use longitudinal data collection with defined events? ?
Not complete?	Modify project title, purpose, etc.
	Design your data collection instruments & enable your surveys
Complete!	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: <u>Download PDF of all instruments</u> OR <u>Download the current Data Dictionary</u>
	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 [1] Smart Variables Piping @ Action Tags
	Define your events and designate instruments for them
-	Define your events and designate instruments for them
Complete!	Define your events and designate instruments for them Create events for re-using data collection instruments and/or set up scheduling.
Complete!	Define your events and designate instruments for themCreate events for re-using data collection instruments and/or set up scheduling.Go to Define My Events Or Designate Instruments for My Events
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
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 Enable optional modules and customizations
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 Enable optional modules and customizations Modify © Repeatable instruments and events ?
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 Enable optional modules and customizations Modify © Repeatable instruments and events ? Enable Auto-numbering for records ?
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 Enable optional modules and customizations Modify © Repeatable instruments and events ? Enable © Auto-numbering for records ? Disable © Scheduling module (longitudinal only) ?
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 Enable optional modules and customizations Modify © Repeatable instruments and events ? Enable © Auto-numbering for records ? Disable © Scheduling module (longitudinal only) ? Disable © Randomization module ?
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 Enable optional modules and customizations Modify © Repeatable instruments and events ? Enable Outo-numbering for records ? Disable © Scheduling module (longitudinal only) ? Disable © Designate an email field for sending survey invitations ?
Complete! Not complete? Optional I'm done!	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 Enable optional modules and customizations Modify © Repeatable instruments and events ? Enable ⊖ Auto-numbering for records ? Disable © Scheduling module (longitudinal only) ? Disable © Designate an email field for sending survey invitations ? Field currently designated: testemail ("Test email")



Defining Events: Longitudinal Projects



Defining Events allows you to:

 O Use data collection forms multiple times for any given project record.

 Generate new schedules to display on the Calendar.

Define your events	and designate instruments for them
Create events for re-us	ing data collection instruments and/or set up scheduling
Go to Define My Eve	or Designate Instruments for My Events



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: l	J19		Rename Arm 1 Delete Arm 1

	Event #	Days Offset	Offset Range Min / Max	Event Name	Custom Event Label 🕑 (optional)	Unique event name 🕑 (auto-generated)
0 🗶	1	0	-0/+0	Flu Clinic		flu_clinic_arm_1
0 🗶	2	2	-0/+2	Day 2-4 Blood Draw		day_24_blood_draw_arm_1
0 ×	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
0 ×	5	70	-0/+0	Day 70 Blood Draw		day_70_blood_draw_arm_1
0 ×	6	100	-0/+0	Non-Flu Blood Draw		nonflu_blood_draw_arm_1
Add new event		Convert from other units	- 0 + 0	Descriptive name for this event	Custom Event Label (optional) Example: [visit_date], [weight] kg	

Unique event name is autogenerated.

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	Day 2-4 Blood Draw	Day 7 Blood Draw (3)	Day 28 Blood Draw (4)	Day 70 Blood Draw (5)	Non-Flu Blood Draw (6)		
Screening & Enrollment Form	\checkmark							
Phone Interview	\checkmark							
Blood Draw Form	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark			
Frailty Assessment	\checkmark							
Study Withdrawal	\checkmark							
Genetic Data Repository Consent	\checkmark							
Additional Blood Draw Form (Non-Flu)						\checkmark		

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



SURVEYS



Surveys

Not enabled as a survey:

 My Projects or Control Center REDCap Messenger Contact REDCap administrator View project or your collect o	Neuro-QOL SF v1.0 - Fatigue	Invitation status: 🖂	Survey options	▽
The project as user: select a user Enter PID to go to project	Editing existing Record ID 3.			
Project Home and Design	Record ID	3		
 ♠ Project Home · ﷺ Project Setup ☑ Designer · ☑ Dictionary · ➡ Codebook ■ Project status: Development 	In the past 7 days I felt tired	 O none of the time O a little bit of time O some of the time O most of the time 		
Data Collection		\bigcirc all of the time		
 Survey Distribution Tools Get a public survey link or build a participant list for inviting respondents Record Status Dashboard View data collection status of all records Add / Edit Records Create new records or edit/view existing ones 	In the past 7 days I had trouble starting things because I was too tired	 none of the time a little bit of time some of the time most of the time all of the time 		reset
 Record ID 3 Select other record Data Collection Instruments: Form 1 Consent Neuro-QOL SF v1.0 - Fatigue Tracking Form 	In the past 7 days I had trouble finishing things because I was too tired	 none of the time a little bit of time some of the time most of the time all of the time 		reset



Enabled as a survey

		€ <u>English</u> ⊡
Please complete the survey below.		
Thank you!		
In the past 7 days I felt tired	 none of the time a little bit of time some of the time most of the time all of the time 	
In the past 7 days I had trouble starting things because I was too tired	 none of the time a little bit of time some of the time most of the time all of the time 	
In the past 7 days I had trouble finishing things because I was too tired	 none of the time a little bit of time some of the time most of the time all of the time 	



How to Set Up a Survey

Enable any form as a survey in Online Designer

- Open survey setting; configure the survey

Instrument name	Fields	View PDF	Enabled as survey	Instrument actions	Survey related options
Participant Information	17	PDF	Enable	Choose action \bigtriangledown	
Prior Study Data	41	PDF	Enable	Choose action \bigtriangledown	
Communication Log	17	PDF	Enable	Choose action \bigtriangledown	
Consent Form	0	PDF	۷	Choose action \bigtriangledown	Survey settings + Automated Invitations

Survey features:

- Schedule automated survey invitations
- Set up a survey queue
- Create unique login code for survey respondents
- Set up researcher notifications upon survey completion



How to Send Surveys to Participants



 Anonymous: Use the public survey link. Survey must be the first form; record will be created as each survey is completed.

 Non-anonymous: Designate an email field for sending survey (recommended method).

REDCap has many advanced features that can be used for setting up surveys. This will be covered in the survey development training on December 4th.



How to Set Up your Project

	Main project settings
	Disable Olse surveys in this project? ?
Complete!	Disable Subscription with defined events? ?
Not complete?	Modify project title, purpose, etc.
	Design your data collection instruments & enable your surveys
Complete!	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: <u>Download PDF of all instruments</u> OR <u>Download the current Data Dictionary</u>
	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 [I+] Smart Variables / Piping @ Action Tags
	Define your events and designate instruments for them
	Create events for re-using data collection instruments and/or set up scheduling.
Complete!	Go to Define My Events or Designate Instruments for My Events
Not complete?	
101	Enable optional modules and customizations
Ontional	Modify ORepeatable instruments and events ?
Optional	Enable G Auto-numbering for records [?]
I'm done!	Disable Scheduling module (longitudinal only) ?
	Disable Andomization module :
	Field currently designated: testemail ("Test email")
	Additional customizations



QUESTIONS?



FINAL STEPS BEFORE IMPLEMENTATION:

USER RIGHTS AND TESTING



Granting User Rights in REDCap: Individual Users



User access can be set up by "Custom Right" or "Role Based" access

Best Practice: "Role Based" access



Granting User Rights in REDCap: Individual Users and User Roles

Basic Rights: Access to the Project

Basic Privileges

Expiration Date	(M/D/Y)
Highest level privileges:	
🚝 Project Design and Setup	
Luser Rights	
🚰 Data Access Groups	
Other privileges:	
Survey Distribution Tools	
Alerts & Notifications	
🛱 Calendar	
Q Add/Edit/Organize Reports Also allows user to view ALL reports (but not necessarily all data in the reports)	
III Stats & Charts	
-5 Data Import Tool	
≠ Data Comparison Tool	
E Logging	
File Repository	
Data Quality What is Data Quality?	Create & edit rules

Viewing and Exporting Data: Access to Individual Forms

Privileges for Viewing and Exporting Data

Data Viewing Rights pertain to a user's ability to view or edit data on pages in the project (e.g., data entry forms, reports). Users with 'No Access' Data Viewing Rights for a given instrument will not be able to view that instrument for any record, nor will they be able to view fields from that instrument on a report. Data Export Rights pertain to a user's ability to export data from the project, whether through the Data Export Rights and Data Export Rights containing record data. Note: Data Viewing Rights and Data Export Rights and Rig

	D	ata Vie	wing Rig	ghts	Data Export Rights			
	No Access (Hidden)	Read Only	View & Edit	Edit survey responses	No Access	De- Identified*	Remove All Identifier Fields	Full Data Set
Participant Information (survey)	\bigcirc	\bigcirc			\bigcirc	\bigcirc	\bigcirc	\bigcirc
Consent (survey)	\bigcirc	\bigcirc			0	\bigcirc	\bigcirc	0
Neuro-QOL SF v1.0 - Fatigue (survey)	0	0	۲		0	\bigcirc	0	
Tracking Form	\bigcirc	\bigcirc			0	\bigcirc	\bigcirc	0

* De-identified means that all free-form text fields will be removed, as well as any date/time fields and Identifier fields.

External Modules: Configuration Permissions

Privileges may be defined regarding whether the user can set or modify the configuration of an External Module that has been enabled on this project. Below are the currently enabled modules. NOTE: Only administrators may modify the module configuration permissions here.

Simple Ontology Module*

*Permissions based on user's Project Design/Setup rights

Cancel



Granting User Rights in REDCap: Data Access Groups (DAGs)



"Data Access Group" is an advanced feature that is useful for multi-center trials and collaborations, especially for HIPAA compliance.

 Users in a particular Data Access Group can only see records entered by other users in that Data Access Group

Data Access Groups	Users in group	Number of records in group	Unique group name 🕢 (auto-generated)	Group ID number 🕑	Delete group?
test		5	test	42	×
test2		1	test2	1823	×
[Not assigned to a group]	* Can view ALL records	134			



Granting User Rights in REDCap: Assigning Users to multiple DAGs

Users can be assigned to more than one DAG using the DAG Switcher setting.

☆ DAG Switcher: Enable multipl	e Data Access Groups for users	Display options: Rows are DAGs Rows are Users
Users assigned to Data Access Groups switching in and out of specific DAGs o user. At least two DAGs must be check assignment, as set above or on the Use	(DAGs) can optionally be assigned to multiple *poten n their own whenever they wish. To assign a user to r ed for a user in order for them to use the DAG Switch er Rights page.	tial* DAGs, in which they may be given the privilege of nultiple DAGs, check the checkboxes below for that er. NOTE: This does not override a user's <u>current</u> DAG
Show 25 ventries		Search
Use	rs	
Data Access Groups		
\$	*	
[No Assignment]		
test1		
test2		



TEST YOUR PROJECT!



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.

- Make sure you test your project thoroughly by entering test data.
- Have other users enter data or complete surveys.
- Export the test data to make sure the format can be used for data analysis.



Moving your Project 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 be auto-approved or else might need to be approved by a REDCap administrator before taking effect.

Go to Move project to production

Move Project To Production Status?

Are you sure you wish to leave the DEVELOPMENT stage? If you proceed, the project will be moved to PRODUCTION status so that real data may be collected. If you select the 'Delete ALL data' option below, all current collected data, calendar events, and uploaded documents will be deleted, otherwise all will remain untouched as the project is moved to production.

Have you checked the Check For Identifiers page to ensure all identifier fields have been tagged?

Keep existing data or delete?

- O Keep ALL data saved so far.
- O Delete ALL data, calendar events, documents uploaded for records/responses, survey responses (if applicable), and any logging events pertaining to data collection.

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 be auto-approved or else might need to be approved by a REDCap administrator before taking effect.

YES, Move to Production Status

Cancel



×

QUESTIONS?



But wait, there's more!

- REDCap 201 11am November 19
- Survey development training 11am December 4

Further Questions? Contact us at REDCap@yale.edu



EXTRA SLIDES



Using Data Exports, Reports and Stats



Exporting Data



You can export the entire dataset or select forms/fields

Data Exports, Reports, and Stats

State Not to use Data Exports, Reports, and State Stat

💠 Create New Report

뒂 My Reports & Exports

🔋 Other Export Options

This module allows you to easily view reports of your data, inspect plots and descriptive statistics of your data, as well as export your data to Microsoft Excel, SAS, Stata, R, or SPSS for analysis (if you have such privileges). If you wish to export your *entire* data set or view it as a report, then Report A is the best and quickest way. However, if you want to view or export data from only specific instruments (or events) on the fly, then Report B is the best choice. You may also create your own custom reports below (if you have such privileges) in which you can filter the report to specific fields, records, or events using a vast array of filtering tools to make sure you get the exact data you want. Once you have created a report, you may view it as a webpage, export it out of REDCap in a specified format (Excel, SAS, Stata, SPSS, R), or view the plots and descriptive statistics for that report.

Му	My Reports & Exports								
		Report name	View/Export Options	Management Options	Report ID 🔞 (auto-generated)				
	A	All data (all records and fields)	View Report 🕹 Export Data 🚮 Stats & Charts						
	В	Selected instruments and/or events (all records)	□ 🔓 Make custom selections						
	1	test (copy)	View Report 🕹 Export Data	✓ Edit Copy Selete	1322				
	2	frailty assessment	📄 View Report 🛛 📌 Export Data 🚺 Stats & Charts	Scopy Edit Copy	2				

REDCap @ Yale

Exporting Data

Exporting "All data (all records and fields)"

Select your export settings, which includes the export format (Excel/CSV, SAS, SPSS, R, Stata) and if you wish to perform de-identification on the data set.



Export Data

Cancel

×



Setting Up Reports in REDCap

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Data Exports, Reports, and Stats

E VIDEO: How to use Data Exports, Reports, and Stats

+ Create New Report B My Reports & Exports Cher Export Options

You may create a new report by selecting the fields/variables below that you want to include in the report. You may add as many fields to your report as you wish, and you can choose which users may view this report. You will also need to provide a name for your report, which will then be displayed on the project's left-hand menu for anyone to whom you have given access. You can filter the results returned in the report in a variety of ways, including using complex AND/OR logic. When you are finished, click the Save Report button at the bottom. The new report will then be added to your list of reports, after which you may immediately begin viewing them or exporting them.

Name of Report:								
Set as "public":	Enabling this feature below will auto-generate a public link for viewing the report without needing to log in to REDCap.							
	$Paragraph \lor - \mathbf{B} I \underline{\lor} \mathscr{P} \checkmark \boxed{\mathbf{B}} @ \blacksquare \blacksquare \textcircled{B} \blacksquare \blacksquare \textcircled{B} \blacksquare \blacksquare \blacksquare \blacksquare \blacksquare \blacksquare \blacksquare \blacksquare \blacksquare $							
Description (optional):								
Displayed on page below report name								

STEP 1

The Access: Cho	oose who can edit and view this report					
O View Access: Choose Choos	oose who sees this report on their left-hand	project r	menu ?			
All users – OR	- O Custom user access (Choose specific	users, role	es, or data access groups who will have access)			
🕑 Edit Access: Choo	ose who can edit, copy, or delete this report	(requires	s user to have 'Add/Edit/Organize Reports' privilege	s)		
• All users – OR	- O Custom user access (Choose specific	users, role	es, or data access groups who will have access)			
STEP 2						
Fields to include	in report + Quick Add		Add all fields from selected instrument:	choose instrument 🗸 🗸		
Field 1	record_id "Record ID"		Instrument: Participant Information			
Field 2	Type variable name or field label		Instrument:			
Additional report options (optional)						
Include the survey identifier field and survey timestamp field(s)?						
Combine checkbox options into single column of only the checked-off options (will be formatted as a text field when exported to stats packages)						
Include the repeat	ing instance fields (redcap_repeat_instrument	t, redcap_	repeat_instance) in the report and data export?			
Remove line break	s/carriage returns from all text data values	(only app	licable for CSV Raw and CSV Label data exports)			

In the report header, display the field label, variable, or both (not applicable for exports)? Both V In the report's data, display the field label, raw data value, or both for multiple choice fields (not applicable for exports)? Both

Steps:

- Set user access
- Add fields
- Filter data
- Order results

Any report can be used to export data

Stats and Charts




Data Dictionary Codebook

The Codebook is a 'human' readable, read-only version of the project data dictionary.

Project Home and Design 📃				
 ♠ Project Home · 注 Project Setup ☑ Designer · ☑ Dictionary ■ Project status: Development 	🔒 Pr	Print page Data Dictionary Codebook		
	#	Variable / Field Name	Field Label Field Note	Field Attributes (Field Type, Validation, Choices, Calculations, etc.)
	nstrument: Demographics (demographics)			
Data Collection 📃	1	subjid	Subject ID	text (integer, Min: 8000, Max: 8999), Required
 Survey Distribution Tools Get a public survey link or build a participant list for inviting respondents Record Status Dashboard View data collection status of all records Add / Edit Records Create new records or edit/view existing ones 	2	demo_date	Date Completed Demographics Form	text (date_mdy), Required
	3	demo_init	Staff Initial	text, Required
	4	age	Section Header: Demographics Form Age	text (integer, Min: 40), Required
	5	sex	Gender	radio, Required 1 Male 0 Female
	6	ethnic	Ethnicity	radio, Required 1 Hispanic or Latino 2 Not Hispanic or Latino 3 Unknown 4 Declined to answer
	7	race	Race	radio, Required 1 American Indian or Alaskan Native 2 Asian 3 Black or African American 4 Native Hawaiian or Pacific Islander 5 White 6 Mixed race 7 Linknown



QUESTIONS?

