Using REDCap Mobile: Practical Suggestions for Remote Data Collection



CAPS Method Core Lila Sheira, MPH October 8th, 2019

Aims for the session:

- Understand REDCap interface
- Getting your project onto a tablet
- Navigating the tablet
- Sending data
- Editing your project
- Error messages
- Technology recommendations
- Additional features (time permitting)
 - Making mobile friendly instruments
 - Repeating instruments and longitudinal studies



Adolescent Shamba Maisha Team happy after learning REDCap Mobile

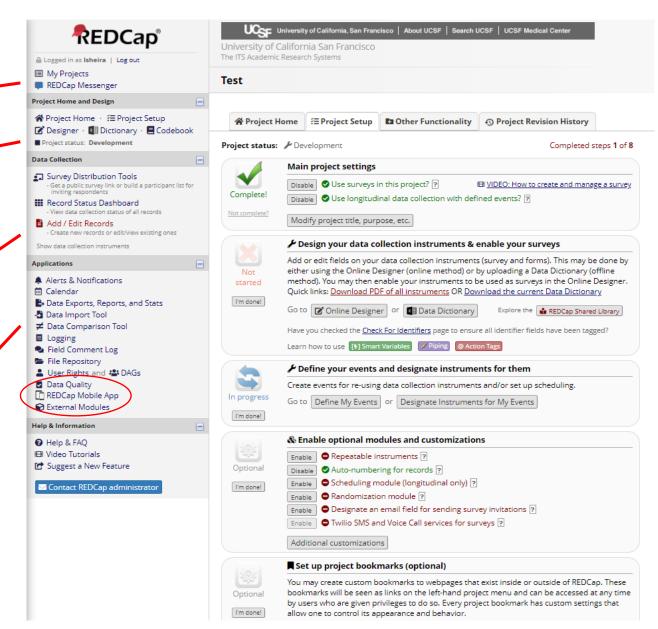
Getting started on the interface

Takes you to the main page

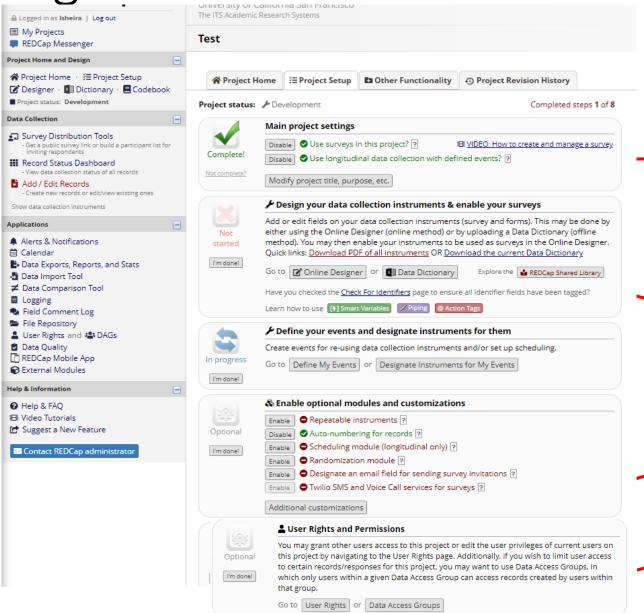
Most used parts of interface

Review of data already collected; manually enter data

Scheduling, data downloads, data quality checks and other data tools, and most importantly, all of the Mobile App features



Getting started on the interface



Some quick minor settings that you may select such as repeating instruments or a longitudinal customization (will discuss later)

Where you'll spend a lot of time...setting up the instrument!

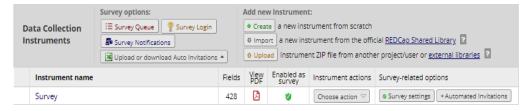
Optional customizations, such as randomization or longitudinal "addons"

Add team members and manage their access levels

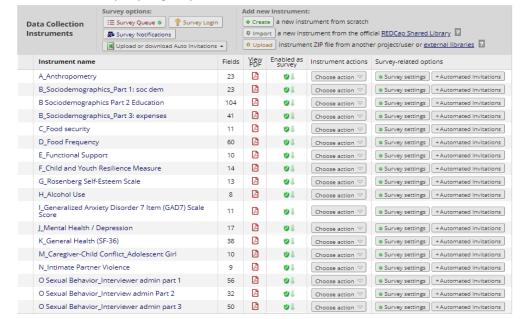
Making your instruments mobile friendly



web browser. NOTE: While in development status, all field changes will take effect immediately in real time.



The Online Designer will allow you to make project modifications to fields and data collection instruments very easily using only your web browser. Below you have the options to modify an existing instrument, delete an instrument, create a new instrument, download an instrument as a PDF document, or reorder your instruments. However, whether in Draft Mode or not, you are allowed to download the PDF or modify survey settings for any instruments below.

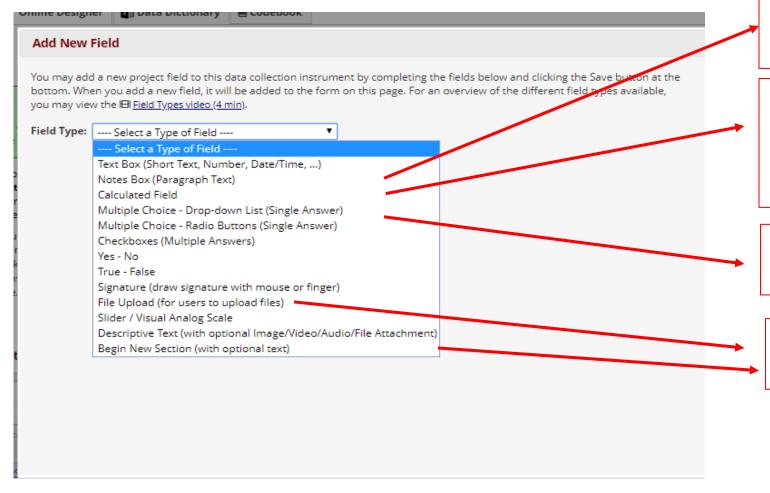


In online data collections / surveys, you can put everything in one instrument with page breaks to split up long sections of questions for the participant.

For the mobile app, there are no page break functionalities on the tablet/remote device. This means where you might want a true "break," you should use separate forms.

Making your questions mobile friendly pt 1

Choosing your variable type



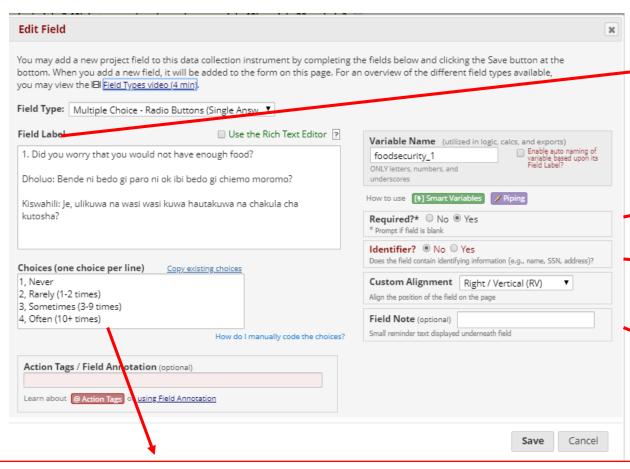
I make a notes box for every instrument for the data collectors to communicate with me.

Calculated fields are useful for saving time on variable creation in analysis phase (ex: making BMI) and for data checks (i.e. anthropometry)

Radio > Drop down for app users

Doesn't work with the mobile app

Making your questions mobile friendly pt 2



You can use HTML code to color code the responses by language:

- 0, No/Oyoo/La
- 1, Yes/Ee/Ndiyo

Number instruments with no skip patterns to help find missing data!

Mark all as required. REDCap Mobile will alert the data collector to a missing question.

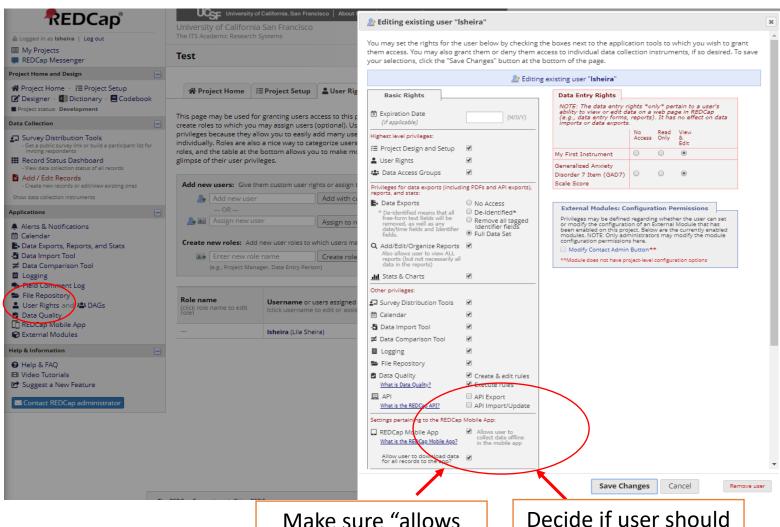
You can allow people to have de-identified databases, so you must mark the identifiers for REDCap to exclude.

I use this as a clarifier or reminder for the data collectors. For example, enter the date in XX format; enter 99 if missing, etc.

Two steps online:

1. Go to user rights and for the appropriate users, select edit rights. Make sure the "Allows user to collect data offline" is selected

Select user rights



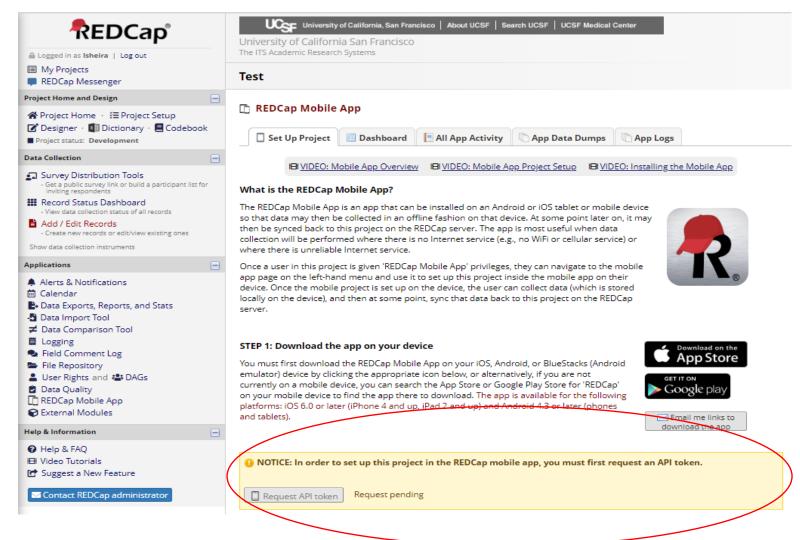
Make sure "allows user to collect data offline" selected

Decide if user should have access to ALL data

Two steps online:

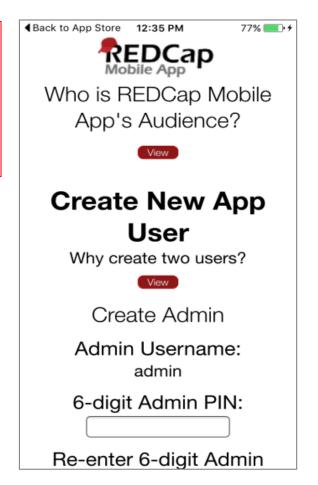
2. Go to REDCap Mobile App and then make sure you have requested an API token.

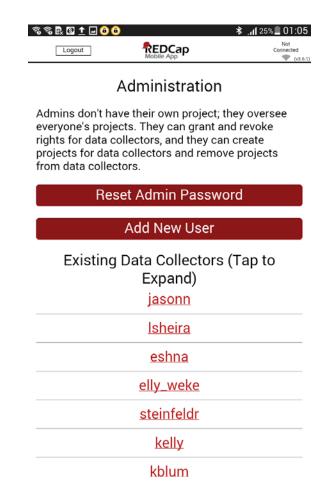
Getting the token is not immediate and can take a few hours if you are working in a far away time zone—go on and do it in the early stages of setting up your project.



Three steps on your tablet:

- Download REDCap from the googleplay or App store (free)
- 2. Create an admin (only you)





This is the only interface on the admin log-in

Image borrowed from Vanderbilt University's "Using REDCAP Mobile App" guide, 2016

Three steps on your tablet:

- 1. Download REDCap from the googleplay or App store (free)
- 2. Create an admin (only you)
- 3. Create data collectors, i.e., app users IF they are not on the REDCap online system on each device.
 - In my experience, we have had one device per data collector, so set up one login per tablet

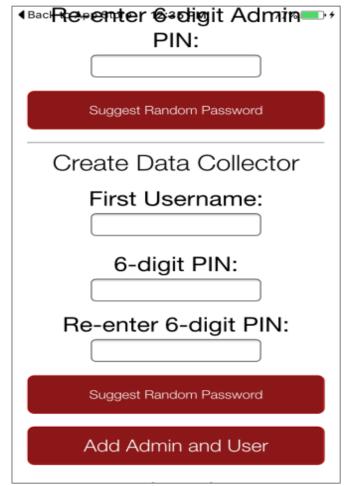


Image borrowed from Vanderbilt University's "Using REDCAP Mobile App" guide, 2016

Piece of advice:

Document all the usernames and pins in one document for the study coordinators.

People will forget their log ins at first!

To add a new project: (should only happen once per project)



Initialize a Project

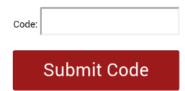
Scan QR Code

To initialize a REDCap project in this app, first log in to your REDCap server as you normally would in your web browser; then go to the desired project in your My Projects list; and click the "Mobile App" link on the left-hand menu of the project. (If you do not see that link on the menu, then you probably have not been given "App" user rights yet in that project.) On that page, click the "Initialize Project" button to display the QR code, after which you can click the "Scan QR Code" button below to scan that QR code in order to initialize the project in the mobile app.

Scan QR Code

The Alternative Method

If you have trouble scanning the QR code, then click the "Can't get the QR code to work?" link on the page in your REDCap project. This will provide you with an initialization code that you can then enter into the app. Be sure to move your mouse arrow off of the QR code, or the scan will not work.



You *must* be connected to a semi-decent internet connection to download data for a new project.

Two ways to get a new project:

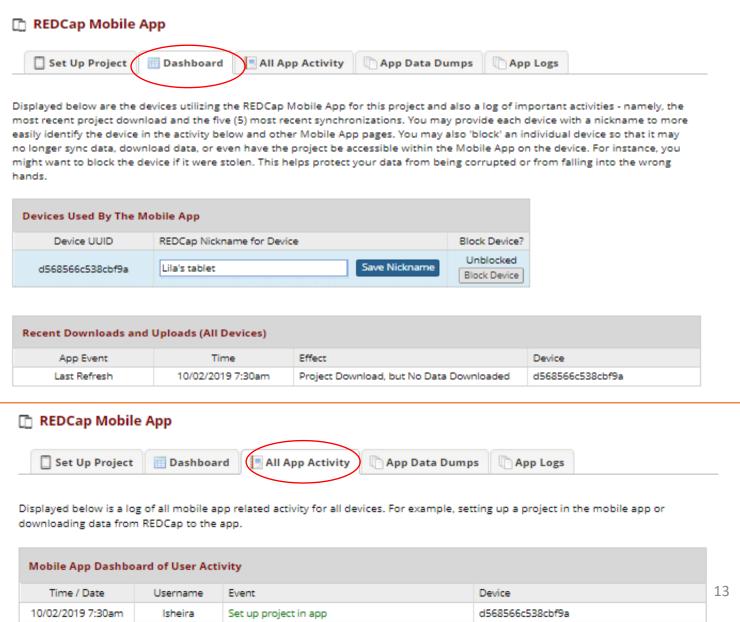
- 1. Scan the code
- 2. Enter a long code (so try #1 first)

Both options are time sensitive

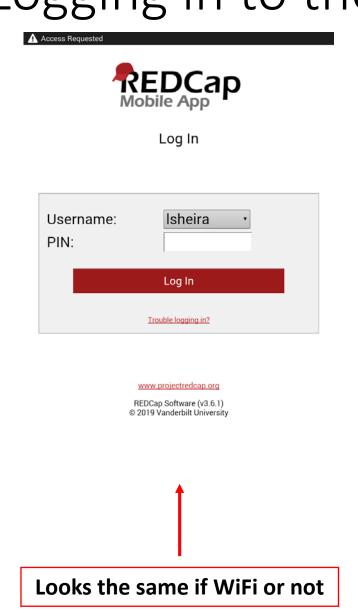
On the REDCap online platform

After you have had someone scan, you have the opportunity to label the device.

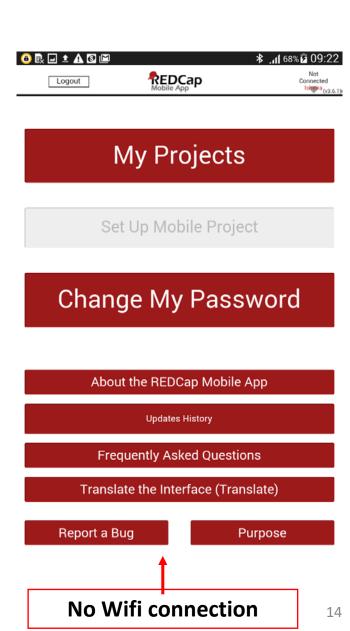
This can be helpful for tracking refreshing, data syncs, cutting a tablet off from sending data, etc among app users



Logging in to the mobile app







Inside your device—My Projects



My Projects

Adolescent Shamba Maisha--Lab form

Last Download: 2018-11-15 09:35 PM 0 Records (0 new; 0 modified)

Adolescent SM Sexual Behavior-Swahili

Last Download: 2018-11-17 12:54 AM 0 Records (0 new; 0 modified)

Adolescent SM Sexual Behavior-Dholuo

Last Download: 2018-11-17 12:54 AM 0 Records (0 new; 0 modified)

Adolescent SM Sexual Behavior-English

Last Download: 2018-11-17 12:55 AM 1 Records (1 new; 0 modified)

Adolescent Shamba Maisha--ADOLESCENT SURVEY

Last Download: 2018-11-18 04:59 PM 1 Records (1 new; 0 modified)

Adolescent Shamba Maisha--CAREGIVER SURVEY

Last Download: 2018-11-27 08:50 AM 0 Records (0 new; 0 modified)

Always looks the same



Exit Interview - Control Participants

Last Download: 2019-01-10 03:58 PM 2 Records (Some new; 0 modified)

Collect Data

Send Data to Server

Rename Records

Sync Archive

Refresh Setup & Data

Project Admin

Visit REDCap Website

Send Emergency Data Dump

Send Project Logs

Wifi connection



Exit Interview - Control Participants

Last Download: 2019-01-10 03:58 PM 2 Records (Some new; 0 modified)

Collect Data

No Connection to Send Data

Rename Records

Sync Archive

Refresh Setup & Data

Project Admin

No Data to Dump

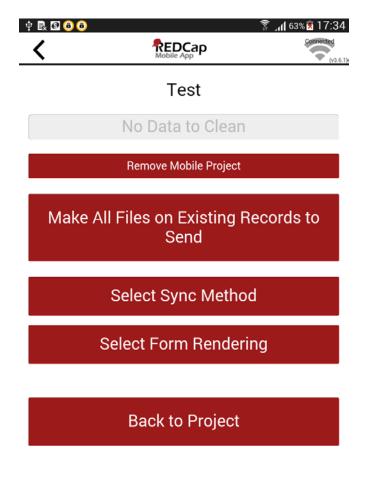
No Logs to Send

Manage Logs

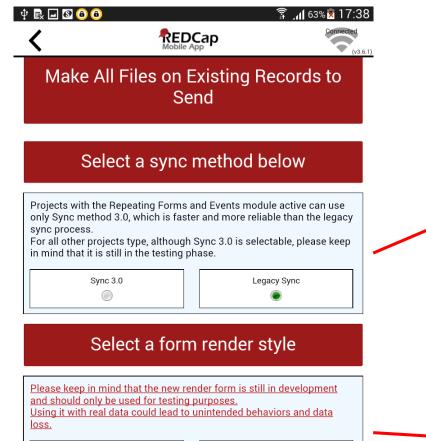
No WiFi

15

Project settings on the tablet



This is what it looks like under project admin



Depending on your project type, select the correct sync method. Only repeating forms and longitudinal studies should use sync 3.0

Use the old render form as recommended as the new one is still in development

Old render form

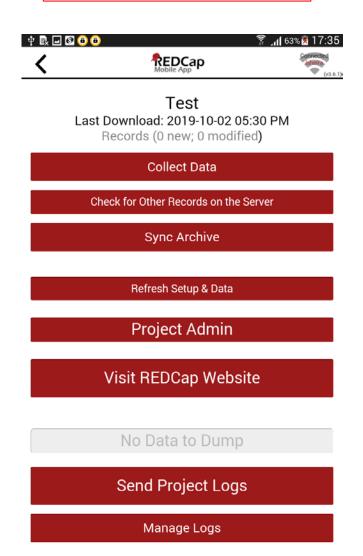
New render form

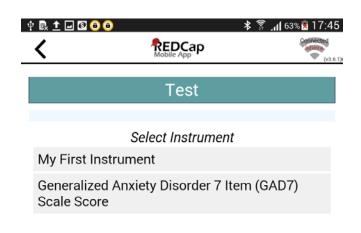
Collecting data for a project: 3 simple steps

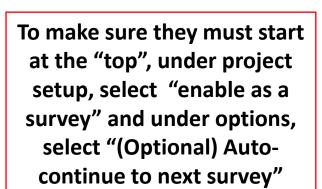
1: Select "Collect data"

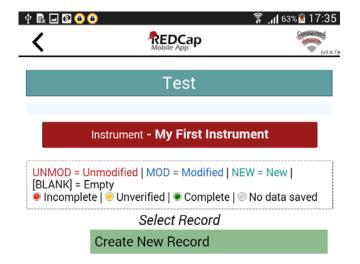
2: Select instrument

3: Select "Create New Record"



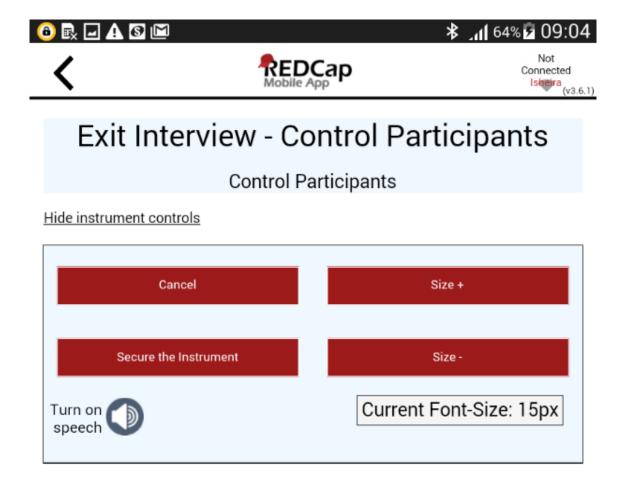






Once here, select create new record and you are ready to collecting data!

Screen Controls

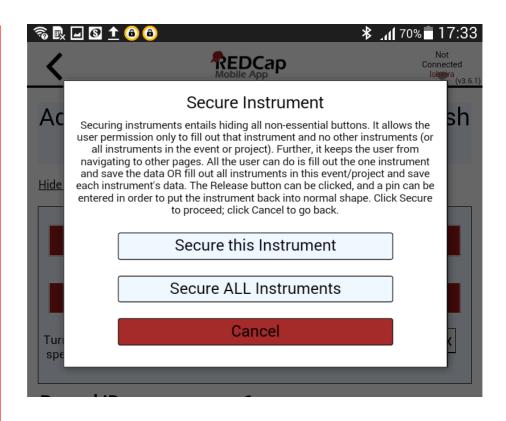


- You will only likely need to adjust the font.
- Secure the instrument means you have to enter a password to navigate within the app.
- To exit this, tap "Hide instrument controls"

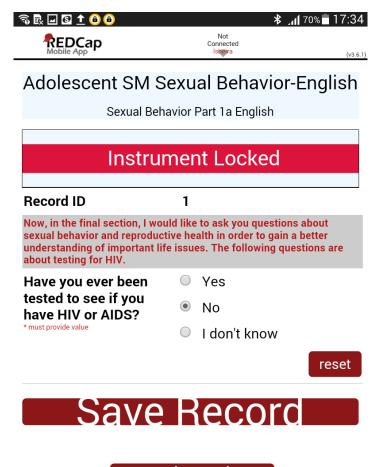
Securing the instrument(s)

A unique feature that allows you to essentially lock the screen on the instrument.

When might you want to use this feature?



This is the alert that will come up. **Secure this instrument** means they can only stay on that page. **Secure ALL Instruments** means they can move around in a project.



Release the Instrument

This is what the screen looks like for Secure this instrument. Notice you cannot move forward. You must enter your pin to "release" the instrument.



Test

Generalized Anxiety Disorder 7 Item (GAD7) Scale Score

Show instrument controls

Record ID

Over the last 2 weeks, how often have you been bothered by the following problems?

| | Not at all sure | Several days | Over half the days | Nearly every day | |
|---|-----------------|--------------|--------------------|---------------------|-------|
| 1. Feeling nervous, anxious, or on edge | • | • | • | • | reset |
| 2. Not being able to stop or control worrying | 0 | 0 | 0 | | reset |
| 3. Worrying too much about different things | • | • | • | • | reset |
| 4. Trouble relaxing | | | | | reset |
| 5. Being so restless that it's hard to sit still | • | • | • | • | reset |
| 6. Becoming easily annoyed or irritable | 0 | 0 | 0 | 0 | reset |
| 7. Feeling | | | | | |

Inside the instrument....

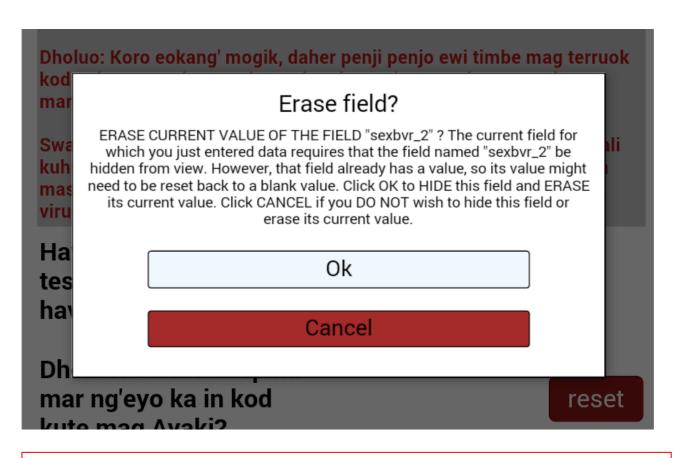
When changing a response after you have already selected one, try to remember to use the reset button.

This is *most* important for skip patterns and text response questions, so best to get into the habit for all question types.

Branching (skip patterns)

- Let's say you have the following series of questions:
 - Have you ever been tested for HIV?
 - If YES: When was the last time you had an HIV test?
 - What was the result of this most recent HIV test?
 - IF NO: [auto-branching to the next section]

And then the participant changes their response....



You must first reset the answer. You will then get this error message not just once, but for **every** question linked...it can be annoying!!

Bottom of the instrument page

Note any issues here, such as participant being distracted, falling asleep, or if there were inconsistent answers. Or any REDCap issues. Note anything that may help explain irregularities in the data.

Mark the form as complete once it is complete!!

Save the record! This is *VERY* important! It will also take you back to the main screen for the instrument.

This takes you to the next instrument in the order of your instruments

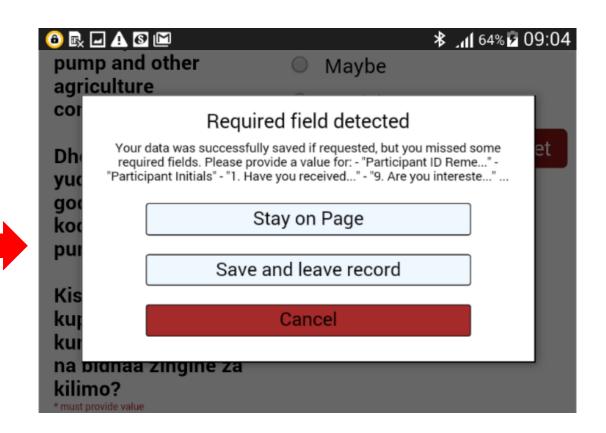


Most common error message-DO NOT IGNORE!!

This means the data collector missed a field on the form. If you read the top part carefully it will tell you the first few letters of the question to help you identify.

Hit "cancel", go find the missing field, correct it, and try again until you don't see this error!

This nice feature reduces missing data *only* if you mark questions as required



Projects with multiple instruments

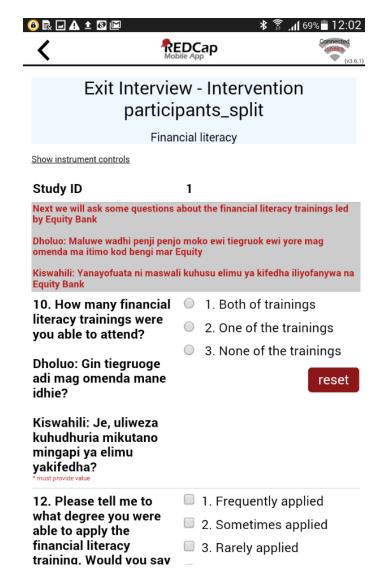




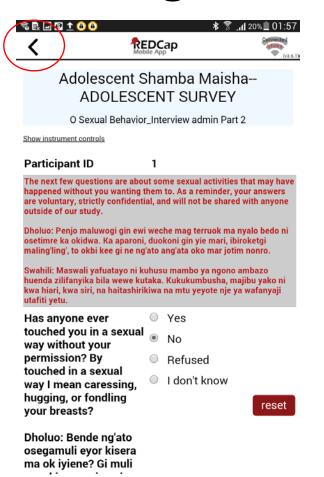
Select save and go to next instrument.

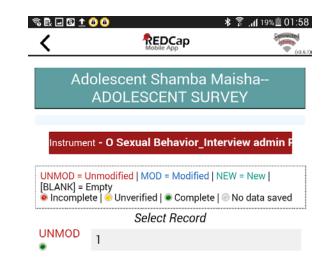
This will take you to the next form in the instrument.





Editing data on the tablet





Tap the red instrument bar to go back to the list of instruments. You just have to remember the record number (most recent on bottom).

Save the record and tap the arrow at the top left

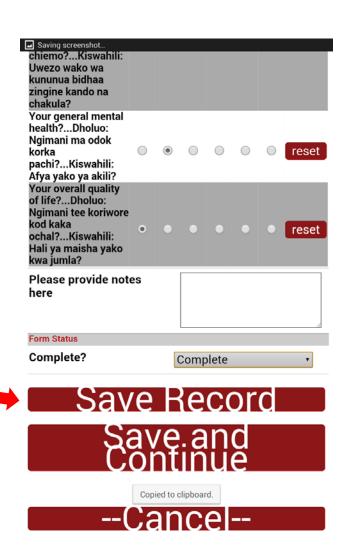


Select the form you want to edit and select it. Then select the record number. Make sure to use "reset"

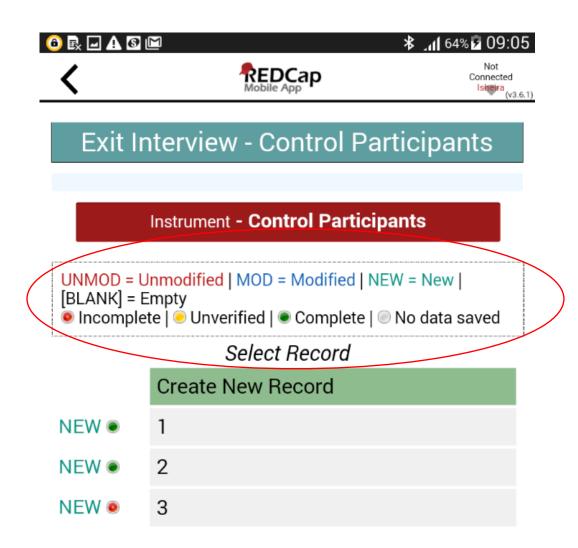
Finishing data collection, part 1

Keep filling out the forms until you reach the final form....you'll know you've reach it when it no longer says "Save and Go to Next Instrument".

Then you can just select save record, which will take you back to the instruments portal for that record



Finishing data collection, part 2



Notice the colors by the record numbers....red means not complete (i.e. skipped a required question) or it you didn't select "Complete".

This is instrument by instrument, not record by record.

Longitudinal Studies part 1



Arm name: Visit

| | Event # | Days Offset | Offset Range Min / Max | Event Name | Custom Event Label (a) (optional) | Unique event name (auto-generated) |
|---------|----------|-------------------------------------|------------------------------|---------------------------------|--|------------------------------------|
| Ø | 1 | 0 | -0/+0 | Baseline | | baseline_arm_1 |
| Ø | 2 | 21 | -0/+0 | 6 Weeks follow up | | 6_weeks_follow_up_arm_1 |
| Ø. | 3 | 90 | -0/+0 | 3 months follow up | | 3_months_follow_up_arm_1 |
| <i></i> | 4 | 180 | -0/+0 | 6 months follow up | | 6_months_follow_up_arm_1 |
| Add ne | ew event | Days Convert from other units | -0+0 | Descriptive name for this event | Custom Event Label (optional) Example: [visit_date], | |

Step 1: Define your events (i.e. data collection time points) under **Project Setup** → **Define your events** and designate instruments for them → Define my events

[weight] kg

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 time 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

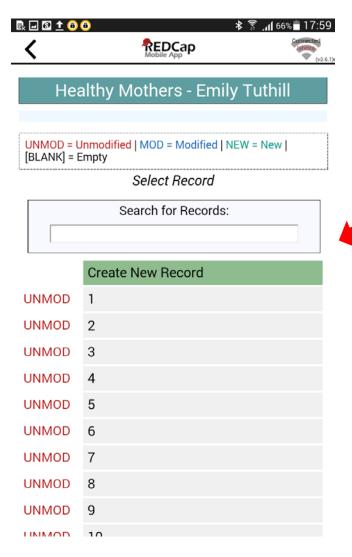
Define My Events Designate Instruments for My Events

| Data Collection Instrument | Baseline (1) | 6 Weeks follow up | 3 months follow up | 6 months follow up |
|--|-----------------|-------------------|--------------------|--------------------|
| Cover Page (survey) | 1 | 1 | 1 | 1 |
| Patient Health Questionnaire 9 (survey) | 1 | 1 | 1 | 1 |
| Soc Dem Page 1 (survey) | 1 | 1 | 1 | 1 |
| Food Security (survey) | 1 | 1 | 1 | 1 |
| Time allocation (survey) | 1 | 1 | 1 | 1 |
| Diet Diversity (survey) | 1 | 1 | 1 | 1 |
| Maternal Appetite (survey) | 1 | 1 | 1 | 1 |
| Maternal Quality of Life (survey) | 1 | 1 | 1 | 1 |
| Maternal Obstetric History (survey) | 1 | 1 | 1 | 1 |
| Maternal HIV information (survey) | 1 | 1 | 1 | 1 |
| Other HIV History (survey) | | | 1 | |
| Exclusive Breastfeeding Self Efficacy Scale (survey) | | 1 | 1 | 1 |

Step 2: Make sure to designate individual instruments for your events under **Project** Setup → Define your events and designate instruments for them

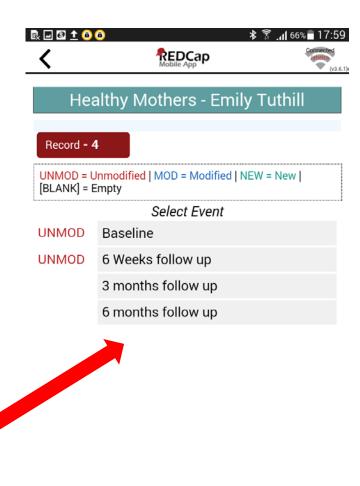
Designate Instruments

Longitudinal studies, part 2



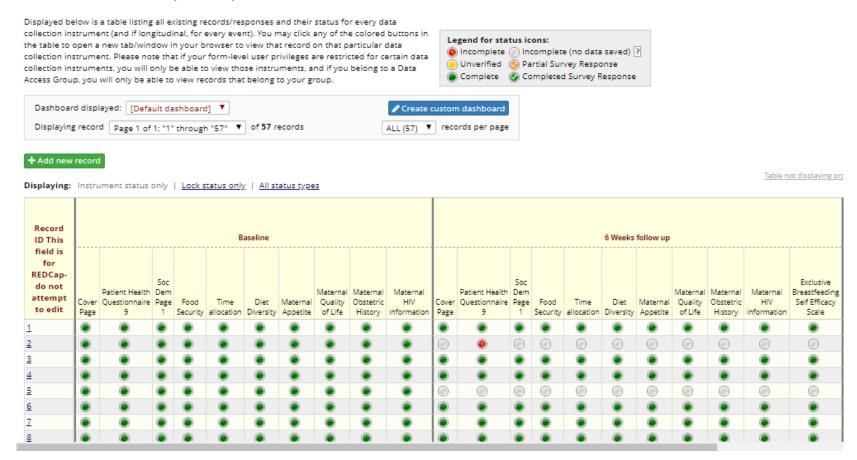
Selecting the record looks the same...

However once you select it, you see you have options to pick the different events. Once you select an event, you will only be able to collect data that you previously designated for that specific event.



Longitudinal studies, part 3

Record Status Dashboard (all records)



For longitudinal and cross-sectional projects, REDCap offers a nice dashboard online where you can track completeness of instruments by record ID over events (for longitudinal projects).

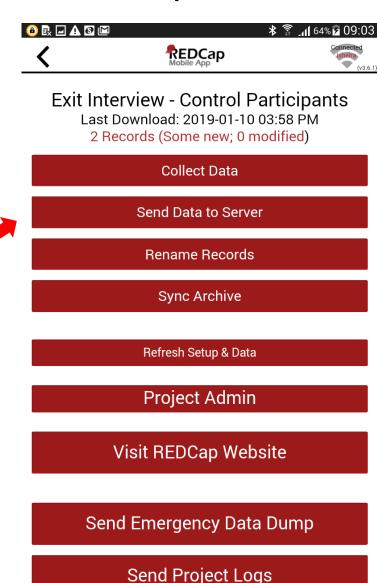
Sending data—part 1

Connect to

Server"

WiFi and tap

"Send Data to





Send Data to Server Exit Interview - Control Participants

To send back the data collected in the mobile app and push it with your project on the REDCap server, press the button below and begin the process of sending the data.

Begin Send of All Data

Select a Partial Set of Records

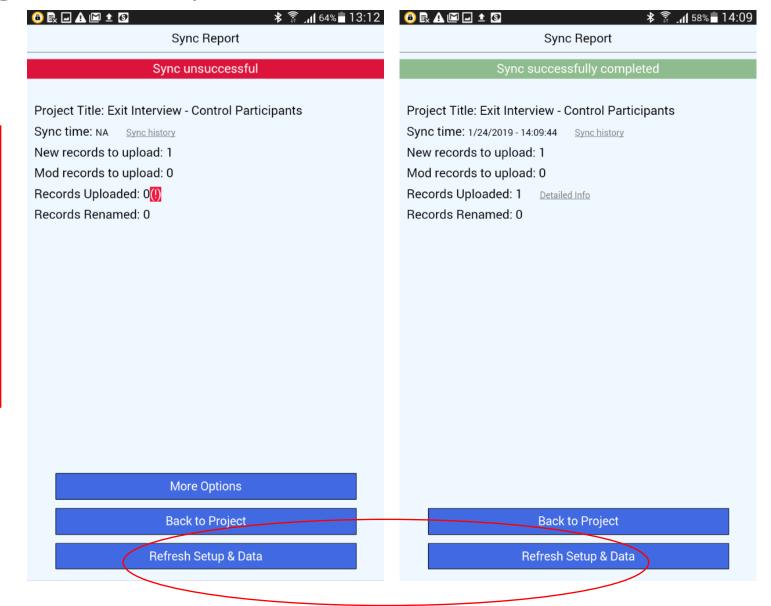
Send Data will look at only new and modified data.

Your project uses autonumbering. The numbers assigned to your records may be reassigned upon upload due to conflicts. Please check the sync report to view any possible reassignments after upload. If a record ID is not reassigned, no message will be made.

2. This is the next screen. Tap "Begin Send of All Data"

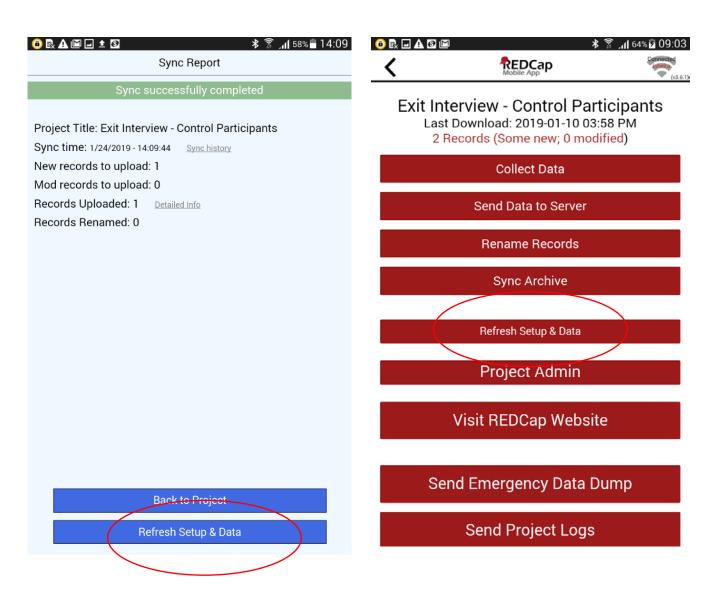
Sending data—part 2

This is what it looks like if the sync was unsuccessful. If that happens, try again.



This is what it looks like if the sync was successful. Just select "Back to Project"

Refreshing the tablet



- REDCap officially recommends that data is refreshed after each sync
- Lila officially recommends that you DON'T!
 - For remote data collection in areas with suboptimal internet, wait until you confirmed you have received the data to the server.
- When you refresh set up and data, it erases the data off the tablet. This is ok if all the data is on the server—but if not, you just lost the data!

Downloading data from the server to your device

Cross-sectional studies

- Do not download the data from the server
 - There is an option for this on user controls for people who you set up on the REDCap webpage

Longitudinal studies

- Trickier among multi-site locations
 - Downloading data from the server is useful for syncing correctly with the dashboard
 - <u>Must</u> have strong internet connection
 - May want to copy paste projects and collect by site if not too many sites
 - Otherwise may consider foregoing the dashboard feature



Setting Up Project

Healthy Mothers - Emily Tuthill
Set Up Complete

Do you want to download all 57 records from the project, or do you want to leave the project blank in the app?

Download All 57 Records

Download by Form Status

Get a Partial Set of Data

Do NOT Download Records

Editing your project after it has gone live: Try to avoid as much as possible!

| Online | Next steps |
|--|------------|
| Result 1: All changes approved automatically For example, changing wording or adding a category Adding a new questions | |
| | |
| | |

Editing your project after it has gone live: Try to avoid as much as possible!

| Online | Next steps |
|--|---|
| Result 1: All changes approved automatically For example, changing wording or adding a category Adding a new questions | All devices collecting data need to be synced to the server (to send all new data) and then refreshed (to download changes) |
| | |
| | |

Editing your project after it has gone live: Try to avoid as much as possible!

| Online | Next steps |
|--|---|
| Result 1: All changes approved automatically For example, changing wording or adding a category Adding a new questions | All devices collecting data need to be synced to the server (to send all new data) and then refreshed (to download changes) |
| Result 2: Changes need to be reviewed: • Changing a variable substantially: • Changing variable type • Changing a skip pattern that affects already collected data, • Changing numerical categories (1 to 0, for example) | |

Report from REDCap Administrator

Adolescent SM Sexual Behavior-Swahili



You'll receive an email with a link that leads you to an overview like this.

Details regarding all changes made in Draft Mode:

- Records in project: 1
- Fields to be added: 0
- Fields to be modified: 18
- Total potentially critical issues: 6
 - Deleted fields that contain data: 0
 - Potentially critical issues in modified fields that contain data: 6
- Total field count BEFORE the changes below are committed: 150
- Total field count AFTER the changes below are committed: 150
- Mobile App: 2 users have initialized this project in the REDCap Mobile App. Please note that they *may* be affected by these changes and may not be able to successfully imported their data from the app afterward. You may want to have them first sync all their data back to the server before committing the changes displayed on this page.

Fields to be ADDED: none

Forms to be ADDED: none

Fields to be DELETED: none

Forms to be DELETED: none

KEY for Comparison Table below

White cell = no change

Yellow cell = field changed (Black text = new value, Gray text = current value)

Green cell = new project field

It will detail changes variable by variable

| Variable Name | Section Header | Field Type | Field Label | Choices or Calculations |
|---------------|-------------------|---------------|---|---|
| sexbvr_23_v2 | | radio | Je unaweza kukumbuka tarehe ambayo daktari alikuambia kuwa uko na "genital herpes" | 1, Ndio 0, La 1, Ndio 2, La *Deleted options are okay since those options have no data. Compare |
| sexbvr_26_v2 | | radio | Je, umewahi kuzungumza na mhudumu wa afya kuhusu kuzuia kupata mimba? | 1, Ndio 0, La 77, Kataa 1, Ndio 2, La 77, Kataa *Data MIGHT be lost due to deleted choice(s) Compare |

The black text is the new changes/values, grey text current (pre-edit) values

Editing your project after it has gone live: Try to avoid as much as possible!

| Online | Next steps |
|--|---|
| Result 1: All changes approved automatically For example, changing wording or adding a category Adding a new questions | All devices collecting data need to be synced to the server (to send all new data) and then refreshed (to download changes) |
| Result 2: Changes need to be reviewed Changing a variable substantially, like changing variable type, changing a skip pattern that affects already collected data, changing numerical categories (1 to 0, for ex) | Option 1: accept the changes and download the data pre-edits in its current form, save it, and edit it to match the new data format, and merge together later for analysis Option 2: Make a new variable moving forward, use skip patterns to skip the old variable, and combine the variables in the analysis form (depending on the issue/reason for change) Option 3: If very few participants and variables, hard code those changes either online (edit form) or in your code (once you download the data) |

Error Messages:

The most common message I have seen and received in late night whatsapp messages!

Meaning: internet not strong enough.

Solution: Keep trying to send; try new connection

REDCap Mobile App

ERROR: CANNOT ACCESS MOBILE PROJECT! We are sorry, but you are no longer allowed to access this project in the REDCap Mobile App because of one or more of the following reasons: 1) your API token used in the app for this project is no longer valid or may have been deleted, 2) you no longer have 'REDCap Mobile App' user privileges for this project on the REDCap server, 3) you have been removed as a user in the project on the REDCap server, or 4) your user account on the REDCap server has been deleted or suspended. If you wish to remedy this issue, you may need to contact the person managing your REDCap project to determine which of these is the case. If any of the situations described above is reversed, then you should be able to regain access to this project again in the app. The admin can remove this project if desired. Do you want to keep this project or remove this project?

KEEP PROJECT

REMOVE PROJECT

Mystery error message that prevented data syncing for two weeks!

Solution:

After checking syncing, tablet updates, and other possible issues:

- 1 Enter data manually from tablets onto the server
- 2. Remove the project and reset it
- 3. Test sending data

Remote data management

- Record ID likely won't match your study ID
 - You can also search records by variables you chose (your study ID, site, data collector, etc.)
- Set fields to link instruments to specific data collectors with more than one identifier for large teams
 - For example, interviewer initials, site ID, and participant initials
- Control what staff see by setting certain variables which may reveal arm as identifiers
- Run weekly reports and send to field coordinator to confirm enrollment / completion numbers
- Practice data collection on tablet as well as sending data many times before going live!

Recruitment Form

You may view an existing record/response by selecting it from one of the drop-down lists below. The records are separated in drop-down list according to their status for this particular data collection instrument. To create a new record/response, click t button below.



Show Unverified Records above

| Data Search | |
|---|--|
| Choose a field to search (excludes multiple choice fields) | All fields ▼ All fields |
| Search query Begin typing to search the project data, then click an item in the list to navigate to that record. | participant_id (Participant ID) date (Date) start_time (Start time) survey_start () interviewinitials (Interviewer initials) screening_id (Screening ID (facility ID-SM participant IDscreening) recruit_13b (If other, please specify.) recruit_13a (Please specify) ag_study_id (Based on these answers, the adolescent girl and caregiv. cg_study_id (Enter ID of enrolled caregiver. For SM participant,) survey_end (End time) recruitment_notes (Please add any notes as needed for the recruitm. |

Technology recommendations

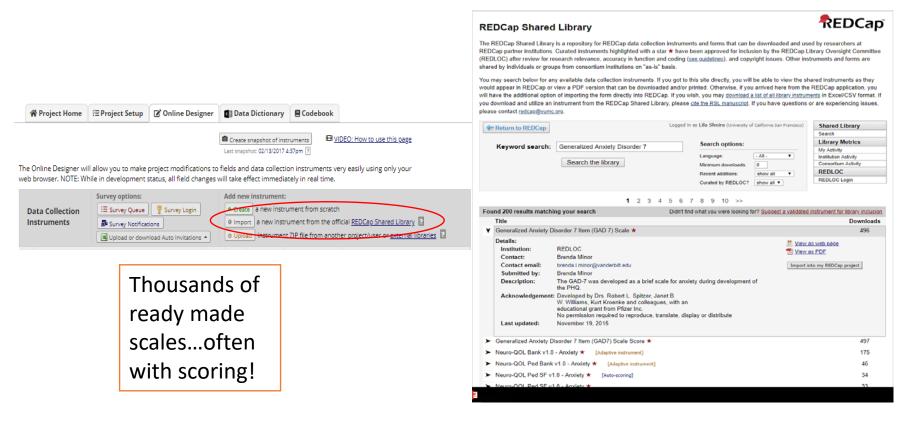
- Androids are cheaper...
 - But you need a gmail account
 - Solution: Make a study email account
- Make sure the device screen is large
 - This helps see skip patterns
 - More user friendly; happy staff=happy study
- Budget data for field staff to send data
- Set up tablets BEFORE you go to the field
- Try different WiFi connections if you are having trouble (4G, for example)
- Try to make sure tablets aren't being used for personal use (wear and tear, loss, theft)



Extra slides—time permitting

Make instruments quickly pt 1

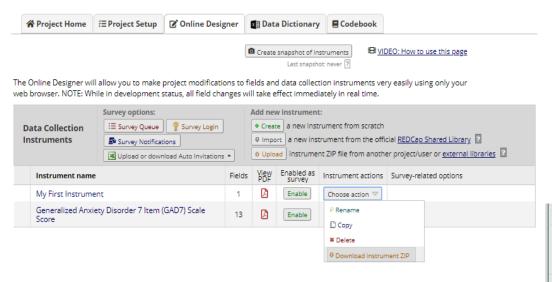
1) Check out the shared library for validated scales





Make instruments quickly pt 2

2) Use excel to upload questions



patterns All the options in the Easily edit questions online format are or add questions now column headers ▼ : × fx 1. Feeling nervous, anxious, or on edge Swahili: H I J K L M N O Variable / Field Nan Form Name Section Header Choices, Calculations, OR Slider Labels Field Note Text Validation Typ Text Valid Text Valid Identifier Branching Required Custom Al Question Matrix weeks, how often have you been bothered by the following 2 sc_gad1 generalized a problems? 0, Not at all sure | 1, Several days | 2, Over half the days | 3, Nearly every day gad sc 3 sc_gad2 generalized_anxiety_disorder_7 radio 2. Not being ab 0, Not at all sure |1, Several days |2, Over half the days |3, Nearly every day gad_sc 4 sc gad3 generalized anxiety disorder 7 radio 3. Worrying to 0, Not at all sure 1, Several days 2, Over half the days 3, Nearly every day gad_sc 4. Trouble relai0, Not at all sure | 1, Several days | 2, Over half the days | 3, Nearly every day 5 sc_gad4 generalized_anxiety_disorder_7 radio gad_sc 6 sc_gad5 generalized_anxiety_disorder_7 radio 5. Being so rest 0, Not at all sure | 1, Several days | 2, Over half the days | 3, Nearly every day gad_sc 7 sc gad6 generalized anxiety disorder 7 radio 6. Becoming ea 0, Not at all sure | 1, Several days | 2, Over half the days | 3, Nearly every day gad_sc 7. Feeling afrai 0, Not at all sure | 1, Several days | 2, Over half the days | 3, Nearly every day 8 sc_gad7 generalized_anxiety_disorder_7 radio 9 sc tot not sure Total - Not at all if ([sc_gad1] = 0, 0,0) + if ([sc_gad2] = 0, 0,0) + if ([sc_gad3] = 0, 0,0) + if ([sc_gad4] = 0, 0,0) + if ([sc_gad5] = 0, 0,0) + if ([sc_gad6] = 0, 0,0) + generalized anxiety disorder 7 calc Total - Several (if ([sc gad1] = 1, 1,0) + if ([sc gad2] = 1, 1,0) + if ([sc gad3] = 1, 1,0) + if ([sc gad4] = 1, 1,0) + if ([sc gad5] = 1, 1,0) + if ([sc gad6] = 1, 1,0) + if ([sc gad6] = 1, 1,0) + if ([sc gad7] = 1, 1,0) generalized anxiety disorder 7 calc Total - Over hal if ([sc gad1] = 2, 2,0) + if ([sc gad2] = 2, 2,0) + if ([sc gad3] = 2, 2,0) + if ([sc gad4] = 2, 2,0) + if ([sc gad5] = 2, 2,0) + if ([sc gad6] = 2, 2,0) + if ([sc gad7] = 2, 2,0) generalized anxiety disorder 7 calc generalized anxiety disorder 7 calc Total - Nearly e if ([sc gad1] = 3, 3,0) + if ([sc gad2] = 3, 3,0) + if ([sc gad3] = 3, 3,0) + if ([sc gad4] = 3, 3,0) + if ([sc gad5] = 3, 3,0) + if ([sc gad6] = 3, 3,0) + if ([sc gad7] = 3, 3,0) generalized anxiety disorder 7 calc Total Score sum([sc_gad1],[sc_gad2],[sc_gad3],[sc_gad4],[sc_gad5],[sc_gad6],[sc_gad7]) 14 sc difficult generalized anxiety disorder 7 radio If you checked (0, Not difficult at all | 1, Somewhat difficult | 2, Very difficult | 3, Extremely difficult

You can even edit

branching, i.e. skip

Repeating instruments

- When you want to ask someone a question multiple times at one time point
 - Medications and doses
- When you want to collect data not necessarily tied to a visit
 - Hospitalizations, or counts of some outcome

Repeatable instruments and events

An excellent way to collect repeating data in REDCap is to use repeatable instruments and/or repeatable events. This is sometimes called one-to-many data collection. Some examples may include but are not limited to the following: data from multiple visits or observations, concomitant medications, adverse events, or repetitive surveys (daily, weekly, etc.).

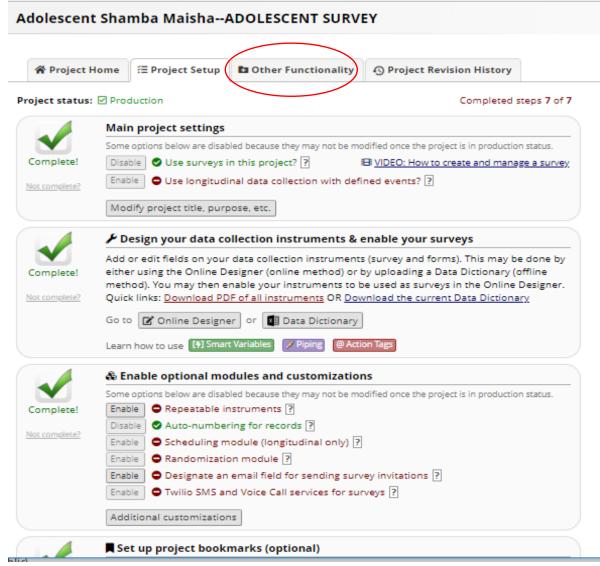
Below you can specify a data collection instrument or a whole event of instruments to be infinitely repeatable, in which each repeating instrument or event can be repeated a different number of times for each record. You may set any event in the project to be repeatable *or* alternatively set selected instruments to be repeatable within an event. The 'Repeat Entire Event' option means that all the event's instruments will repeat together and stay connected, whereas the 'Repeat Instruments' option implies that the instruments will repeat separately and independently from each other on that event. Once an instrument or event is set to repeat, you will see options on the Record Home Page to add another instance of the instrument/event for the currently selected record.

| | Event Name | Repeat entire event or selected instruments? | Instrument name (select instruments to repeat | Custom label for repeating instruments (optional) (a) Example: [visit_date], [weight] kg |
|---------|---------------------------------|--|--|--|
| 4 | Event 1 | Repeat Instruments (repeat ▼ | ☐ My First Instrument☐ Generalized Anxiety Disorde | r |
| | | not repeating Repeat Entire Event (repeat all in: | struments together) sorde | r |
| Visit 1 | Repeat Instruments (repeat inde | | | |

| _ | |
|------|--------|
| Save | Cancel |
| | |

Finalizing your project online

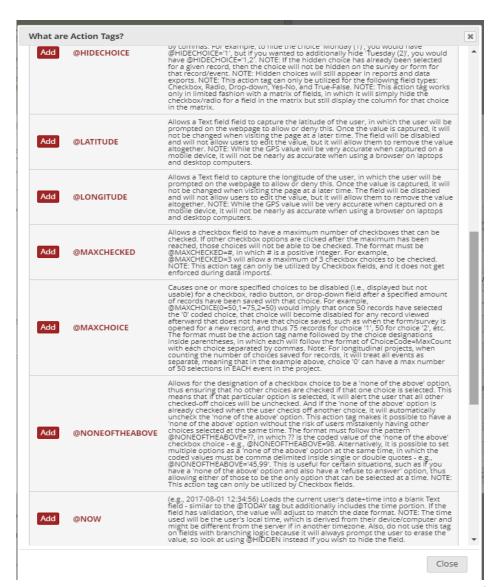
- REDCap walks you through the seven steps you should take to make your project "live"
- Pro tip:
 - Take snapshots of your measures as you develop them
 - Online designer tab, only while in draft mode
 - Save a backup version of your study once finalized
 - Other functionality→save copy



Action tags

Action tags are a powerful way to further refine and/or improve your instruments. Some of my favorites include:

- @NOW
 - For text box entry, enters current time and date
- @TODAY
 - For text box entry, enters current date
- @NONEOFTHEABOVE
 - For a select all question, also makes a non of the above which doesn't allow it to be selected simultaneously with one of the options
- @CHARLIMIT
 - Limits text box to your chosen length
- @HIDDEN my favorite!
 - Makes a question hidden
 - Can be used in conjunction with the @NOW to track survey times and to make sure it matches data collector entered @TODAY
 - Can track average survey times



Adding external collaborators to your project

- 1. Use this link: https://ucsf.service-now.com/ess/order accounts.do
- 2. Select the REDCap Request option.
- 3. On the second page of the form enter the person's name in the User 1 Name field. Select the appropriate person's name from the drop-down menu.
- 4. If the collaborator is non-UCSF select the "Check this box" option and complete the First Name, Last Name and Email fields. Ignore the UCSF ID field.





| Chi | eck this box if you cannot find the user name in the database. |
|-----------|--|
| * First N | lame |
| * Last N | lame |
| UCSF ID | |
| OCSF ID | |
| * Email | |
| _ | |

Additional REDCap Features

- Scheduling feature
- Record ID is REDCap made. For longitudinal studies, you may want to make a document linking it with your unique id.
- Data reports—especially useful if you code scale scores
- Data reports-most useful on forms with no skip patterns
- Data comparison tool

Resources

- https://projectredcap.org/wp-content/uploads/2016/08/In-Depth-Guide.pdf
- https://projectredcap.org/wp-content/uploads/2016/08/REDCap-Mobile-App-Guide.docx
- There are lots of youtube videos on Longitudinal modules and repeating measures which I highly recommend
- You can email me too: Lila.Sheira@ucsf.edu