

# Online Survey Design & Administration with REDCap - Part 2

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# Agenda

## Part 1

- What and why REDCap?
- Getting started
- Quick tour around REDCap
- Creating a REDCap project
  - Lab 1: Creating an account & project
- Creating a data instrument
  - Lab 2: Creating an instrument
- Creating reports and exporting data
  - Lab 3: Creating a report

## Part 2

- REDCap recap on instruments
- Collecting data from participants using surveys
- Inviting participants to one-time surveys
  - Lab 4: Creating a one-time survey
- Creating follow-up surveys
- Importing data into REDCap
  - Lab 5: Importing data into REDCap
- Project status: development vs. production
- Summary of other useful REDCap features

# Quick Recap

# Recap from last time

- REDCap is a rich web-based and research-oriented electronic data capture program
- A project is a self-contained container for your data; IOW a database in REDCap
- An instrument is a way to collect a set of related data
- A project would typically contain multiple instruments
- Synonyms for instrument are form and survey
- REDCap makes it easy to create projects and instruments

# Trial Account Expiration Woes and a Fix

- Since the Vanderbilt trial accounts are only good for a week, you may need to recreate your account to continue the labs
- If your account has vanished, follow these steps to get back to where you left off last time:
  1. Download **Class\_Part2\_Start\_DataDictionary.csv** from Part 2 class materials
  2. Redo Lab 1 from Part 1 class materials
  3. Click **Dictionary** on nav bar
  4. Click **Choose File** to grab the data dictionary in step #1
  5. Click **Upload File** to upload into your new project
  6. Click **Commit Changes** to commit the dictionary; you should be where you left off at Part 1

**What's a Survey in REDCap and how does it differ from an instrument?**

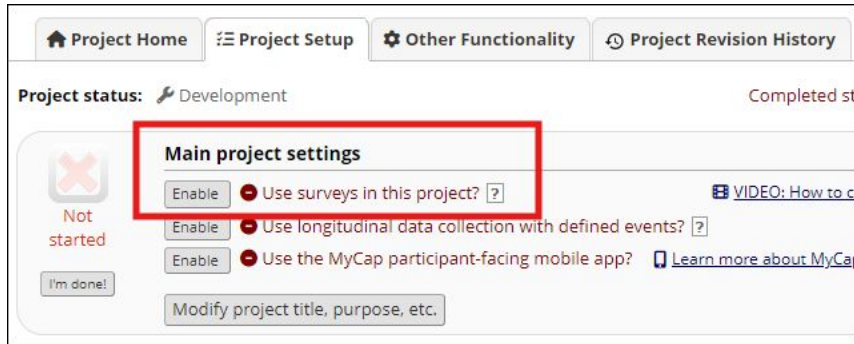
# Instruments used as forms

- Instruments, by default, can be used as data entry forms
- They can only be accessed by logged-in users of your project
- Often you would like an instrument be be completed by a study participant or another person who is not a logged-in user
- You can do this by enabling an instrument to be used as a [survey](#)

# Understanding surveys

- A survey is an instrument that is enabled so it can be taken by a participant (i.e., a user who is not logged-in to REDCap)
- There are two steps to using surveys:

1. Enable surveys for the project (*only need to do once*)



The screenshot shows the 'Project Setup' page in REDCap. The 'Project status' is 'Development'. Under 'Main project settings', there are three toggle switches, all currently turned off (indicated by a red circle with a white dot). The first toggle is 'Use surveys in this project?'. A red box highlights this toggle and its label. Other toggles include 'Use longitudinal data collection with defined events?' and 'Use the MyCap participant-facing mobile app?'. There is also a 'Modify project title, purpose, etc.' button.

2. Using the Online Designer, click Enable under the Enabled as survey column for each instrument that you wish to be used as a survey



The screenshot shows the 'Data Collection Instruments' page. It features a table of instruments and several control buttons. A red box highlights the 'Enabled as survey' column in the table, which contains a green 'Enable' button for the 'Transportation Questionnaire' instrument.

Instrument name	Fields	View PDF	Enabled as survey	Instrument actions	Survey relate
Transportation Questionnaire	7		<input type="button" value="Enable"/>	Choose action ▾	




# Survey settings


- Once enabled, surveys settings control how the instrument looks and behaves when taken as a survey









+ Set up my survey for data collection instrument "Transportation Questionnaire" Save Changes Cancel














**Survey Status** ✔ Survey Active ▼ If offline, respondents will not be able take the survey.  
Custom text to display on survey page when offline: Add offline message

**Basic Survey Options:**

 **Survey Title** Transportation Questionnaire  
Title to be displayed to participants at the top of the survey page

 **Survey Instructions**  
*(Displayed at top of survey after title)*

Paragraph ▼ — **B** *I* U        

**Please complete the survey below.**  
Thank you!

# Multi-page surveys

- You can use the Pagination setting to create multi-page surveys

**Survey Customizations:**

**☰ Question Numbering**  
*For custom numbering, each question's number will be blank by default until manually added via the Online Designer or Data Dictionary.*

Custom numbered ▾

Question numbers will not display correctly if using auto numbering if some questions auto numbering has been automatically disabled because some of your survey questions

**📄 Pagination**  
*One page or multiple pages? Section headers, which begin new sections on the instrument, will serve as the page break in a multi-page survey, in which each page will begin with a section header.*

Multiple pages (display one section per page) ▾

Display page numbers at top of survey page

Hide the 'Previous Page' button (i.e., Back button) on the survey page  
(prevents respondents from going back to previous pages)

- Use Begin New Section fields to add page breaks to a survey

# Types of Surveys

# Types of Surveys

## One-time?

- Surveys can be classified by the way you administer them and whether the participant is known (identified) or unknown (anonymous)

## One-time

**1. Surveying anonymous participants**

## One-time

**2. Surveying a set of participants w/only contact info** (email, mobile phone #)

## Follow-up

**3. Sending follow-up surveys to existing participants**

## Invited via...

URL

Pt List

REDCap data

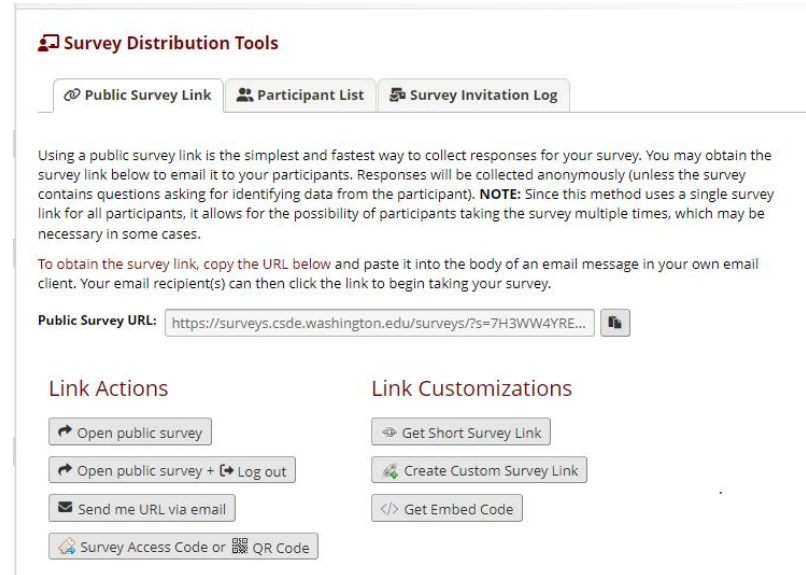
# One-time Surveys

# One-time Surveys

- Surveys would normally be the only instrument in the project
- They can be invited either via...
  - **A generic URL** that is advertised via poster, snail mail, or generic email.  
The survey taker remains **anonymous**
  - **A participant list that contains either the email or mobile phone of person.**  
Each participant gets a custom URL that allows you to track their response.  
They are **no longer anonymous** (but you separate out and discard their contact info).

# Anonymous Surveys

- Once you have enabled surveys for the project, **Survey Distribution Tools** appears under Data Collection in the left-hand nav bar
- Click on Survey Distribution Tools to Get to the **Public Survey Link** tab and the **Public Survey URL** box.




**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:**  

**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

# One-time non-anonymous Surveys using Pt Lists

- The email address / phone number can come from a Participant List (found under **Survey Distribution Tools: Participant List** tab)
- If you wish to use SMS (texting to mobile phone #), there is an extra charge to hook up your account to Twilio (but the charges are pretty small unless you are texting to tens of thousands)
- While you can't import the list, you can copy and paste it from another source into the Add Emails box

The screenshot shows a web interface for managing a participant list. At the top, it says "Participant List" belonging to "[Initial survey] 'Transportation Questionnaire'". There are buttons for "Add participants" and "Compose Survey Invitations". A modal dialog box titled "Add Emails to Participant List" is open in the foreground. It contains a text area with the following email addresses: "joe.smith@xmail.com" and "alicia.jones@ymail.com". Below the text area, it says "Each participant starting on a new line". At the bottom of the dialog, there are "Add participants" and "Cancel" buttons. In the background, a table header is visible with columns: "Email", "Record", "Participant Identifier", "Responded?", "Invitation Scheduled?", "Invitation Sent?", "Link", and "Survey Access Code and QR Code".



# How to invite pt list participants to a survey

- You use **Compose Survey Invitations** (found under Survey Distribution Tools)
- Let's take a look at a sample project: **Transportation - Pt List**

# Lab 4: Working with Surveys and Participants

- In this lab you will enable the instrument you created in the last lab to be a survey, you will modify it's design slightly and configure the survey.
- Then you will take the survey (as a participant) two different ways.

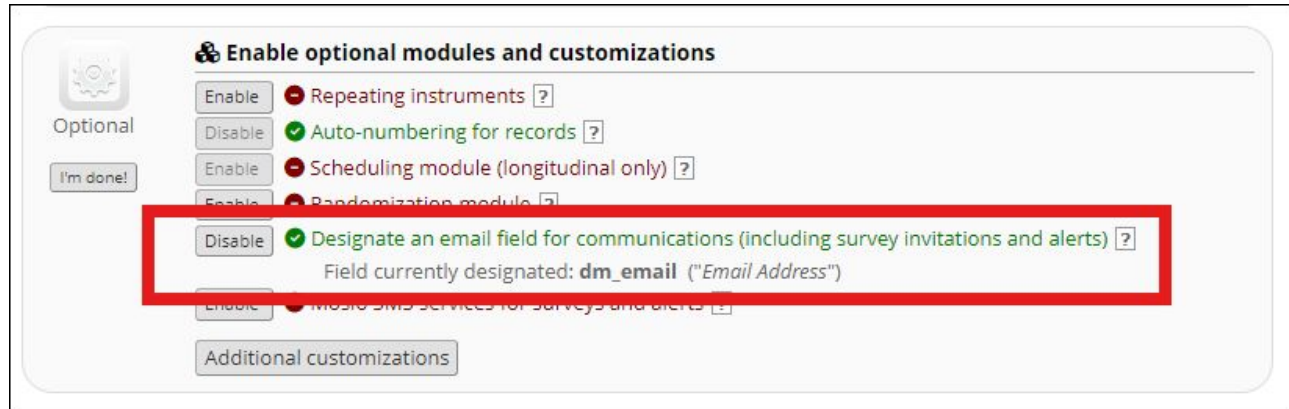
# Follow-up Surveys

# Contrasting *one-time* surveys with *follow-up* surveys

- We either used a generic URL or a participant list to invite participants
- Note that the participant list does not become part of the REDCap record. It is kept at arm's length to your data so that it is easy to keep the collected data anonymous if desired
- Contrast this with a follow-up survey, which by its very nature requires you to contact again a participant with existing data. Thus, they can't be anonymous

# Follow-up surveys

- You collect the contact info to be used to invite study participants using data that you have either data-entered or collected via an earlier survey, designating an email field on a previously completed instrument in the same project
- You designate the email field for the invite using the **“Enable optional modules and customizations”** section of **Project Setup**



# Two ways to invite participants to a follow-up survey

1. In batches via **Compose Survey Invitations** (found under Survey Distribution Tools)
2. Automatically based on the completion of another instrument using **Automated Survey Invites (ASIs)**
  - a. This option makes it easy to automatically invite participants to complete a follow-up survey on a rolling enrollment basis

# Using Compose Survey Invitations

- Same steps as for anonymous surveys, except
- First select the target survey before clicking Compose Survey Invitations, like so...

Survey Response Status: Not Anonymous ?

Participant List belonging to **[Initial survey] "Demographic Survey"** Remove all participants

Displaying 1 - 1 of 1 **[Initial survey] "Demographic Survey"** **"Transportation Survey"** Export list

Email	Record	Participant Identifier	Responded?	Invitation Scheduled?	Invitation Sent?	Link	Survey Access Code and QR Code
plitwin@uw.edu	1	<span>Enable</span> Disabled		-			

# Using Automated Survey Invites (ASIs) - 1 of 3

1. From Online Designer's Data Collection Instruments page, click on Automated Invitations button next to the target survey

The screenshot displays the REDCap Online Designer's Data Collection Instruments page. At the top, there are three buttons: '+ Create' (a new instrument from scratch), 'Import' (a new instrument from the official REDCap Instrument Library), and 'Upload' (instrument ZIP file from another project/user or external libraries). To the right, there are several dropdown menus: 'Form Display Logic', 'Survey Queue', 'Auto Invitation options', and 'Survey Login'. Below these is a 'Survey Notifications' button.

Instrument name	Fields	View PDF	Enabled as survey	Instrument actions	Survey related options
Demographic Form	4			Choose action ▾	Survey settings  Automated Invitations
Transportation Questionnaire	6			Choose action ▾	Survey settings  Automated Invitations

The 'Automated Invitations' button for the 'Transportation Questionnaire' is highlighted with a red box.



# Using Automated Survey Invites (ASIs) - 2 of 3

## *Conditions for ASIs dialog*

STEP 1: Compose message, including outbound email address, subject, and body of email

**Define Conditions for Automated Survey Invitations (ASI)**

In this pop-up you may define your conditions for automated survey invitations that will be sent out for the survey

**Activate automated invitations for this survey?**  
**Survey title:** Transportation Survey

"Active" must be selected in order for automated survey invitations to be triggered and sent using the conditions specified in this popup. You may make it Not Active (and vice versa) at any point in the future. ?

Active  Not Active

**STEP 1: Compose message**

**From:** Transpo Study  (select any project user to be the 'Sender')

**To:** [All participants who meet the conditions defined]

**Subject:**

Send text email

Paragraph **B** *I* U **A**

Please take this survey.

You may open the survey in your web browser by clicking the link below:  
[survey-link]

If the link above does not work, try copying the link below into your web browser:  
[survey-url]

This link is unique to you and should not be forwarded to others.

**NOTE:** You may modify or remove any text you wish in the Compose Message text box above. Make sure you include either [survey-link] or [survey-url] in the text or else the participant will not have a way to take the survey.

[How to use Piping in the survey invitation](#) Reminder: Never pipe private info (e.g., PI, PHI) into emails.

# Using Automated Survey Invites (ASIs) - 3 of 3

## *Conditions for ASIs dialog*

STEP 2: Specify triggering conditions (completion of an prior survey and/or logical condition)

STEP 3: When to send (immediately or after a delay)

OPTIONAL: Enabling reminders

Be aware that only newly completed triggering surveys/logic will cause the ASI to be sent. Old records will not be included.\*

**▼ STEP 2: Conditions**

**Specify conditions for sending invitations:**

When the following survey is completed:  
"Demographic Survey" [Demographic Form]

AND

When the following logic becomes true:  
[dm\_email] <> ""  
(e.g., [age] > 30 and [sex] = "1")

[How do I use special functions?](#)

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

Ensure logic is still true before sending invitation? [?](#)

[How to use "stop logic" to disable an automated invite](#)

**🕒 STEP 3: When to send invitations AFTER conditions are met**

Send immediately

Send on next -- select day -- at time [ ] H:M

Send the invitation after time lapse of [ ] days [ ] hours [ ] minutes

Send at exact date/time: [ ] Y-M-D H:M

**🔔 OPTIONAL: Enable reminders**

Re-send invitation as a reminder if participant has not responded by a specified time? (Times below refer to AFTER original invitation time.)

Send every Tuesday at time 09:01 H:M

Send every [ ] days [ ] hours [ ] minutes

Send at exact date/time: [ ] Y-M-D H:M

- AND -

Recurrence: Send up to 3 times

Save Save & Copy to... Cancel

# Importing Data into REDCap

# Importing Data - 1 of 3

- Sometimes you want to bring data into REDCap that was collected elsewhere
- The instrument(s) where the data will go have to be already created
- Click [Data Import Tool](#) under [Applications](#)
- You need to get the field names exact; downloading the Data Import Template makes this easy

# Importing Data - 2 of 3

- You do not need to include all the fields in your project in the import but you must include the record\_id field
  - You can import data across multiple instruments at same time
- Imported records can add new records and/or update existing records
- You can optionally overwrite existing fields with blanks
- You can change the field delimiter (choices: comma, tab, semicolon)
- If your imported data is very large (> 100-200 records), you can use background import

## Importing Data - 3 of 3

- After clicking **Upload File**, REDCap will read each record and show you a preview of the imported data
- After viewing the preview, you must click **Import Data** to actually import the data into the project

# Project Status

# Project Status

- All projects start out in the **Development status**
  - Development projects can be freely edited
  - Use this status prior to collecting real data
- Production status
  - From the Project Setup page, scroll to the bottom to **Move your project to production status**
  - Once in production status, extra safeguards are put in place
    - Updates to design, require entering draft mode where you can safely draft your changes while existing users/participants still see the old design until those changes are submitted (finalized)
    - REDCap automatically keeps copies of your data dictionary and prevents you from making destructive changes





# Other REDCap Features

# Longitudinal Projects

- If you need to collect data at multiple timepoints, you can enable longitudinal data collection in Project Setup

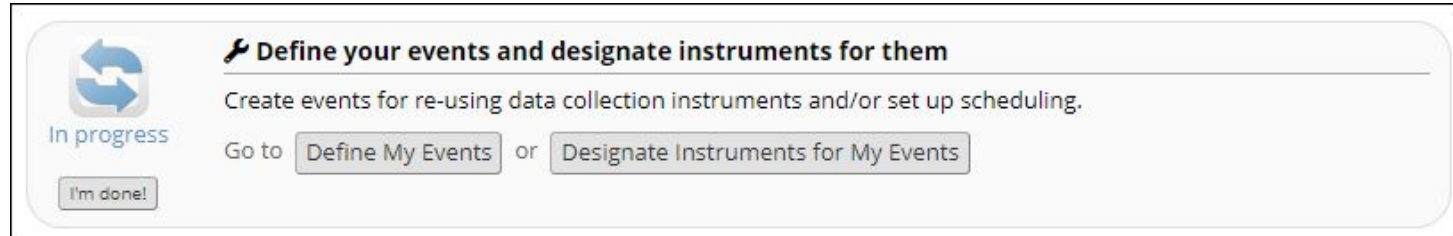
The screenshot shows the 'Project Setup' page for a project titled 'Test Project for Workshop' (PID 33). The page has a navigation bar with buttons for 'Project Home', 'Project Setup' (which is active), 'Other Functionality', 'Project Revision History', and a link to 'Edit Project Settings'. Below the navigation bar, the project status is 'Development' and it shows 'Completed steps 0 of 7'. The main content area is titled 'Main project settings' and contains several toggle switches:

- 'Use surveys in this project?' with an 'Enable' button and a help icon. A video link 'VIDEO: How to create and manage a survey' is provided.
- 'Use longitudinal data collection with defined events?' with an 'Enable' button and a help icon. This line is highlighted in yellow.
- 'Use the MyCap participant-facing mobile app?' with an 'Enable' button and a link to 'Learn more about MyCap'.
- A button to 'Modify project title, purpose, etc.'

On the left side of the 'Main project settings' section, there is a status indicator: a red 'X' icon, the text 'Not started', and a button labeled 'I'm done!'.

# Longitudinal Projects

- Once enabled, you configure your timepoints by...
  - Defining events
  - Designating instruments for events



The screenshot shows a user interface for configuring longitudinal projects. On the left, there is a blue circular icon with two arrows forming a loop, with the text "In progress" below it. Below the icon is a button labeled "I'm done!". To the right of the icon, the heading "Define your events and designate instruments for them" is displayed in bold, with a wrench icon to its left. Below the heading is a horizontal line, followed by the text "Create events for re-using data collection instruments and/or set up scheduling." Below this text are two buttons: "Define My Events" and "Designate Instruments for My Events", separated by the word "or".

- Once you do this, data dashboard will change to show all the events (see next slide)

# Longitudinal Projects

- Example of a data dashboard in longitudinal project with 4 events

Dashboard displayed: [Default dashboard] ▼

Displaying record Page 1 of 1: "1" through "1" ▼ of 1 records

[+ Add new record](#)

**Displaying:** [Instrument status only](#) | [Lock status only](#) | [All status types](#)

Record ID	Baseline		Week 1	Week 2	Week 3
	Demographics	Lab Values	Lab Values	Lab Values	Lab Values
<a href="#">1</a>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

# Security

- REDCap allows you to grant security at a very fine grain per user or role (groups of users)
- Can also use Data Access Groups (DAGs) to segment data per sites

# Other Capabilities

- Randomization support
- Auto-numbering for records
- Rich automated logging (i.e., audit trail) of all data entry, schema changes, etc
- Support for field comments (to note special circumstances or something to come back to)
- Rich expression language you can use for branching logic, report filtering, calculations, logic to control alert and automated survey emails
- Support for two mobile REDCap Apps - REDCap Mobile (for staff) and MyCap (for pts)
- *And lots more...*

# Summary & Next Steps

# Summary

- REDCap is a rich web-based and research-oriented electronic data capture program
- REDCap is easy to get started with but will also grow with you as you get more comfortable with it
- Lots of features; many which we learned how to use
  - Online designer
  - Surveys
  - Survey invite tools
  - Reports
  - Imports
  - Project Status
  - Audit trail
  - Mobile options



# Next Steps

- More training - UW's ITHS has more advanced classes [iths.org/investigators/services/bmi/redcap/curriculum](https://iths.org/investigators/services/bmi/redcap/curriculum)
- Inquiring about a REDCap account
  - ITHS: goto [iths.org/investigators/services/bmi/redcap](https://iths.org/investigators/services/bmi/redcap)
  - CSDE: send email to [csde\\_help@uw.edu](mailto:csde_help@uw.edu)
  - Or contact REDCap admin at your institution
- Now go out and collect some data using REDCap