

Longitudinal Projects in REDCap

Consider these 3 questions:

1. Will you be collecting the same data multiple times over time throughout the project?
2. Is this a structured study where participants will have a definite amount of visits over a defined period time?
3. How do you want your data to look when you export them?

Question #1: Will you be collecting the same data multiple times overtime throughout the project?

If you will be asking the same questions over a period of time, you may want to consider using the longitudinal module.

In this project, the “Monthly Clinical Data” questionnaire would be asked during all four visits/events of the study so the longitudinal study module was a good fit for this project. If the longitudinal module were not used, the fields/questions on this questionnaire would have needed to be created four times in the online designer or data dictionary in order to allow for these data to be collected.

Study ID 1 Hall, Timothy

Data Collection Instrument	Baseline (1)	Month 1 (2)	Month 2 (3)	Month 3 and Final Visit (4)
Demo Demographics Form (survey)	<input checked="" type="radio"/>			
Monthly Clinical Data (survey)	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Completion Data				<input checked="" type="radio"/>

The questions on the “Monthly Clinical Data” instrument needed to be collected during all four visits/events

Question #2: Is this a structured study where participants will have a definite amount of visits over a defined period time?

- Longitudinal projects are best used for studies that are very structured and don't go on indefinitely.
- This is especially the case when the Longitudinal module is used in conjunction with the Scheduling feature.
- All events are created and defined during project development. Once a project has been moved into "Production Mode" longitudinal events cannot not be created or redefined without the assistance of a REDCap administrator.

Question #3: How do you want your data to look when you export them?

In the **traditional data collection model**, each project record is stored independently as a separate row of data, which can be seen when exported.

Below shows a spreadsheet of data for sleep variables that were collected at four time points. The sleep variables needed to be created four times within the REDCap project. Thus, each sleep variable has its own column in the data export.

Notice that the same sleep variables were repeated four times for each event

	A	D	E	K	M	N	T	V	W	AC	AE	AF	AL
	record_id	asleep	asleep	complete	asleep_2	asleep_2	insomnia_severity_index_c	asleep_3	asleep_3	insomnia_severity_index_c	asleep_4	asleep_4	insomnia_severity_index_c
1	1	2	0	2	2	1	2	2	0	2	2	0	2
2	2	1	1	2	1	1	2	1	1	2	1	1	2
3	3	3	2	2	3	2	2	3	2	2	3	2	2
4	4	1	0	2	1	0	2	1	0	2	1	0	2
5													
6													
7													

Notice that there is one row for each record

Question # 3 How do you want your data to look when you export them? *(cont.)*

For **longitudinal projects**, each row of data actually represents that particular time-point (event) per database record.

For example, if four events are defined for the project, one record will have four separate rows of data when exported. The data export will include a column "redcap_event_name" indicating the unique event name for each row.

This question in particular should be discussed with the statistician or the person carrying out the data analysis.

	A	B	E	F	L
1	record_id	redcap_event_name	falling_asleep	staying_asleep	insomnia_severity_index_complete
2	1	baseline_arm_1	2	0	2
3	2	baseline_arm_1	1	1	2
4	3	baseline_arm_1	3	2	2
5	4	baseline_arm_1	1	0	2
6	1	visit_1_arm_1	2	1	2
7	2	visit_1_arm_1	1	1	2
8	3	visit_1_arm_1	3	2	2
9	4	visit_1_arm_1	1	0	2
10	1	visit_2_arm_1	2	0	2
11	2	visit_2_arm_1	1	1	2
12	3	visit_2_arm_1	3	2	2
13	4	visit_2_arm_1	1	0	2
14	1	final_arm_1	2	0	2
15	2	final_arm_1	1	1	2
16	3	final_arm_1	3	2	2
17	4	final_arm_1	1	0	2
18					

Notice that the same sleep variables are only displayed once in the spreadsheet

Notice that there are multiple rows for each record

This column indicates the unique event name

Longitudinal Setup

Enabling longitudinal data collection will allow you to use the same form or survey at multiple events. For instance, you may create a demographics form which you will use at Baseline but then a questionnaire that you may want to use at V1, V2, and V3. If there is one form or survey that will be used multiple times for a participant, you would want to enable longitudinal data collection use.

When you enable the longitudinal data collection, you will have a step on your project setup screen that will allow you to define your events and then designate the forms you will be using at each event.

Click enable if you want a longitudinal database



When enabling longitudinal data collection, you will see this as an option. You must define your events and then designate the instruments at each event.



The screenshot shows the 'Project Setup' tab in REDCap. At the top, there are navigation buttons for 'Project Home', 'Project Setup', 'Other Functionality', and 'Project Revision History'. Below these, the project status is 'Development' and 'Completed steps 0 of 8'. The 'Main project settings' section is highlighted with a red box. It contains a 'Use longitudinal data collection with repeating forms?' checkbox which is checked. Other options include 'Use surveys in this project?' (unchecked) and a video link 'VIDEO: How to create and manage a survey'. Below this is the 'Design your data collection instruments' section, which is also highlighted with a red box. It includes instructions on how to add or edit fields and provides links to 'Download PDF of all data collection instruments' and 'Download the current Data Dictionary'. At the bottom is the 'Define your events and designate instruments for them' section, which is also highlighted with a red box. It includes instructions on how to create events and designate instruments.









Define your Events and Designate Instruments

After you have defined your events, you must designate instruments for events. Check the boxes where you want each form to appear. If you do not check a box for a form, it will not appear when you are entering data. Each form must be attached to at least one event.

Upload or download arms/events

Arm 1: Arm 1 +Add New Arm

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

	Event #	Event Name	Unique event name (auto-generated)
 	1	Baseline	baseline_arm_1
 	2	Month 1	month_1_arm_1
 	3	Month 2	month_2_arm_1
 	4	Month 3 and Final Visit	month_3_and_final_arm_1

Add new event

Descriptive name for this event

Define your Events:

- Title the Event
- Create multiple arms if your project requires this



Designate Instruments for Events:
Select which Data Collection Instrument is used at each Event



Begin Editing Save Select All | Deselect All

Data Collection Instrument	Baseline (1)	Month 1 (2)	Month 2 (3)	Month 3 and Final Visit (4)
Demo Demographics Form (survey)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Monthly Clinical Data (survey)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Completion Data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>