





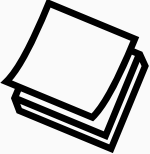

REDCap: An overview

Research data collection & surveys with REDCap

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Dr Sarah Hopkins (University of Auckland)**

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What to expect from this session

	Take the amazing ResBaz REDCap survey	(<5 mins)
	Brief overview of REDCap (Sarah)	(15 mins)
	Longitudinal data & repeated measures (Jonathan)	(35 mins)
	Questions!	

Let's get started with a survey!

Scan the QR code



OR

1. Go to:

<https://redcap.auckland.ac.nz/surveys/>

2. Enter the code:

FPTWEK4JH

What is REDCap?



REDCap is a secure web application designed to support online surveys and databases for research studies.

With REDCap, you can:

- Enter data online/offline
- Design and distribute surveys
- Collect and then de-identify participant information
- Track data entry and revision history
- Export data to common formats and software for analysis and preservation

When is REDCap useful?



Ideal for sensitive research data, including personally identifiable data
***Consent *Online surveys *Multi-site studies *Clinical trials**

Advantages of REDCap:

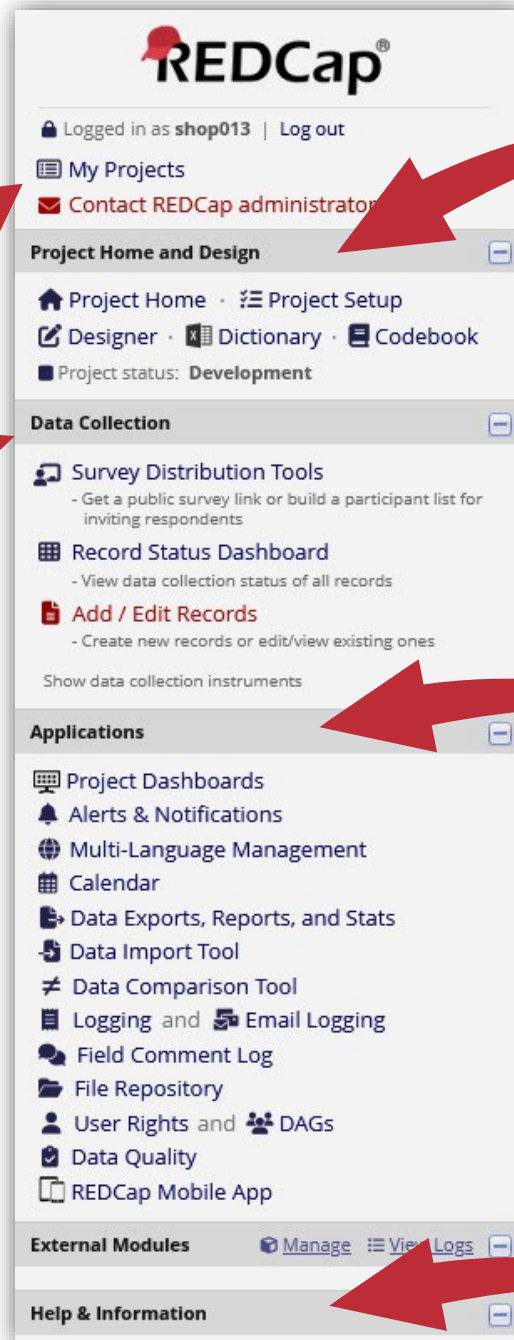
- Easy to learn and use, with helpful instructional videos
- Customisable workflow that lets you decide **who has access to what** and **how much access and control they have**
- Web-based access, online/offline data collection, access for multi-site collaborations
- Consistent and accurate data entry, data quality checks
- Data are stored securely, backed up and software maintained
- Enables data sovereignty obligations

Navigating REDCap

My Projects

Data Collection

- Record Status Dashboard
- Add / Edit Records
- (Survey Distribution Tools)



Project Home & Design

- Project Home | Project Setup
- Designer | Dictionary | Codebook
- Project Status (development / testing / production)

Applications

- Project Dashboards
- Data Exports, Reports and Stats
- Logging
- File Repository
- User Rights and DAGs

Help & Information

Designing forms & surveys



The **Online Designer** enables users to create & modify data collection instruments (forms & surveys).

Key features:

- A **data collection instrument** contains a group of fields
- All **Fields** are described by **attributes**
- The **REDCap shared library** contains pre-formatted instruments curated by Vanderbilt University
- The **Data dictionary** enables bulk editing of fields within your project
- The **Codebook** is a read-only version of the Data Dictionary for quick reference
- Each instrument starts as a **Form** but can become a **Survey**

Additional features



Key features:

- Use **Branching logic** to hide fields/questions and to collect data from a subset of participants
- Use **Calculated fields** to create a new field from existing data (using syntax)
- Use **piping** to personalise survey responses (e.g., Kia ora [first_name])
- **Survey features:**
 - anonymous or send participants a link and track completion
 - optional text-to-speech
 - participants can download a PDF of their responses
- Use a **Project dashboard** to share dynamic content

https://redcap.auckland.ac.nz/surveys/index.php?_dashboard=XY9TNLL7X3A

Project status



Create your project in **development** and use the pre-configured checklist before moving to **production**.

1. Use the checklist on Project Setup

The screenshot shows the 'Project Setup' tab in REDCap. At the top, there are navigation tabs: 'Project Home', 'Project Setup', 'Other Functionality', and 'Project Revision History'. Below the tabs, the 'Project status' is set to 'Development' and 'Completed steps 0 of 7' are shown. The main content area contains two checklist items, both marked 'Not started' with a red 'X' icon and an 'I'm done!' button.

Main project settings

- Disable Use surveys in this project? [VIDEO: How to create and manage a survey](#)
- Enable Use longitudinal data collection with defined events? [?](#)
- Enable Use the MyCap participant-facing mobile app? [Learn more about MyCap](#)

Modify project title, purpose, etc.

Design your data collection instruments & enable your surveys

Add or edit fields on your data collection instruments (survey and forms). This may be done by either using the Online Designer (online method) or by uploading a Data Dictionary (offline method). You may then enable your instruments to be used as surveys in the Online Designer. Quick links: [Download PDF of all instruments](#) OR [Download the current Data Dictionary](#)

Go to [Online Designer](#) or [Data Dictionary](#) Explore the [REDCap 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](#)

2. Move project to production

Not started

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](#)

3. Mark as completed

Project Status Management

Development (current) → Production → Analysis/Cleanup

Mark project as Completed

If you are finished with a project and wish to make it completely inaccessible, you may mark the project as 'Completed'. Doing so will take it offline and remove it from everyone's project list, after which it can only be seen again by clicking the *Show Completed Projects* link at the bottom of the *My Projects* page. [Read more](#)

Entering data



A record (participant) can have data or responses across more than one data collection instruments.

Key features:

- Use **Add / Edit Records** to enter data

+ Add new record

- **Record Status Dashboard** displays all existing records/responses
 - A legend shows current record status
 - Field entries are logged, so you can see a history of any changes

Record ID	Baseline		4 Weeks	8 Weeks	6 Months
	Form 1	Exercise baseline	Exercise baseline	Exercise baseline	Exercise baseline
1	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
2	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
3	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
4	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
5	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
6	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
7	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
8	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
9	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
10	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
11	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Design vs. Data Entry



Design mode

The ResBaz REDCap Survey P1D 3139

Project Home Project Setup Online Designer Data Dictionary Codebook

VIDEO: How to use this page Create snapshot of instruments Last snapshot: never

This page allows you to build and customize your data collection instruments one field at a time. You may add new fields or edit existing ones. New fields may be added by clicking the **Add Field** buttons. You can begin editing an existing field by clicking on the **Edit** icon. If you decide that you do not want to keep a field, you can simply delete it by clicking on the **Delete** icon. To reorder the fields, simply **drag and drop** a field to a different position within the form below. NOTE: While in development status, all field changes will take effect immediately in real time.

Return to list of instruments Survey settings

Current instrument: ResBaz REDCap Survey Preview instrument

Variable: record_id * This field will NOT be displayed on the survey page. * You should NOT use identifiers (e.g., MRN, SSN) for the record ID field.

Record ID

NOTE: The field above is the record ID field and thus cannot be deleted or moved. It can only be edited.

Add Field Add Matrix of Fields Import from Field Bank

Variable: location

Where are you watching this session from? * must provide value

- North Island (Te Ika-a-Māui)
- South Island (Te Waipounamu)
- Australia
- Somewhere else on Planet Earth
- None of your business

Add Field Add Matrix of Fields Import from Field Bank

Variable: location_north Branching logic: [location]=1

Where in the North Island (Te Ika-a-Māui) are you located? * must provide value

- Auckland (Tāmaki-makau-rau)
- Hamilton (Kirikiriroa)
- Wellington (Te Whanganui-a-Tara)
- Somewhere even better...

Add Field Add Matrix of Fields Import from Field Bank

Variable: location_south Branching logic: [location]=2

Where in the South Island (Te Waipounamu) are you located today? * must provide value

- Christchurch (Ōtautahi)
- Dunedin (Ōtepoti)
- Somewhere warmer...
- Somewhere frostier...

Add Field Add Matrix of Fields Import from Field Bank

Variable: australia_response Branching logic: [location]=3

That's too bad... Just kidding, we love our friends in the West Island of NZ!

Data entry mode

The ResBaz REDCap Survey P1D 3139

Actions: Modify instrument Download PDF of instrument(s) Video: Basic data entry

ResBaz REDCap Survey

Adding new Record ID 5.

Record ID 5

Where are you watching this session from? * must provide value

- North Island (Te Ika-a-Māui)
- South Island (Te Waipounamu)
- Australia
- Somewhere else on Planet Earth
- None of your business

Have you used REDCap before? * must provide value

- Yes
- No

Do you have access to a REDCap instance in your organisation / institution in ____? * must provide value

- Yes
- No

How excited are you to learn new REDCap skills today? * must provide value

0: not excited at all 5: moderately excited 10: the MOST EXCITED!

Change the slider above to set a response

Please share a little about you for our attendees today...

Which of these best describes your current research role? * must provide value

- Postgraduate research student
- Researcher - managing research data
- Research technician or assistant - collecting and/or processing research data
- Other

Which of these disciplines do you identify with? * must provide value

- Business
- Engineering
- Humanities (Arts, Education, Law)
- Medical and Health Sciences
- Sciences
- Something else

Enter a date that may (or may not) be your date of birth... * must provide value

Today D-M-Y

Age View equation

Form Status

Complete? Incomplete

Save & Exit Form Save & ...

- Cancel -

User Rights and Permission



- You can **add a user** to your project that has an account at your workplace.
- Best practice is to create roles and then assign new users to a role (vs. assigning a user without a role).
- A **Role** allows you to manage rights and permissions to a group of people who need the same level of access (e.g., study coordinator, data entry).
- Data Access Groups (DAGs)** limits user access to a group of records.

Upload

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

Add new user

— OR —

Assign new user to role

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

Enter new role name

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

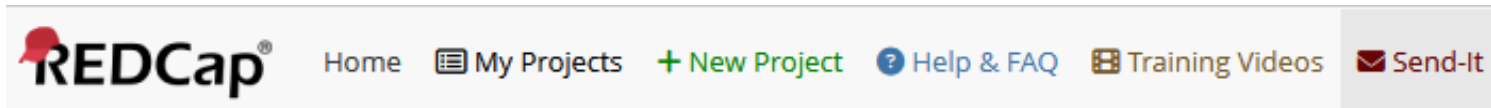
Role name <small>(click role name to edit role)</small>	Username or users assigned to a role <small>(click username to edit or assign to role)</small>	Expiration <small>(click expiration date to edit)</small>	Project Design and Setup	User Rights	Data Access Groups	Data Viewing Rights	Data Export Rights	Alerts & Notifications	Reports & Report Builder	Stats & Charts	Survey Distribution Tools
—	shop013 (Sarah Hopkins)	never	✓	✓	✓	1 View & Edit	1 Full Data Set	✓	✓	✓	✓
Data Entry	[No users assigned]		✗	✗	✗	1 View & Edit	1 Full Data Set	✗	✓	✓	✗
Project Manager	[No users assigned]		✓	✓	✓	1 View & Edit	1 Full Data Set	✓	✓	✓	✓

What else can REDCap do?



Key features:

- Randomisation
- SMS
- Mobile App
- MyCap
- External Modules
- API
- Secure file sharing



Send-It

From: s.hopkins@auckland.ac.nz

To: (recipient emails)

Separate email addresses with commas, semi-colons, or line breaks

Email subject: (optional)

Email message: (optional)

Expiration: 3 days Specify the time after which the file will no longer be accessible for download

Select a file: Browse... No file selected.
(Max file size: 1024 MB)

Receive confirmation?
Get an email notification informing you when your file has been downloaded by each recipient.

Send It!

Getting help

 [Contact REDCap administrator](#)



- REDCap has built-in help on the Project Setup page and Online Designer
- Click on the Contact REDCap administrator link to send a question
- Search online and through REDCap for tutorial videos
- Many organisation offer services to create and manage complex databases and trials (usually on a cost-recovery fee basis)



dataservices@auckland.ac.nz

<https://www.healthresearchplatform.auckland.ac.nz/>

Next up



Longitudinal data and repeated measures