

Australian Diabetes Clinical Quality Registry (ADCQR)
Research Electronic Data Capture (REDCap)
Data Entry Manual

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Abbreviations

ANDA	Australian National Diabetes Audit
ADCQR	Australian Diabetes Clinical Quality Registry
CRF	Case Report Form
eCRF	electronic Case Report Form
ID	Identification
REDCap	Research Electronic Data Capture
SSO	Single Sign-On
URL	Uniform Resource Locator

1. REDCap: Research Electronic Data Capture

1.1 About REDCap

REDCap is a secure web application for building and managing online surveys and databases electronically. REDCap was created in 2004 at Vanderbilt University^{1,2}. Use of the REDCap system is governed by an End User Licence Agreement between Monash University and Vanderbilt University. The REDCap application (database and web server) are hosted at Monash University. All communication between client (user's browser) and server (registry system) occurs on secure channel, commonly referred to as Secure Sockets Layer (SSL). SSL ensures that all data is encrypted by a private key on the server before it is sent on a wire to the client where it is decrypted by a public key. This ensures the data are not compromised in transit. The ADCQR database has been developed in REDCap to assist participating sites with real-time electronic data capture.

2. Accessing the ADCQR Database

2.1 REDCap Access Request

To obtain access to the ADCQR database, site coordinators are required to provide the ADCQR Coordinating Centre with the following details of staff members who will be collecting data:

- Site name
- Site ID
- First name
- Surname
- E-mail address

An 'ADCQR (YYYY) REDCap Staff Access Form' excel template is provided.

Each staff member at each site will be provided with an individual user account and will only be able to see patients from their site.

2.2 REDCap Access Granted

Monash University's REDCap login process was updated in 2023 to make it more secure, where SSO/OKTA was implemented.

Depending on your email address, you will use different types of authentication options.

When your account has been created, you will receive an e-mail from redcap@monash.edu with links and instructions on how to sign in.

For additional support and troubleshooting, refer to the Helix REDCap SSO Sign In instructions.

Dear <<firstname>>

[This message was automatically generated by Monash University REDCap]

You have been given access to log in into Monash REDCap at [https://uridefense.com/v3/_https://redcap.helix.monash.edu__!INDYExDT0u85Sd4T4tpUWpQNLmpVRf6MTkhRHJgKW-suEhouUyBibRkG80OwV9YBUCLY3CPbJERTLVFIMpG3hDN7r-75o8mo7upy5\\$](https://uridefense.com/v3/_https://redcap.helix.monash.edu__!INDYExDT0u85Sd4T4tpUWpQNLmpVRf6MTkhRHJgKW-suEhouUyBibRkG80OwV9YBUCLY3CPbJERTLVFIMpG3hDN7r-75o8mo7upy5$).

Please note that your account is linked to the email address [<<email_address>>].

Monash REDCap is using Multi Factor Authentication to sign-in, depending on your email address, you may have to choose appropriate authentication method.

LOGIN:
For Alfred Health email, please select 'Alfred Health' after clicking the blue button 'Login with SSO/OKTA'. You must use your Alfred Health authentication to sign in. Use this link to sign-in [https://uridefense.com/v3/_https://redcap.helix.monash.edu__!INDYExDT0u85Sd4T4tpUWpQNLmpVRf6MTkhRHJgKW-suEhouUyBibRkG80OwV9YBUCLY3CPbJERTLVFIMpG3hDN7r-75o8mo7upy5\\$](https://uridefense.com/v3/_https://redcap.helix.monash.edu__!INDYExDT0u85Sd4T4tpUWpQNLmpVRf6MTkhRHJgKW-suEhouUyBibRkG80OwV9YBUCLY3CPbJERTLVFIMpG3hDN7r-75o8mo7upy5$), if you need help with your password, please contact Alfred Health IT.

INSTRUCTIONS:
For detailed step-by-step instruction, please refer to [https://uridefense.com/v3/_https://redcap.helix.monash.edu/surveys/?s=C8DR99KYFD9CWYXN&email=tr.fruong@alfred.org.au&users=3__!INDYExDT0u85Sd4T4tpUWpQNLmpVRf6MTkhRHJgKW-suEhouUyBibRkG80OwV9YBUCLY3CPbJERTLVFIMpG3hDN7r-75o8mo7upy5\\$](https://uridefense.com/v3/_https://redcap.helix.monash.edu/surveys/?s=C8DR99KYFD9CWYXN&email=tr.fruong@alfred.org.au&users=3__!INDYExDT0u85Sd4T4tpUWpQNLmpVRf6MTkhRHJgKW-suEhouUyBibRkG80OwV9YBUCLY3CPbJERTLVFIMpG3hDN7r-75o8mo7upy5$). Alternatively, you may refer to the attached document.

HELP/SUPPORT:
If you have any questions or issues, please raise a ticket at [https://uridefense.com/v3/_https://redcap.link/monashredcaphelp__!INDYExDT0u85Sd4T4tpUWpQNLmpVRf6MTkhRHJgKW-suEhouUyBibRkG80OwV9YBUCLY3CPbJERTLVFIMpG3hDN7r-75o8mo7upy5\\$](https://uridefense.com/v3/_https://redcap.link/monashredcaphelp__!INDYExDT0u85Sd4T4tpUWpQNLmpVRf6MTkhRHJgKW-suEhouUyBibRkG80OwV9YBUCLY3CPbJERTLVFIMpG3hDN7r-75o8mo7upy5$).

kind regards,
|
Monash REDCap Team

(Instructions may differ depending on your email address)

2.3 Accessing ADCQR REDCap database

Type the URL below in your internet browser (Firefox, Chrome, Safari or Internet Explorer) to access the ADCQR database.

<https://redcap.helix.monash.edu>

- Click 'Login with SSO/OKTA'
- When logging in for the first time, refer to Helix REDCap SSO Sign In instructions supporting document, as authentication method depends on the email address registered with the account



Log In

- Using WA or NSW eHealth email address (xxx@health.wa.gov.au or xyz@health.nsw.gov.au)? You can now sign in to Monash REDCap using your WA or NSW Health username/password by selecting the "WA eHealth" or "NSW eHealth" option. If you are using Monash Guest currently, please contact redcap@monash.edu to get your account migrated.
- All users with email addresses @health.qld.gov.au, @health.vic.gov.au, @ths.tas.gov.au, or from this [list](#) can now log in using Microsoft credentials. This means you can use your existing Microsoft account associated with your organisation to access Monash REDCap without needing separate login credentials by selecting the 'Microsoft Work/School' option. If you are using Monash Guest option currently, please contact redcap@monash.edu to get your account migrated.
- TROUBLE LOGGING IN? [CLICK HERE](#). OUR FAQ HAS HELPFUL INFORMATION FOR THE MOST COMMON QUESTIONS
- DEPENDING ON YOUR EMAIL ADDRESS, YOU WILL USE DIFFERENT TYPES OF AUTHENTICATION OPTIONS. [CLICK HERE](#) FOR MORE INFORMATION ON HOW TO LOG IN.

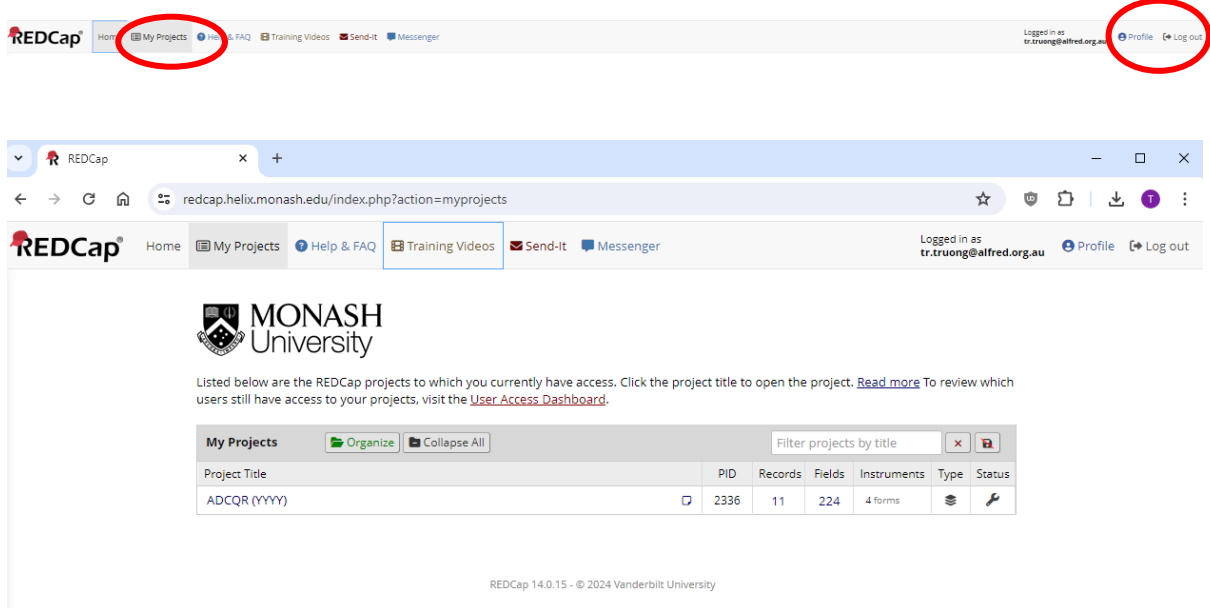


Click one of the buttons below to choose how you wish to log in to REDCap.

Log In [sing](#) [Login with SSO/OKTA](#) -- OR -- [Local REDCap Login](#)

3. Home Screen

The Home screen is where you will be able to access: My Projects, Profile and Log out icon.



3.1 My Projects

This page lists all the Monash University REDCap projects that you have access to.

- Click the project title to access the database (which would be **ADCQR [current year]**)



Listed below are the REDCap projects to which you currently have access. Click the project title to open the project. [Read more](#) To review which users still have access to your projects, visit the [User Access Dashboard](#).

Project Title	PID	Records	Fields	Instruments	Type	Status
ADCQR (YYYY)	2336	1	223	4 forms		

3.2 Log out

It is recommended that you always log out using the 'Log out' link (in the left menu) after data entry completion.



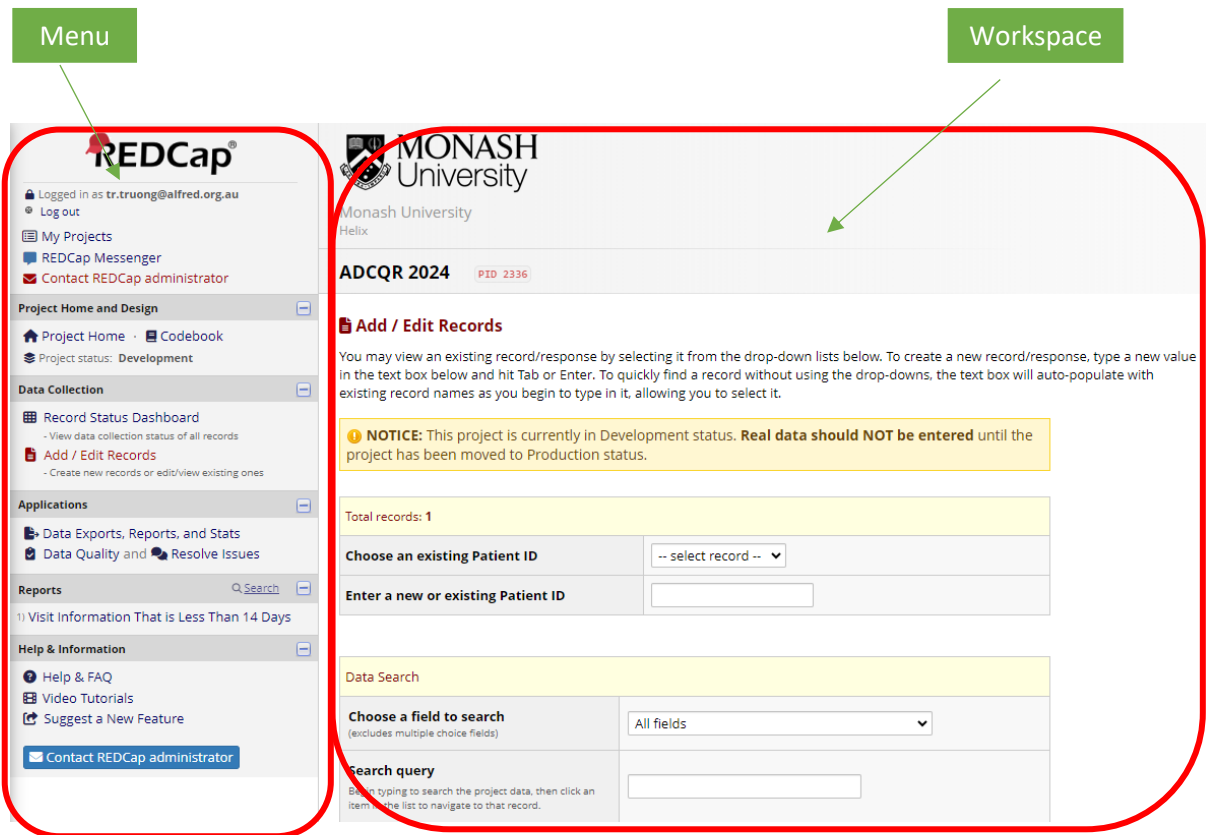
Your session will time out after 30 minutes of inactivity, requiring you to log in again to continue.

4. Menu and Workspace

Once you click the project title, ADCQR (YYYY), you will be taken to the project home page.

The main menu is located on the left-hand side of the screen.

The workspace is located on the right-hand side of the screen.

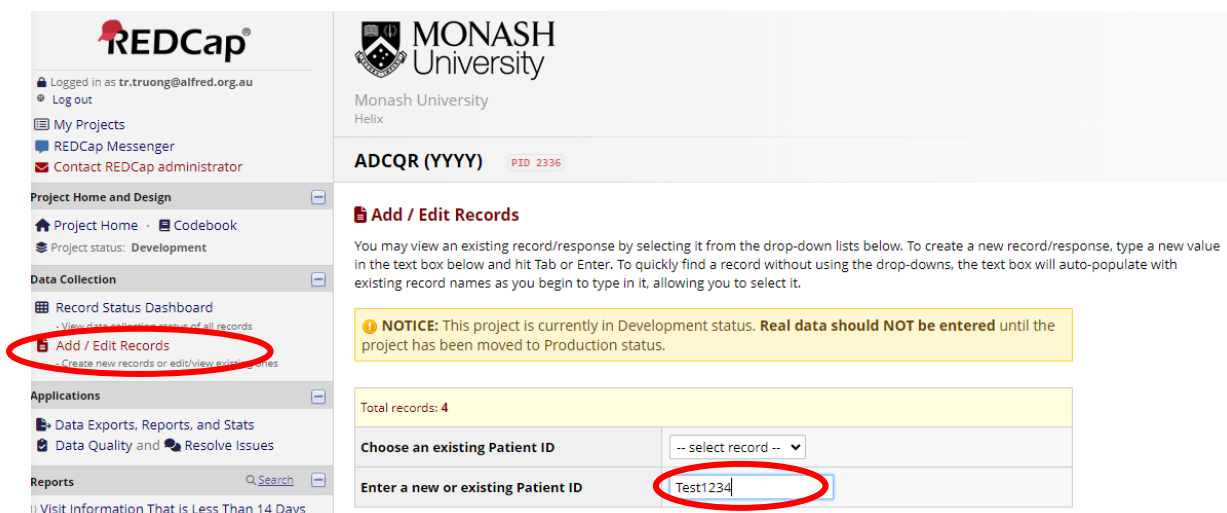


5. Data Entry

5.1 Add/Edit Records

5.1.1 Create new patient ID

- From the menu, under the 'Data Collection' heading, click 'Add/Edit Records'
- From the workspace, in the text box 'Enter a new or existing Patient ID', type the patient ID
- Using the mouse, click away from the text box or press 'enter' on the keyboard



5.1.2 Choosing an existing patient ID

- To select a patient ID previously entered in REDCap, from the menu, under the 'Data Collection' heading, click 'Add/Edit Records'
- In the workspace, select a record from 'Choose an existing patient ID' drop-down list

REDCap

Logged in as tr.truong@alfred.org.au
Log out

My Projects
REDCap Messenger
Contact REDCap administrator

Project Home and Design
Project Home · Codebook
Project status: Development

Data Collection — Site 999
Record Status Dashboard
Add / Edit Records
Applications
Data Exports, Reports, and Stats
Data Quality and Resolve Issues
Reports
Help & Information
Help & FAQ
Video Tutorials
Suggest a New Feature
Contact REDCap administrator

MONASH University
Monash University
Helix

ADCQR (YYYY) PID 2336

Add / Edit Records

You may view an existing record/response by selecting it from the drop-down lists below. To create a new record/response, type a new value in the text box below and hit Tab or Enter. To quickly find a record without using the drop-downs, the text box will auto-populate with existing record names as you begin to type in it, allowing you to select it.

NOTICE: This project is currently in Development status. Real data should NOT be entered until the project has been moved to Production status.

Total records: 5 / In group: 5

Choose an existing Patient ID
Enter a new or existing Patient ID

Data Search
Choose a field to search
Search query

- Alternatively, in the text box 'Enter a new or existing Patient ID', type the patient ID
- Using the mouse, click away from the text box or press 'enter' on the keyboard

ADCQR (YYYY) PID 2336

Add / Edit Records

You may view an existing record/response by selecting it from the drop-down lists below. To create a new record/response, type a new value in the text box below and hit Tab or Enter. To quickly find a record without using the drop-downs, the text box will auto-populate with existing record names as you begin to type in it, allowing you to select it.

NOTICE: This project is currently in Development status. Real data should NOT be entered until the project has been moved to Production status.

Total records: 5 / In group: 5

Choose an existing Patient ID
Enter a new or existing Patient ID

Data Search
Choose a field to search
Search query

5.2 Record Status Dashboard

- To access an overview of all patients' data entry progress, from the menu, under the 'Data Collection' heading, click 'Record Status Dashboard'
- In the workspace, click on the patient ID to go to their 'Record Home Page' or
- Click on the coloured circle to go to the patient's form
- Ensure all patient's form status are green (complete), or
- Any form statuses that are red, ensure any blank fields/invalid fields are addressed

The screenshot shows the Record Status Dashboard for ADCQR (YYYY) with PID 2336. The dashboard displays a table of records with columns for Patient ID, Diagnosis, Visit, and Opt-out. The patient ID column is circled in red, and a green callout box points to it with the text "All patients within your site".

Patient ID	Diagnosis	Visit	Opt-out
999SMJO			
Test001			
Test01			
Test1234			
wasa123			

5.2.1 Create a new patient ID from Record Status Dashboard

There is an alternative way to add new patients to the database via the Record Status Dashboard.

- Enter the patient ID in the text box
- Click '+Create'

The screenshot shows the Record Status Dashboard for ADCQR (YYYY) with PID 2336. The dashboard displays a table of records with columns for Patient ID, Diagnosis, Visit, and Opt-out. The 'Enter new record name' text box and the '+ Create' button are circled in red.

Patient ID	Diagnosis	Visit	Opt-out
999SMJO			
Test001			
Test01			
Test1234			
wasa123			

5.3 Record Home Page

Once you enter or select a patient ID, you will automatically be taken to the patient’s ‘Record Home Page’. This is an overview of an individual patient’s data entry form status

ADCQR (YYYY) PID 2336

Record Home Page

Record "Test1234" is a new Patient ID. To create the record and begin entering data for it, click any gray status icon below.

The grid below displays the form-by-form progress of data entered for the currently selected record. You may click on the colored status icons to access that form/event. If you wish, you may modify the events below by navigating to the [Define My Events](#) page.

Legend for status icons:

- Incomplete Incomplete (no data saved) ?
- Unverified ● ● ● Many statuses (all same)
- Complete ● Many statuses (mixed)

NEW Patient ID Test1234

Data Collection Instrument	Diagnosis	Visit	Opt-out
Patient Demographics and Diagnosis	●		
Clinical Data Collection Form		●	
Patient Health and Wellbeing Questionnaire		●	
Opt out			●

5.3.1 Entering Data – Patient Demographics and Diagnosis

- To begin data entry, click on the gray circle under the ‘Diagnosis’ heading

NEW Patient ID Test1234

Data Collection Instrument	Diagnosis	Visit	Opt-out
Patient Demographics and Diagnosis	●		
Clinical Data Collection Form		●	
Patient Health and Wellbeing Questionnaire		●	
Opt out			●

- Enter data in all required fields (*)
- Questions will appear or be hidden depending on the answer entered
- If you make a mistake, change the response or, click ‘Reset’ to clear/delete a response
- Once you have answered all questions, click ‘Save & Exit Form’.

📄 Patient Demographics and Diagnosis

✎ Editing existing Patient ID **Test1234**.

Event: **Diagnosis**

Patient ID Test1234
To rename the record, see the record action drop-down at top of the [Record Home Page](#).

Patient participation status: View equation

Site 999
(Site ID will auto-populate once form is saved)

Please note: All patients MUST be provided with the ADCQR participant information sheet to be able to participate in this activity.

Do you confirm that the patient has been provided with the ADCQR participant information sheet?

Yes No reset

* must provide value

Save & Exit Form **Save & Go To Next Record** **- Cancel -**

- You will be taken back to the patients 'Record Home Page'
- If all questions in the Patient Demographics and Diagnosis form have been entered, the icon will change from grey to green, otherwise the icon is red to indicate that the form is partially completed

📄 Record Home Page

The grid below displays the form-by-form progress of data entered for the currently selected record. You may click on the colored status icons to access that form/event. If you wish, you may modify the events below by navigating to the [Define My Events](#) page.

Legend for status icons:

- Incomplete
- Incomplete (no data saved) ?
- Unverified
- ● ● Many statuses (all same)
- Complete
- Many statuses (mixed)

✎ Choose action for record ▾

Patient ID Test1234
Site 999

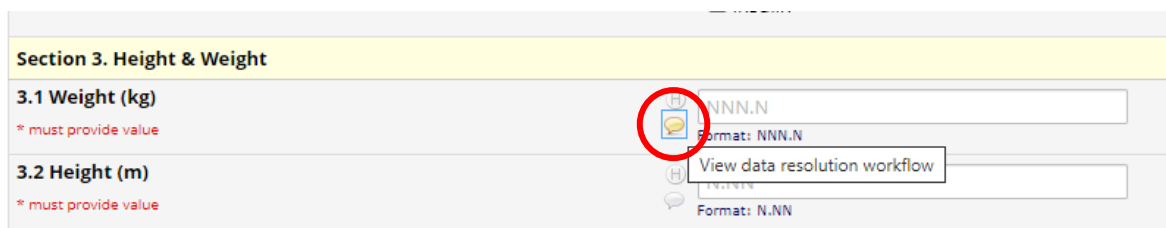
Data Collection Instrument	Diagnosis	Visit	Opt-out
Patient Demographics and Diagnosis	●		
Clinical Data Collection Form		●	
Patient Health and Wellbeing Questionnaire		●	
Opt out			●
Delete all data on event:	✕		

- Continue data entry for the following sections:
 - Clinical Data Collection Form
 - Patient Health and Wellbeing Questionnaire

5.3.2 Preventing a data query during data entry – known missing/invalid data

A field can be prevented from appearing in the Data Query list at the time of data entry if the data field is missing or invalid. For example, if data was not collected for a certain field and cannot be obtained, flag the field to prevent it from appearing in the data queries

- In the form, click the speech bubble () located next to the field.



Section 3. Height & Weight

3.1 Weight (kg)
* must provide value

3.2 Height (m)
* must provide value

Format: NNN.N

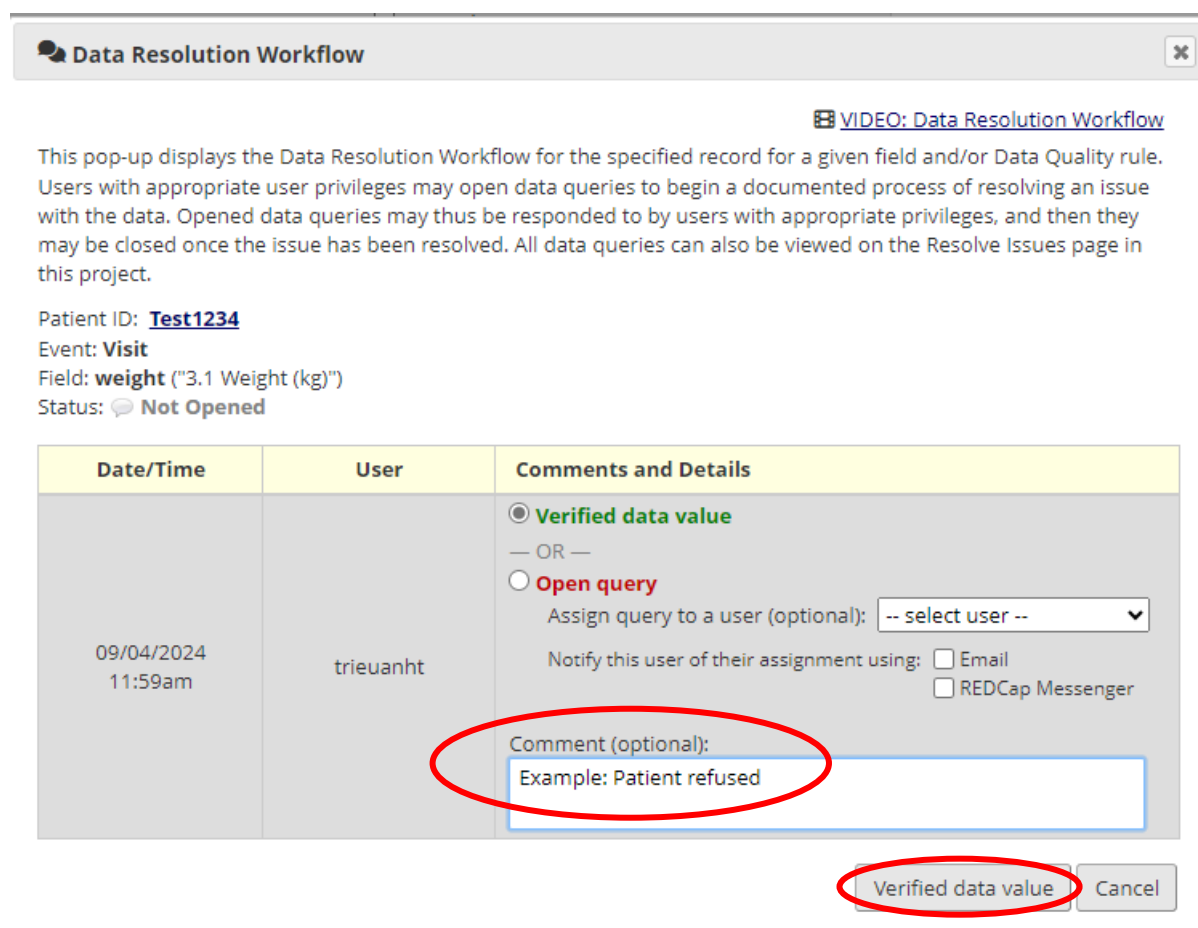
Format: N.NN

View data resolution workflow

Format: N.NN

A 'Data Resolution Workflow' pop-up will appear

- Select 'Verified data value'
- (Optional) Enter a comment (e.g. Not available, patient refused, unknown)
- Click 'Verified data value' to save and close



Data Resolution Workflow

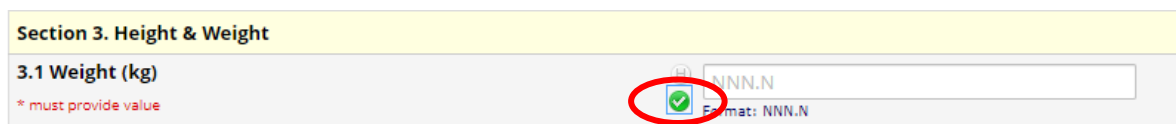
[VIDEO: Data Resolution Workflow](#)

This pop-up displays the Data Resolution Workflow for the specified record for a given field and/or Data Quality rule. Users with appropriate user privileges may open data queries to begin a documented process of resolving an issue with the data. Opened data queries may thus be responded to by users with appropriate privileges, and then they may be closed once the issue has been resolved. All data queries can also be viewed on the Resolve Issues page in this project.

Patient ID: **Test1234**
Event: **Visit**
Field: **weight** ("3.1 Weight (kg)")
Status: **Not Opened**

Date/Time	User	Comments and Details
09/04/2024 11:59am	trieuanht	<p><input checked="" type="radio"/> Verified data value</p> <p>— OR —</p> <p><input type="radio"/> Open query</p> <p>Assign query to a user (optional): -- select user --</p> <p>Notify this user of their assignment using: <input type="checkbox"/> Email <input type="checkbox"/> REDCap Messenger</p> <p>Comment (optional): Example: Patient refused</p> <p><input type="button" value="Verified data value"/> <input type="button" value="Cancel"/></p>

- A green tick will replace the speech bubble



Section 3. Height & Weight

3.1 Weight (kg)
* must provide value

Format: NNN.N

Format: N.NN

6. Data Quality (Data Queries)

Data Quality rules are generated to check for discrepancies in the dataset. A “data quality rule” is a calculation expression that evaluates to True or False. When a rule is executed, any records that **DO NOT** fulfil the expression, can be viewed and corrected.

Staff will only be able to view discrepancies for patients from their site.

All staff will have user privileges to open data queries in order to begin a documented process of resolving an issue with the data. Opened data queries may thus be responded to by staff with appropriate privileges, and then they may be closed once the issue has been resolved.

Once your site has come to the end of your site’s data collection period and you have completed data entry for all eligible patients, notify the ADCQR Coordinating Centre. ADCQR Data Management may then generate data queries to ensure that data entered is complete and accurate.

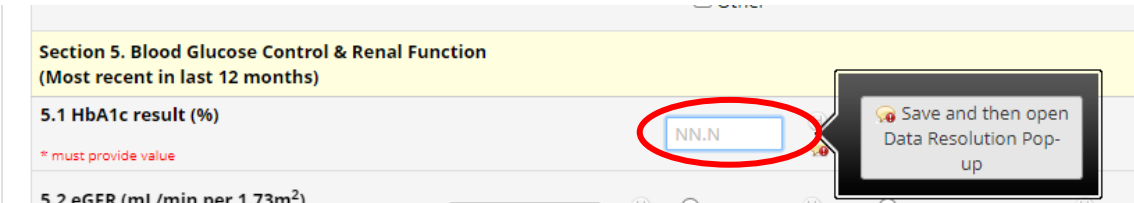
6.1 Resolve Issues

- To view data queries, in the menu, under the ‘Applications’ heading, click ‘Resolve Issues’
- In the workspace, a list of data queries will appear in the ‘Data Resolution Dashboard’
- (Optional) You may choose to export the data queries into an excel spreadsheet, so you can see both the REDCap ADCQR database and data queries at the same time
- Read the query comment, either under ‘First Update’, or ‘Last update’ (if available)
- Click on the patient ID to be taken directly to the question in the form

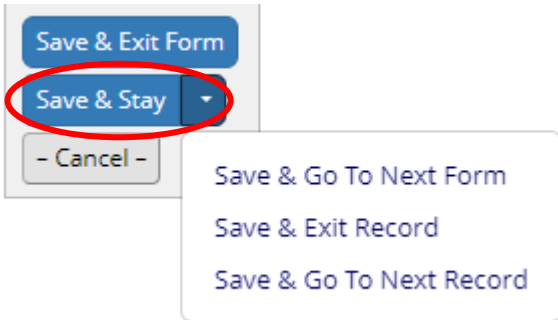
The screenshot displays the REDCap interface for data quality management. The left sidebar contains navigation options, with 'Resolve Issues' highlighted under the 'Applications' section. The main workspace shows the 'Data Resolution Dashboard' with an 'Export' button circled in red. Below the dashboard is a table of data quality issues. The third row of the table is circled in red, showing a record with ID '999SOJO (#1)' and a data quality rule for 'hba1c' (5.1 HbA1c result (%)). The 'Days Open' column for this row is also circled in red.

Record	Data Quality rule and/or Field	User Assigned	Days Open	First Update	Last Update
wasal123 (#1) Visit	Field: systol_bp (4.1a Systolic blood pressure (mmHg))	tr.truong@alfred	2.8	TrieuAnhT (08/04/2024 3:24pm): "Systolic BP is out of range (50-220mmHg). Please confirm"	[same as first update]
999SOJO (#1) Visit	Field: aspirin (6.1 Aspirin)	-	0	TrieuAnhT (11/04/2024 10:42am): "Aspirin is missing. Answer No/Yes/Contraindicated"	[same as first update]
999SOJO (#1) Visit	Field: hba1c (5.1 HbA1c result (%))	-	0	TrieuAnhT (11/04/2024 10:42am): "HbA1c result is missing. Record result in % or 'Not tested'. If HbA1c result recorded, provide HbA1c."	[same as first update]

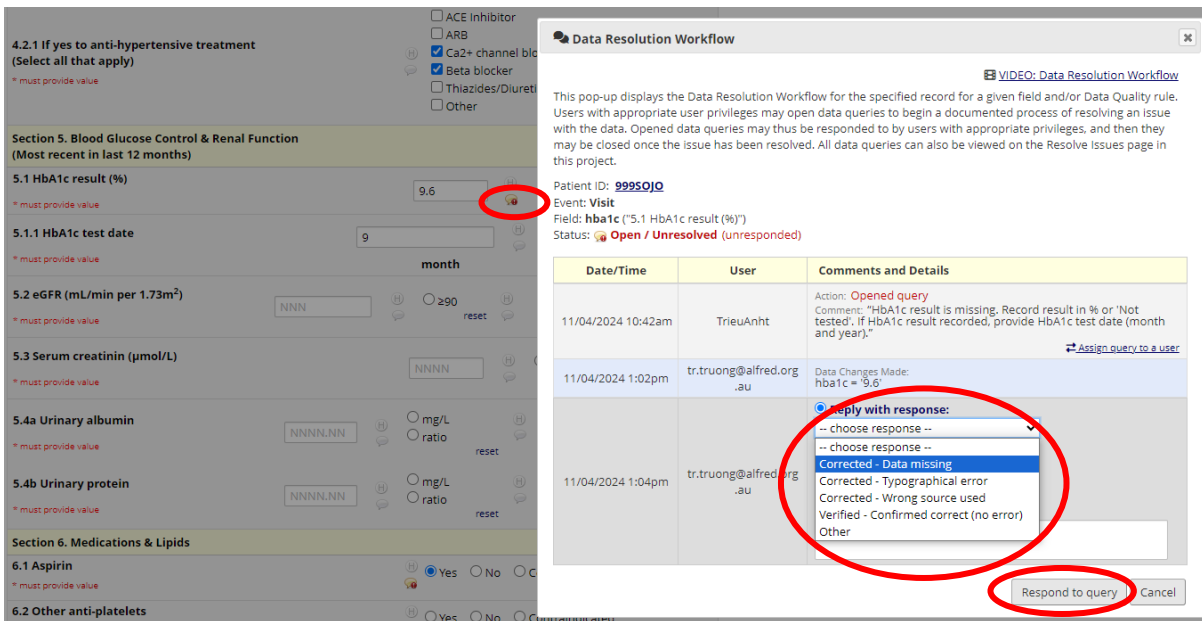
- Before proceeding, check the data discrepancy against the original document, if applicable (e.g. pathology report or medical records).
- Depending on the query
 - Fix the incorrect value or
 - Enter missing data or
 - Confirm data is missing



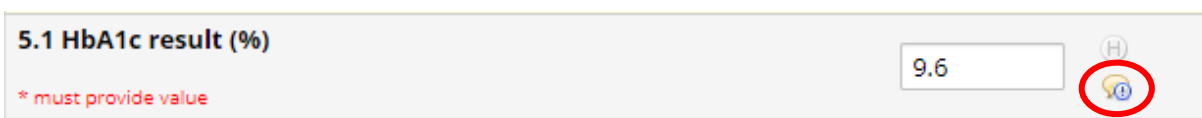
- Amend data or enter missing data
- Once the change has been made, click 'Save & Stay', on the side of the form



- Go back to the same question with the data query, click on the speech bubble
- A 'Data Resolution Workflow' pop-up window will appear
- Under 'Reply with response', select the applicable response
- Enter a comment
- Click 'Respond to query'



The speech bubble will change from a red exclamation mark to a blue exclamation mark.



- Repeat until all data queries are addressed

7. Export Data

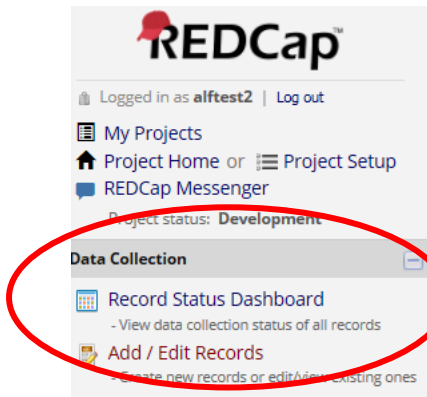
The ADCQR recommend sites to store a copy of all data securely at their local sites.

There are 2 ways to export patients' entered data from REDCap:

- As an individual patient record in a pdf file
- All patient records in a single pdf file

7.1 Individual Patient Record

- From the menu, under the 'Data Collection' heading, go to the patient's 'Record Home Page' either by selecting the patient from the 'Record Status Dashboard' page or click 'Add/Edit Records' to select the patient

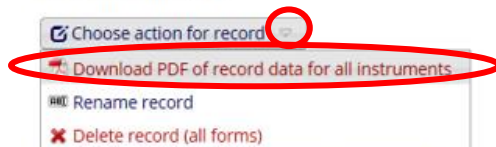


7.1.1 Record Home Page

- To print a hard copy, click on 'Choose action for record' drop down arrow
- Click 'Download PDF of record data for all instruments'

Record Home Page

The grid below displays the form-by-form progress of data entered for the currently selected record. You may click on the colored status icons to access that form/event.



Legend for status icons:

- Incomplete
- Incomplete (no data saved) ?
- Unverified
- Complete

- Open and print the downloaded pdf file

ADCQR (YYYY)
Patient ID Test01 (Diagnosis)
Page 1

Patient Demographics and Diagnosis

Patient ID	Test01
Patient participation status:	Patient is participating

- File the hard copy at your local site in a secure location

7.2 All Patients' Records

- To print a hard copy of data entered for all patients, from the menu, under the 'Application' heading, click 'Data Exports, Reports, and Stats'
- In the workspace, click on the 'Other Export Options' tab
- Click on the pdf icon to download a file with all patients' entered data or compact version

The screenshot shows the REDCap interface for a project named 'ADCQR (YYYY)' with PID 2336. The left sidebar contains navigation menus for 'Project Home and Design', 'Data Collection', 'Applications', 'Reports', and 'Help & Information'. The 'Applications' menu is expanded, and 'Data Exports, Reports, and Stats' is highlighted with a red circle. The main content area is titled 'Data Exports, Reports, and Stats' and features two tabs: 'My Reports & Exports' and 'Other Export Options', with the latter highlighted by a red circle. Below the tabs, there is a section for 'PDF of data collection instruments containing saved data (all records)'. This section includes a description of the PDF format, a note about large files, and a red notice stating that downloaded PDFs will be archived. To the right of this section, there are two download icons: a standard 'PDF' icon and a 'Compact PDF' icon, both highlighted with red circles. At the bottom of the page, there is a 'Tableau Export' section with a 'View export instructions' button.

8. Data Completion & Troubleshooting

- Contact the ADCQR Coordinating Centre (adcqr@monash.edu)
 - At the completion of your data collection, ensure all patients data entry form status are complete (green) or any blank/invalid fields are addressed
 - In the event of troubleshooting, send any queries and a print screen of any errors

9. References

1. Paul A. Harris, Robert Taylor, Robert Thielke, Jonathon Payne, Nathaniel Gonzalez, Jose G. Conde, Research electronic data capture (REDCap) - A metadata-driven methodology and workflow process for providing translational research informatics support, J Biomed Inform. 2009 Apr;42(2):377-81.
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