

Data Entry on Redcap: User Guide

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Introduction

Welcome to REDCap!

REDCap is a secure, web-based application for managing your clinical data.

REDCap structure and terminology

REDCap is a database application that provides access on a project-by-project basis as determined by the project administrator. Each project may have many users. Users will only see projects listed in their My Projects page for which they have access.

Data Instrument – a form created for the purposes of capturing data such as a data entry form or survey.

Record – a complete set of information for a person or object. Each record is composed of one or more fields.

Study ID – a unique key that can identify each record in the database

Event – a scheduled or unscheduled occurrence for which data is captured using a predefined data instrument (form).

Form Status – status of the form completeness and denoted with a color;

red – incomplete; **yellow** – unverified; **green** – complete.

User Account

User Accounts

Access to the REDCap application is controlled via individual user accounts

URL

<https://redcap.medsci.ox.ac.uk>

Passwords

When your account is created you will receive an email containing login details

- Username
- Temporary password

You will be required to set your own password when you log in for the first time.

* REDCap passwords must meet the following criteria: *Length between 10 and 15 characters Comprised of only letters, numbers, and underscores Contains at least one lower-case letter, one upper-case letter, and one number You will also be asked to set a challenge question and answer that can be used to assist you should you forget your password. If all else fails contact the Project manager to obtain a new temporary password.*

Logging Into REDCap

Open a browser (Google Chrome recommended) and enter the following URL in the address line:

<https://redcap.medsci.ox.ac.uk> Enter your username and password provided to you when you were given access to REDCap as seen in Figure 1.

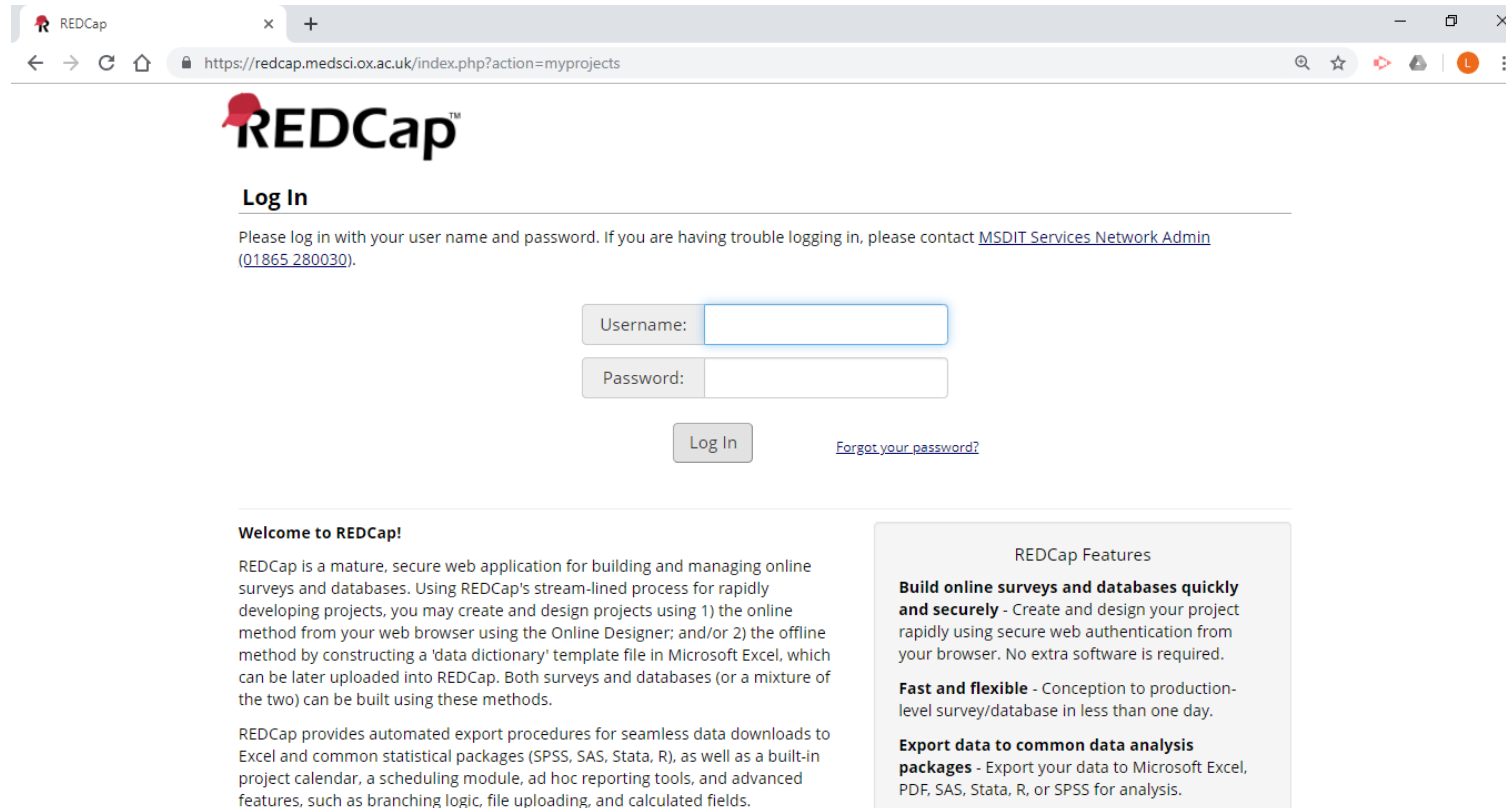


Figure 1

Accessing Your Project

From the REDCap Home Screen select the My Projects tab to see a list of projects you are authorized to access (*Figure 2*). Click on the link to the database for which you will be entering data. The screen displays database information (*Figure 3*).

Figure 2

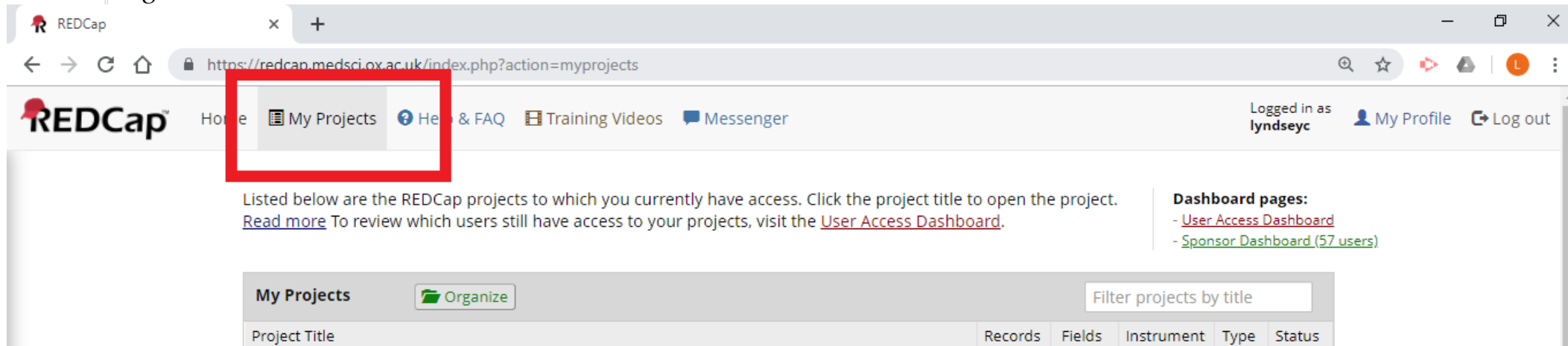


Figure 3

Organisation of SPRINT-SARI Tiers in REDCap

The tiers are organized as data collection instruments (forms) as shown in *figure 4*. The forms correspond to the different sections under the RAPID and CORE case report forms.

| Tier 0 | | Tier 1 and 2 | |
|----------------------------------|-------|---|------------|
| Inclusion Criteria | SSIC | Inclusion Criteria | SSIC |
| Demographics | RAPID | Demographics | CORE |
| Onset and Admission | RAPID | Onset/Admission | CORE |
| ICU/HDU Admission | RAPID | ICU/HDU Admission | CORE |
| | | Admission Signs and Symptoms | CORE |
| | | Comorbidities | CORE |
| | | Complications | CORE |
| Infectious Respiratory Diagnosis | RAPID | Infectious Respiratory Disease: Diagnosis | CORE |
| | | Infectious Respiratory Disease: Pathogen Testing <i>repeating</i> | CORE |
| Tests | RAPID | Tests | CORE |
| | | Daily Treatment <i>Repeating Repeating</i> | Daily Form |
| | | Daily Laboratory Results | Daily Form |
| Outcome | RAPID | Outcome | CORE |

For guidance on using repeating instruments, see slide 14

Figure 4

Navigation Panel

Use the My Projects tab on the Navigation panel (*Figure 5*) to switch between RAPID (Tier 0) and CORE (Tier 1 and 2) projects.

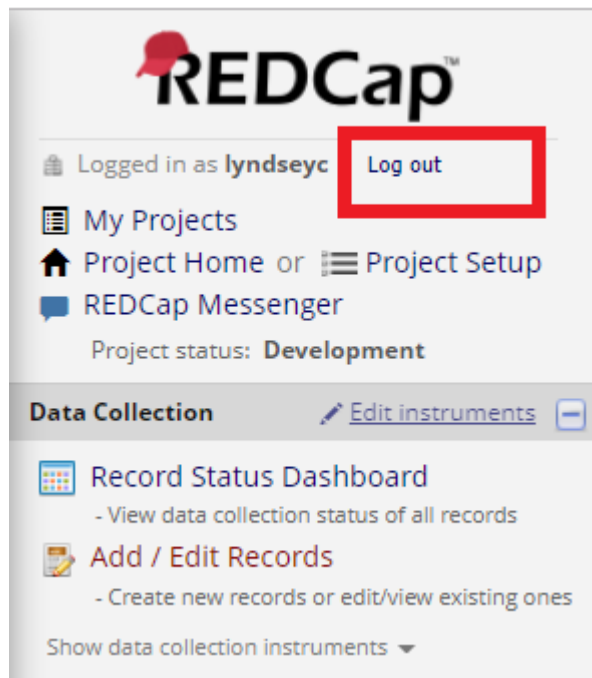


Figure 5

Always log out using the Log out button after completing your tasks. Your session will time out after 60 minutes of inactivity, requiring you to log in again to continue.

Data Collection Panel

You can view and access the data instruments (forms) for CORE and RAPID in the respective data collection panel. (*Figure 6 and 7*).

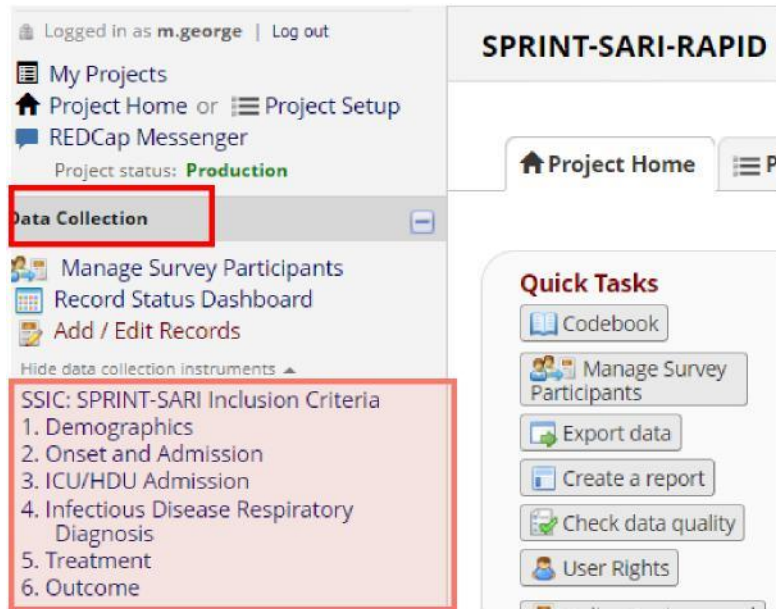


Figure 6

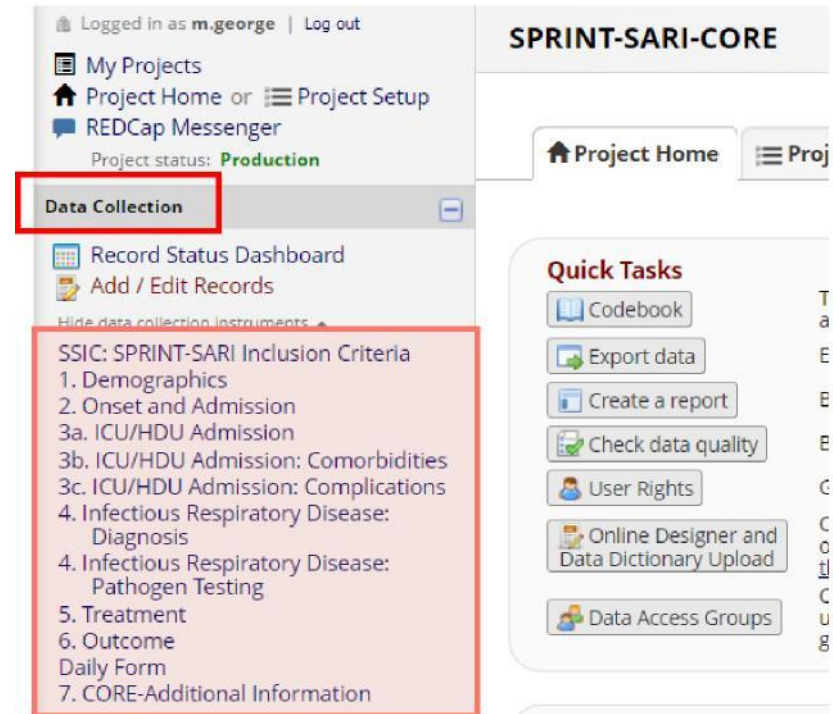


Figure 7

Data Entry: Step 1

In the left column, choose ‘Add or Edit records’ from the Data Collection section to begin your data entry process. This will take you to a grid display of data instrument (*Figure 9 and 10*).

The screenshot shows the REDCap 'Add / Edit Records' page. On the left is a navigation sidebar with sections: Project Home or Project Setup, REDCap Messenger, Data Collection (containing 'Add / Edit Records' highlighted with a red box), Applications, and Help & Information. The main content area is titled 'Add / Edit Records' and includes instructions, a 'Total records: 3' indicator, and two input fields for 'Choose an existing Participant Identification Number' (a dropdown menu) and 'Enter a new or existing Participant Identification Number' (a text box). Below these is a 'Data Search' section with a 'Choose a field to search' dropdown and a 'Search query' text box. Two yellow callout boxes with blue arrows point to the dropdown and text boxes, providing instructions on how to use them.

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.

Total records: 3

Choose an existing Participant Identification Number:

Enter a new or existing Participant Identification Number:

Data Search

Choose a field to search (excludes multiple choice fields):

Search query

Begin typing to search the project data, then click an item in the list to navigate to that record.

To edit an existing record (updating an incomplete or unverified record)


To start entering data for a new subject, enter the 7 digit subject ID in xxx-yyyy format here and hit “Enter”


Figure 8

Data Entry: Step 2

Click on the status icon to access the particular instrument (form). Selecting SSIC form for RAPID and CORE are shown in *Figure 9 and 10*.

SPRINT-SARI-RAPID

 **Record Home Page**

 **Record "000-0005" is a new Participant Identification Number.** To create gray status icon below.

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

NEW Participant Identification Number: 000-0005










| Data Collection Instrument | Status |
|---|---|
| SSIC: SPRINT-SARI Inclusion Criteria |  |
| 1. Demographics |  |
| 2. Onset and Admission |  |
| 3. ICU/HDU Admission |  |
| 4. Infectious Disease Respiratory Diagnosis |  |
| 5. Treatment |  |
| 6. Outcome |  |

Figure 9

SPRINT-SARI-CORE

 **Record Home Page**

 **Record "000-0005" is a new Participant Identification Number.** To create 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.

NEW Participant Identification Number: 000-0005













| Data Collection Instrument | Status |
|---|---|
| SSIC: SPRINT-SARI Inclusion Criteria |  |
| 1. Demographics |  |
| 2. Onset and Admission |  |
| 3a. ICU/HDU Admission |  |
| 3b. ICU/HDU Admission: Comorbidities |  |
| 3c. ICU/HDU Admission: Complications |  |
| 4. Infectious Respiratory Disease: Diagnosis |  |
| 4. Infectious Respiratory Disease: Pathogen Testing |  |
| 5. Treatment |  |
| 6. Outcome |  |
| Daily Form |  |
| 7. CORE-Additional Information |  |

Figure 10

SSIC: SPRINT-SARI Inclusion Criteria

Editing existing Participant Identification Number: 000-0001

Participant Identification Number: 000-0001

Date of Enrolment: 30-11-2017

Site name: Search with your site code

SPRINT-SARI INCLUSION CRITERIA

1. Suspected or proven acute respiratory infection as dominant cause of admission: Yes

2. New admission with symptom onset within the previous 14 days (required for inclusion): Yes

3. Experience of the following symptoms during this illness episode

| | YES | NO |
|--|----------------------------------|-----------------------|
| 3.1 A history of feverishness or measured fever of ≥ 38 deg C | <input checked="" type="radio"/> | <input type="radio"/> |
| 3.2 Cough | <input checked="" type="radio"/> | <input type="radio"/> |
| 3.3 Dyspnoea (shortness of breath) OR Tachypnoea | <input checked="" type="radio"/> | <input type="radio"/> |

Alternate definition

4. Clinical suspicion of SARI despite not meeting criteria above: Yes

Form Status: Complete? Incomplete

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

Data Entry: Step 3

Once you have completed entering the information, you **MUST** click one of the save option buttons at the bottom of the screen (*Figure 11*). The Form Status section will allow you to identify if the record is Incomplete, Unverified or Complete.

Save & Exit Form

saves the data and returns to the record selection screen for the current form.

Save & Go To Next Form

saves and navigates to the next form on the list for the study ID.

-- Cancel --

leaves the current screen and **DOES NOT SAVE** the changes you made. If you enter data in a form, then navigate to a different record by clicking on form text or button without clicking on one of the “Save” buttons, the data you entered will be lost. There is no warning message on screen when you leave without saving data.

Figure 11

Data Entry Fields

Figure 11 illustrates an example of a data entry form. The data type for each field determines the appearance of the field. There are 3 major field types used in the SPRINT-SARI projects in REDCap including text boxes, radio buttons and drop down lists (select only one answer), check box lists (select all answers that apply).

Field Notes: Some fields have a field note, shown in small blue type below the data field. These notes provide field-specific information to help the person entering data.



Figure 12

Validation: If a field has validation associated it with you may see a warning or error message indicating that the value you entered does not match requirements set up for the field. REDCap will not prevent you from continuing, but it will alert you to a value that is outside the pre-defined acceptable range.

Figure 13

Repeating Instruments

Repeating instruments are used to collect multiple instances of the same data.

In SPRINT-SARI repeating instruments have been enabled for the following instruments (forms) in the SPRINT-SARICORE project.

| | |
|---|--------------|
| Infectious Respiratory Disease: Pathogen Testing | CORE |
| Daily Treatment | Daily |
| Daily Laboratory Results | Form |

Creating and Editing Repeat Instances – Infectious Respiratory Disease: Pathogen Testing

Step 1: Click “yes” to Q 5.1 in the Infectious Respiratory Disease Diagnosis Section, then click ”Save and Go to next form’

The screenshot displays the REDCap interface for the form '5. Infectious Respiratory Disease: Diagnosis'. The left sidebar shows the 'Data Collection' menu with '5. Infectious Respiratory Disease: Diagnosis' selected, indicated by a yellow box with the number '1'. The main form area shows the 'Pathogen Testing' section, where question 5.1 'Was pathogen testing done during this illness episode?' is selected with the 'YES (complete 4.2)' radio button, highlighted by a red box with a yellow box containing the number '2'. Below this, questions 5.3 through 5.8 are listed. At the bottom, the 'Form Status' section shows 'Complete?' set to 'Incomplete', and the 'Save & Go To Next Form' button is highlighted with a red box and a yellow box containing the number '3'. The top right of the form has buttons for 'Save & Exit Form', 'Save & Go To Next Form', and 'Cancel'.

Figure 14

Creating and Editing Repeat Instances – Infectious Respiratory Disease: Pathogen Testing

Step 2: Complete any of the data fields under the **Step 3:** A dropdown box will now appear in this Infectious Respiratory Disease Pathogen testing section for the particular patient record. You can add Section, then click on any of the two "Save" buttons any number of instances using this dropdown box.

5.2 Infectious Respiratory Disease: Pathogen Testing

Editing existing Participant Identification Number: 001-0001

Participant Identification Number: 001-0001

5.2 PATHOGEN TESTING: Details of pathogen testing and sample type
(This is a repeating instrument, include as many as necessary)

Collection Date * must provide value Today D-M-Y

Bio specimen type * must provide value

Result * must provide value Positive Negative N/A

Pathogen Tested / Detected * must provide value

Form Status

Complete? Incomplete

Save & Exit Form Save & Go To Next Form

-- Cancel --

5.2 Infectious Respiratory Disease: Pathogen Testing

Current instance: 1

Editing existing Participant Identification Number: 001-0001

Participant Identification Number: 001-0001

5.2 PATHOGEN TESTING: Details of pathogen testing and sample type
(This is a repeating instrument, include as many as necessary)

Collection Date * must provide value 15-05-2019 Today D-M-Y

Bio specimen type * must provide value Throat swab

Laboratory Test Method * must provide value PCR

Result * must provide value Positive Negative N/A

Pathogen Tested / Detected * must provide value

Form Status

Complete? Incomplete

Save & Exit Form Save & Go To Next Form

-- Cancel --

Figure 15

Figure 16

Creating and Editing Repeat Instances – Daily Forms

Step 1: Complete any of the data fields under the Daily Form Section, then click on any of the two "Save" buttons

Step 2: A dropdown box will now appear in this section for the particular patient record. You can add any number of instances using this dropdown box.

Figure 17

Figure 18

Navigating between repeating forms

Use the dropdown box in each section to navigate between the additional forms created.

The screenshot displays a web-based data entry form titled "Daily Form". At the top, it shows "Current instance: 1/2" with a dropdown arrow. A red box highlights this dropdown menu, which is open and shows three options: "1/2" (selected), "2/2", and "+ Add new". To the right, the "Data Access Group" is set to "[No Assi]". Below the header, there is a blue bar for "Editing existing" and "Identification Number: 000-0003". A grey bar shows "Participant Identification Number: 000-0003". A green bar for "DATE OF ASSESSMENT" contains a date picker set to "04-12-2017" and a "Today" button. Below this, a yellow bar indicates "1. DAILY TREATMENT". The form contains several sections with radio button options: "1.1 Current admission to ICU/IMC/HDU" with options "yes", "No", and "N/A"; "1.2 FiO2 available?" with "Yes" and "No"; "1.3 SaO2 available?" with "Yes" and "No"; and "1.4 PaO2 available?" with "Yes", "No", and "Yes" (with a note "at time of FiO2 above").

Figure 19

Record Status Dashboard

From the data collection panel select the ‘record status dashboard’, you can view all the patient records that was created by you. This will display the completion status for each instrument (form) for each subject.

collection instrument (and if longitudinal, for every event). You may click any of the colored buttons in the table to open a new tab/window in your browser to view that record on that particular data collection instrument. Please note that if your form-level user privileges are restricted for certain data collection instruments, you will only be able to view those instruments, and if you belong to a Data Access Group, you will only be able to view records that belong to your group.

Legend for status icons:

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

Dashboard displayed: [Default dashboard] [Create custom dashboard](#)

Displaying Data Access Group: -- ALL --

Displaying record: Page 1 of 1: "000-0001" through "000-4444" of 10 records ALL (10) records per page

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

| Participant Identification Number: | SSIC: SPRINT-SARI Inclusion Criteria | 1. Demographics | 2. Onset and Admission | 3. ICU/HDU Admission | 4a. Admission signs and symptoms | 4b. Comorbidities | 4c. Complications | 5. Infectious Respiratory Disease: Diagnosis | 5.2 Infectious Respiratory Disease: Pathogen Testing | 6. Treatment | 7. Outcome | Daily Form | 8. CORE-Additional Information |
|------------------------------------|--------------------------------------|----------------------------|------------------------|----------------------|----------------------------------|-------------------|-------------------|--|--|--------------|------------|---------------------------|--------------------------------|
| 000-0001 | Incomplete | Incomplete | Incomplete | Incomplete | Incomplete | Incomplete | Incomplete | Incomplete | Incomplete (+) | Incomplete | Incomplete | Incomplete (+) | Incomplete |
| 000-0002 | Incomplete (no data saved) | Complete | Incomplete | Complete | Incomplete | Incomplete | Incomplete | Unverified | Incomplete | Complete | Incomplete | Incomplete (+) | Incomplete |
| 000-0003 | Incomplete | Incomplete | Unverified | Complete | Incomplete | Incomplete | Incomplete | Incomplete | Many statuses (all same) (+) | Complete | Unverified | Many statuses (mixed) (+) | Complete |
| 000-0004 | Complete | Unverified | Complete | Incomplete | Incomplete | Incomplete | Incomplete | Incomplete | Many statuses (all same) (+) | Incomplete | Incomplete | Incomplete (+) | Complete |
| 000-0005 | Incomplete | Unverified | Incomplete | Incomplete | Incomplete | Incomplete | Incomplete | Complete | Many statuses (all same) (+) | Incomplete | Incomplete | Incomplete (+) | Incomplete |
| 000-0006 | Incomplete (no data saved) | Incomplete (no data saved) | Complete | Incomplete | Incomplete | Incomplete | Incomplete | Incomplete | Many statuses (mixed) (+) | Incomplete | Incomplete | Many statuses (mixed) (+) | Incomplete |
| 000-0007 | Incomplete (no data saved) | Unverified | Incomplete | Incomplete | Incomplete | Incomplete | Incomplete | Incomplete | Many statuses (all same) (+) | Incomplete | Incomplete | Incomplete | Incomplete |
| 000-0008 | Incomplete (no data saved) | Incomplete | Incomplete | Incomplete | Incomplete | Incomplete | Incomplete | Incomplete | Many statuses (all same) (+) | Incomplete | Incomplete | Incomplete (+) | Incomplete |
| 000-0009 | Incomplete (no data saved) | Incomplete | Incomplete | Incomplete | Incomplete | Incomplete | Incomplete | Incomplete | Many statuses (all same) (+) | Incomplete | Incomplete | Incomplete (+) | Incomplete |
| 000-4444 | Complete | Complete | Complete | Complete | Incomplete | Incomplete | Incomplete | Complete | Many statuses (all same) (+) | Incomplete | Incomplete | Incomplete (+) | Incomplete |

Figure 20

Accessing your data

Users can export any and all de-identified site data from the SPRINT-SARI project(s) on REDCap. Data may be exported by creating a report using the “Create New Report” button. Data may be exported as a CSV file from a report, and also in the form of a PDF file from the data entry page when viewing a particular record. . The report file(s) is stored on REDCap and allows users to log in to download the files.

1

2

3

Data Exports, Reports, and Stats

VIDEO: How to use Data Exports, Reports, and Stats

Create New Report My Reports & Exports Other Export Options

This module allows you to easily view reports of your data, inspect plots and descriptive statistics of your data, as well as export your data to Microsoft Excel, SAS, Stata, R, or SPSS for analysis (if you have such privileges). If you wish to export your *entire* data set or view it as a report, then Report A is the best and quickest way. However, if you want to view or export data from only specific instruments (or events) on the fly, then Report B is the best choice. You may also create your own custom reports below (if you have such privileges) in which you can filter the report to specific fields, records, or events using a vast array of filtering tools to make sure you get the exact data you want. Once you have created a report, you may view it as a webpage, export it out of REDCap in a specified format (Excel, SAS, Stata, SPSS, R), or view the plots and descriptive statistics for that report.

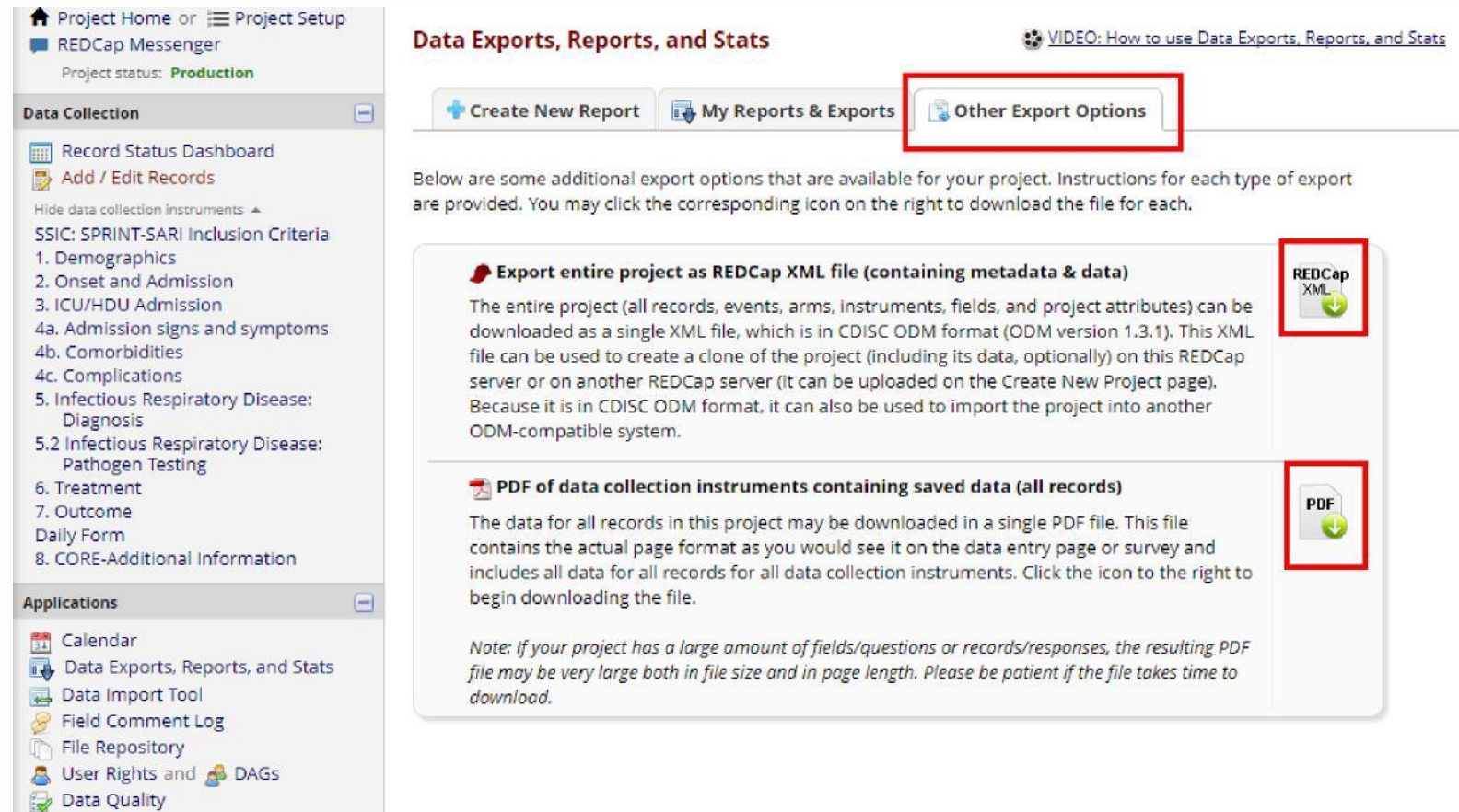
| My Reports & Exports | | | |
|----------------------|------------------------------------|--|--------------------|
| | Report name | View/Export Options | Management Options |
| A | All data (all records and fields) | View Report Export Data Stats & Charts | |
| B | Selected instruments (all records) | Make custom selections | |
| + Create New Report | | | |

Accessing your data

Users can directly download all de-identified site raw data as single xml file (*without creating a report file*)

OR

Users can directly download all completed individual site data records as a pdf file.



The screenshot displays the REDCap interface. On the left is a sidebar with navigation options: Project Home or Project Setup, REDCap Messenger, Project status: Production, Data Collection (with a minus sign), Record Status Dashboard, Add / Edit Records, Hide data collection instruments, SSIC: SPRINT-SARI Inclusion Criteria, a numbered list of instruments (1-8), and Applications (with a minus sign) including Calendar, Data Exports, Reports, and Stats, Data Import Tool, Field Comment Log, File Repository, User Rights and DAGs, and Data Quality.

The main content area is titled "Data Exports, Reports, and Stats" and includes a video link: "VIDEO: How to use Data Exports, Reports, and Stats". Below the title are three buttons: "Create New Report", "My Reports & Exports", and "Other Export Options", which is highlighted with a red box.

Below the buttons, a text block states: "Below are some additional export options that are available for your project. Instructions for each type of export are provided. You may click the corresponding icon on the right to download the file for each."

Two export options are listed, each with a red box around its download icon:

- Export entire project as REDCap XML file (containing metadata & data)**: The entire project (all records, events, arms, instruments, fields, and project attributes) can be downloaded as a single XML file, which is in CDISC ODM format (ODM version 1.3.1). This XML file can be used to create a clone of the project (including its data, optionally) on this REDCap server or on another REDCap server (it can be uploaded on the Create New Project page). Because it is in CDISC ODM format, it can also be used to import the project into another ODM-compatible system. The icon is labeled "REDCap XML".
- PDF of data collection instruments containing saved data (all records)**: The data for all records in this project may be downloaded in a single PDF file. This file contains the actual page format as you would see it on the data entry page or survey and includes all data for all records for all data collection instruments. Click the icon to the right to begin downloading the file. The icon is labeled "PDF".

A note at the bottom states: "Note: if your project has a large amount of fields/questions or records/responses, the resulting PDF file may be very large both in file size and in page length. Please be patient if the file takes time to download."

REDCap Messenger

This is a communication platform is built directly into REDCap, allowing users to communicate easily, efficiently, and securely. REDCap Messenger is a chat application that supports one-on-one direct messages and group conversations, as well as project-linking, document and image sharing.

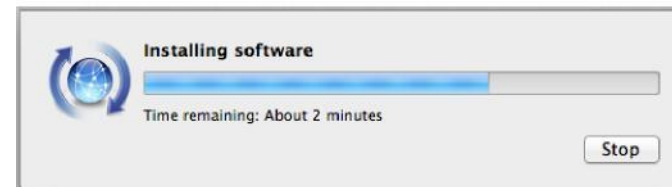
The screenshot displays the REDCap Messenger interface. On the left, a sidebar contains a 'Conversations' list with various project-related items. A yellow box with the number '2' highlights a 'Create new conversation' button at the bottom of this sidebar. The main content area shows the REDCap logo, user information ('Logged in as m.george'), and project details for 'SPRINT-SARI-CORE'. A yellow box with the number '1' highlights the 'REDCap Messenger' link in the navigation menu. Below this, a 'Data Collection' section lists various data entry forms. On the right, a 'Quick Tasks' panel provides links to 'Codebook', 'Export data', 'Create a report', 'Check data quality', 'User Rights', 'Online Designer and Data Dictionary Upload', and 'Data Access Groups'.

REDCap Mobile App

Users can collect their REDCap data in a mobile app on an iPhone, iPad, or Android phone or tablet. The REDCap Mobile App offers a tool for offline data collection, particularly in environments with poor Internet connectivity.

To learn more, check out the [About the Mobile App](#) document, and if you are interested in the details of what security standards are applied in the app, please see the [Mobile App Security](#) document.

Check out the training videos on installing and setting up the REDCap Mobile app on your phone here: <https://projectredcap.org/software/mobile-app/>



Where can I get REDCap training?

REDCap offers video training online.

These are a must for anyone beginning to use REDCap for the first time.

Training videos are available at <http://projectredcap.org/resources/videos/>



What if I need further information or support?

Direct all enquires to:

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