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REDCap Usage Guide and Considerations

WARNING: REDCap is a secure system. However, the use of REDCap does not automatically ensure that your project meets regulatory or privacy requirements. Users are responsible for using REDCap in an appropriate manner and for a purpose that will be in compliance with any applicable requirements. Guidance is included below to help users determine if REDCap is the appropriate tool for their project/study.

1. Is your project related to human subjects research?
   a. If yes, review and approval of the study by Seton’s Research Administration is required. They will help ensure that the required administrative and regulatory functions essential to the conduct of research at Seton are covered.

2. Will there be any protected health information (PHI) included in your project data?
   a. If so, access to PHI must be limited to only those project team members that have a need-to-know for project purposes.
   b. Periodic user access reviews should be performed to determine that access is still appropriate.
   c. Patient email addresses are PHI, as they could be used to identify the patient. Seton must have written consent from patients to use email as a communication method.
   d. If your data containing PHI is exported to another program (excel, etc.), you are responsible for securing the data from unauthorized access.
   e. PHI sent via email must be encrypted.
   f. NEVER use cloud storage (Google drive, Dropbox, etc.) to store PHI. These are not secure or HIPAA-compliant storage options.

3. REDCap should NEVER be used as a documentation substitute for patient treatment or an extension of patient treatment received in a Seton facility. The appropriate medical record system must be utilized (COMPASS, Athena, etc.).

4. Questions related to conducting research at Seton should be directed to the Research Administration Office either by phone (512-324-8389) or through the intranet: http://intranet.seton.org/v2/research-enterprise/contact-us/

5. Questions related to HIPAA compliance should be directed to both:
   a. Michael Brown, Seton’s Information Security Officer (512-324-9999 ext. 18796)
   b. Vickie Paterra, Sr. Director of Corporate Responsibility & HIPAA Privacy Officer (512-324-3280)
REDCap Overview

Logging into REDCap

There are two ways to get to REDCap:

1. Type directly into your browser: [https://redcap.seton.org](https://redcap.seton.org)
2. From Seton’s Intranet click on “Web Apps” then “REDCap”

As a Seton employee, you will always use your Seton Network Username and Password. When you change your network password, it will automatically be updated in REDCap.

![Log In](image)

The first time you log in, you will need to fill out the Basic Information Form. You will then receive a confirmation email. Once you have confirmed your account, you may start using REDCap.

Helpful Terms

**Data Collection Instrument** – a form or survey created for capturing data

**Record ID** – a unique identifier for each record in your database

**Record Status Dashboard** – a table that lists all existing records and their status for every data collection instrument

**Data Dictionary** – a spreadsheet containing the data entry fields for your project

**Variable** – the name of the field or answer choice that is stored in the database
Create a New REDCap Project
Once logged into REDCap, click on the Create New Project tab:

NOTE: If you do not see the “Create New Project” tab, go to www.seton.net/redcap/quick-start-guide and follow the instructions for gaining access to Create New Projects.

Project Title Enter a title for your project
  • This can be changed later, if needed

Purpose of this project Use the drop down and select the purpose
  • Practice/Just for Fun – use this if you are creating a practice project
  • Operational Support – use this for tracking specific department information processes
  • Research – if this is an IRB approved project, you must enter your PI information, your IRB # and specify the type of research you are doing
  • Quality – use this for any projects that help with goals and performance improvement
  • Other – if you choose this option, please specify the purpose

Start project from scratch or begin with a template: until you become familiar with REDCap, select “Create an empty project (blank state)”

Once ready, click Create Project
Project Setup
Main project settings
Select your data collection type:

Use longitudinal data collection with repeating forms: Click Enable if your project will contain instruments that will be used to collect data numerous times. For an example, you are going to collect lab results over ten visits for the same participant. This is considered an intermediate feature of REDCap and will be discussed in more detail in a later class.

Use surveys in this project: Click Enable if your project will contain surveys.

Modify project title, purpose, etc: Click this icon if you would like to change your project title or purpose.

Once you are finished with your main project settings, click “I’m done!”. This will serve as a visual check mark that this section is completed. Note: You can always go back and change your settings while in Development mode.

Design your data collection instruments
Online Designer: Click Online Designer to start building your data collection instruments

Data Dictionary: Alternatively, you may upload your data dictionary via an Excel csv file in order to build your data collection instruments. Note: This is considered an advanced step and should not be used unless you are an experienced user.
Online Designer

REDCap will begin your project with a data collection instrument titled “My First Instrument”. To change the title, click the Rename icon.

To add additional data collection instruments, click on the Create icon. Click on Add Instrument here and enter a name for the new instrument.

To begin building your data collection instrument, click on the instrument name.

The Online Designer will allow you to make project modifications to fields and data collection instruments very easily using only your web browser. NOTE: While in development status, all field changes will take effect immediately in real time.

Record Identifier

The very first field in the first data collection instrument must be used as the record identifier and must be unique. The record identifiers can be automatically sequentially-generated or user-entered. The record identifier field cannot be deleted however you may rename this field by clicking on the pencil icon.

A good example of a unique record identifier would be the patient’s MRN. A bad example would be a participant’s last name since there can be several individuals with the same last name (e.g. Smith, Jones, etc.).
Add Fields to Your Data Collection Instruments

Click Add Field and select one of the several field types available:

Once you have selected your field type, you can then enter the following fields:

- **Field Label**: This is how you would format your question or data field.
- **Variable Name**: This is the name of your Field Label that is stored in the database and can be used in reports, exports and analysis. The variable names may contain letters, numbers and underscores but no spaces or special characters. If you decided to change the name of a variable prior to moving your project into production, you must change it everywhere that it is being used such as calculations, branching logic, etc.
- **Validation**: The Field Type of Text Box (Short Text) will give you the opportunity to select a validation. If you would like to indicate how this field should be entered, use this drop down and select an option.
- **Range Checks (Minimum and Maximum)**: Validation types of Date and Time, Integer and Number give you the ability to enter range checks.
- **Required**: Indicate if your field is going to be required. The default setting for all fields is set to No.
- **Identifier**: Indicate if your field is an identifier. All fields that could potentially identify a person should be marked as an identifier, regardless of who will be accessing your data.
- **Custom Alignment**: Select the alignment for your field. The default setting is Right/Vertical.
- **Field Note**: Use this field to enter any notes, reminders or instructions for your field.
Examples of field types

Text Box (Short Text)
This field can be used for text, dates, numbers, email addresses, phone numbers etc. Use the Validation drop down to restrict how data should be entered.

Text Box (Short Text) with a validation of Date (M-D-Y)
I’ve set this field up with range checks (minimum and maximum fields). I’ve also made this field required and I’ve added a field note.
Text Box (Short Text) with a validation of Email

You may add a new project field to this data collection instrument by completing the fields below and clicking the Save button at the bottom. When you add a new field, it will be added to the form on this page. For an overview of the different field types available, you may view the Field Types video.

Field Type: Text Box (Short Text)

Question Number (optional)

Field Label

Enter your email address:

Text Box (Short Text) with a validation of Number (allows decimals)

You may add a new project field to this data collection instrument by completing the fields below and clicking the Save button at the bottom. When you add a new field, it will be added to the form on this page. For an overview of the different field types available, you may view the Field Types video.

Field Type: Text Box (Short Text)

Question Number (optional)

Field Label

What is your weight (in kg):

Enter your email address:
Text Box (Short Text) with a validation of Integer (a whole number)

You may add a new project field to this data collection instrument by completing the fields below and clicking the Save button at the bottom. When you add a new field, it will be added to the form on this page. For an overview of the different field types available, you may view the Field Types video (4 min).

Field Type: Text Box (Short Text)

Question Number (optional)

Field Label

What is your age

Variable Name (optional)

Validation? (optional)

Minimum:

Maximum:

Required? No Yes

Identifier? No Yes

Custom Alignment Right / Vertical (RV)

Field Note (optional)

Looking for Branching Logic? Try clicking the icon for this field after clicking the Save or Cancel button below.

Save Cancel

What is your age:

Notes Box (Paragraph Text)

You may add a new project field to this data collection instrument by completing the fields below and clicking the Save button at the bottom. When you add a new field, it will be added to the form on this page. For an overview of the different field types available, you may view the Field Types video (4 min).

Field Type: Notes Box (Paragraph Text)

Question Number (optional)

Field Label

List all 31 flavors of ice cream that Baskin Robbins sells

Variable Name (optional)

flavors

Required? No Yes

Identifier? No Yes

Custom Alignment Right / Vertical (RV)

Field Note (optional)

Looking for Branching Logic? Try clicking the icon for this field after clicking the Save or Cancel button below.

Save Cancel

List all 31 flavors of ice cream that Baskin Robbins sells

Expand
Calculated Field
This field can perform real-time calculations based on the data from other fields. For an example, you could create a calculation based off of the birth date field and visit date field in order to find out how old the participant was at the time of visit.

Multiple Choice – Drop Down List (Single Answer)
This field will display your answer choices as a drop down list. When a field contains multiple answer choices, you must give each answer choice a variable name. If you do not, REDCap will automatically assign them for you.
Multiple Choice – Radio Buttons (Single Answer)
This field will display your answer choices as radio buttons
Checkboxes (Multiple Answers)
This field will display your answer choices as check boxes and will allow more than one answer. **Note:** I added a field note that states “Check all that apply”.

Yes – No
This field will display Yes and No as radio button answer choices.
True – False
This field will display True and False as radio button answer choices.

Signature (draw signature with mouse or finger)
This field will allow the participant to add their signature using their mouse or the finger (if using a tablet or touch screen device)
**File Upload (for users to upload files)**

This field gives the participant the ability to upload a file or image.

![File Upload Field Example](image)

**Slider Visual Analog Scale**

This field gives you a scale with three answer choices. If you select “Display number value (0-100)”, it will code the answer given.

![Slider Field Example](image)
Descriptive Text (with optional Image/File Attachment)
This field will allow you to add text such as instructions or additional information. It also gives you the option to add an image as a link or as an inline image.

Link:

The sundae is a sweet ice cream dessert. It typically consists of one or more scoops of ice cream topped with sauce or syrup, and in some cases other toppings including sprinkles and whipped cream.

InlineData:

The sundae is a sweet ice cream dessert. It typically consists of one or more scoops of ice cream topped with sauce or syrup, and in some cases other toppings including sprinkles and whipped cream.
Begin New Section (with optional text)
This field is used as a section header. You can add text or leave blank.

With optional text:

Demographic Information

With no text:

Add Matrix of Fields
If you have a group of questions that all have the same answer choices, you can create a Matrix of Fields. Instead of clicking Add Field, you would click Add Matrix of Fields. You would add an optional header, your field labels and variable names, indicate which fields are required, add your answer choices and select whether these fields should be a single answer (radio button) or multiple answers (checkboxes). If you would like only one answer choice to be selected per column, enable ranking. You must also give your matrix a group name.
Edit/Copy/Move/Delete a Field

Edit: To edit a field, click on the pencil icon.
Copy: To copy a field, click on the double paper icon.
Move: To move a field, click on the paper with pointer icon.
Delete: To delete a field, click on the red X icon.

Add Branching Logic

Branching logic is used when you have a field/question that you would only like to appear when a specific answer is given. To enable branching logic, click on the double green arrows on the field you want to hide.

For an example, I only want the “If Other, please specify” field to show if the answer to the question above it was Other.

After clicking on the double green arrows, scroll through the list of field choices and drag and drop the field you want to base your branching logic on. Click Save once finished.
The field now alerts me that branching logic exists. If I want to view or modify the existing branching logic, I would click on the double green arrows.

Add Piping Logic

Piping gives you the ability to insert answers and place it in various places within REDCap.

For an example, I have a field that asks the participant “What kind of ice cream do you like?”. I then have another field that asks the participant “How often do you eat ___ ice cream?”. I have added piping logic in my second question so that it will insert the answer from the first question.

Before:

- What kind of ice cream do you like?
  - Chocolate
  - Strawberry
  - Vanilla

- How often do you eat _____ ice cream?
  - Once a week
  - Twice a week
  - Three times a week

One the participant answers the first question; the answer is then inserted into my next question.

After:

- What kind of ice cream do you like?
  - Chocolate
  - Strawberry
  - Vanilla

- How often do you eat **Chocolate** ice cream?
  - Once a week
  - Twice a week
  - Three times a week

To add piping, all you have to do is add the variable name of the field you want to pipe in. The variable name must be inserted into square brackets [ ].
Piping can be used in many different places in REDCap such as:

- Field Labels
- Field Notes
- Section Headers
- Survey Instructions & Survey Acknowledgement Text

Enable Your Instrument as a Survey

Once you have enabled the “Use surveys in this project” setting under Project Setup, you will want to indicate which data collection instruments are going to be used as surveys.

Under Online Designer, click Enable next to the data collection instrument you want to use as a survey.

Survey Settings

Once you enable your data collection instrument as a survey, the “Set up my Survey” page will appear.

Survey Design Options

Survey Title: Enter a survey title. It does not have to be the same name as your form.

Logo: Click Choose File and add a logo. If you add a logo, you have the option of hiding the survey title.

Survey Instructions: Enter any instructions you wish to give to the participant. The default instructions are “Please complete the survey below. Thank You!”
Survey Customizations

**Question Numbering:** REDCap can auto number your questions for you or you may custom number your questions.

**Question Display Format –**

- **All on one page:** Select this if you would like all of your questions placed on one page.
- **One section per page (multiple pages):** Select this option if you would like to break your survey up into sections by your section headers (the yellow banner bars). If you select this option, you can display the page numbers at the top of the survey page.

**Allow survey respondents to view aggregate survey results after completing the survey:** The default setting is disabled. Otherwise you may choose to display Graphical Plots, Descriptive Statistics or both plots and statistics. If you enable this setting, you can choose the minimum number of responses before participants are allowed to view the aggregate data.

Survey Access

**Survey Expiration (optional):** You may enter a date/time you would like for your survey to expire.

**Allow ‘Save & Return Later’ option for respondents:** You may enable this option if you would like your participants to be able to come back and finish taking their survey. If enabled, the participant will receive a generated code they must enter in order to continue. You may also indicate if you would like your participants to be able to return and modify their completed responses.

Survey Termination Options

**Redirect to a URL:** If you would like the participant to be redirected to another URL after they have completed their survey, enter the full URL.

**Survey Acknowledgement Text:** Enter any text you wish to display after the participant has finished taking your survey. The default text is “Thank you for taking the survey. Have a nice day!”
Public Survey Link

Using a public survey link is the simplest and fastest way to collect responses for your survey. Responses are collected anonymously. To set up the public survey link, you must make your first instrument a survey.

Record Status Dashboard

This is a table that lists all existing records/responses and the status for every data collection instrument. You may click on one of the icons in order to open the data collection instrument for a specific record.
Enable Optional Modules and Customizations

Auto-numbering for records
If the first form in your project is a survey, auto-numbering will automatically be enabled. Otherwise if you would like REDCap to generate a new unique record name, you may enable this feature manually.

Display the Today/Now button for all date and time fields on forms/surveys
If you do not wish to have the Today icon appear next to your date fields, you may turn this setting off by clicking on Additional Customizations. Uncheck the box next to “Display the Today/Now button for all date and time fields on forms/surveys”.

Applications
Data Exports, Reports and Stats
This will allow you to easily view reports of your data as well as export your data to Microsoft Excel, SAS, Stata, R or SPSS for analysis. If you wish to export your *entire* data set or view it as a report, then Report A is the best and quickest way. 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 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.

Logging

This will list the date and time and user that made changes made to the project. This includes data exports, data changes and the creating or deletion of users. **Note:** It does not give you the details of the changes made.
User Rights and Permissions

If you would like to grant other users access to your project, click on User Rights and DAGs.

Enter the person’s last name in the Add new user field. If the person is found, click on their name and then click on Add with custom rights.

If the person is not found, this simply means they have not set up their REDCap user profile. If they are a Seton employee, you can add them to your project by entering their Seton Network username. You cannot add them by their email address.

Correct way: wsmith   Incorrect way: wsmith@seton.org

Once you click Add with custom rights, you will now choose what you want the user to have access to. Select the appropriate rights and then click Add User.
Set Up Project Bookmarks
You can create custom bookmarks to webpages that exist inside or outside of REDCap. Bookmarks will be seen as links on the left hand project menu and can be accessed by those who have access to your project.

Test Your Project Thoroughly
It is extremely important to test your project before moving it into production!

Try creating a few test records and enter some data to ensure that your data collection instruments look and behave how you expect, especially branching logic and calculations. You can do this by clicking Add/Edit Records. If you have surveys, complete the surveys as if you were a participant by using the Public Survey Link.

Once you have some test records entered, review them by going to your Record Status Dashboard; create reports and export your data and view in Excel or one of the statistical analysis packages; review your Stats.

The best way to test your project is to use it as if you were entering real production data, and it is always helpful to have colleagues (especially team members) take a look at your project to get a fresh set of eyes looking at it.

Move Your Project to Production
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 then need to be approved by a REDCap administrator before taking effect.

You are strongly encouraged to test your project thoroughly before you move your project into Production. Once you have ensured your project is capturing all of the fields you need and has all of the design elements, click on the Move project to production icon.

For Research projects, your IRB must be in approved status and your REDCap data fields must match those approved in MARS.

Additional Training/Support Resources
If you have questions or need project consulting, please feel free to email redcap@seton.org.

If you have questions or need additional help, we also hold weekly REDCap Office Hours. For more information on scheduling, please visit www.seton.org/redcap/training.