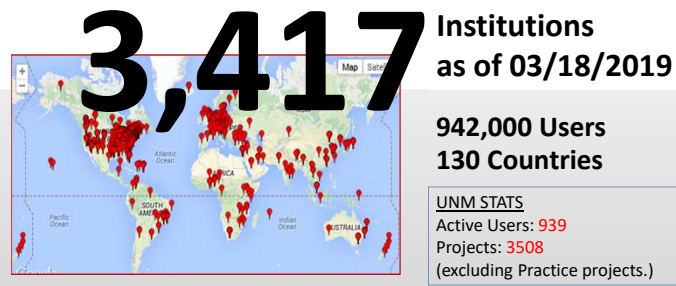




**REDCap**  
 Research Electronic Data Capture  
**Basic Training**




**3,417** Institutions as of 03/18/2019  
**942,000** Users  
**130** Countries

UNM STATS  
 Active Users: **939**  
 Projects: **3508**  
 (excluding Practice projects.)

REDCap is developed by Vanderbilt University and was first launched in 2004. The University of New Mexico was one of its earliest consortium members.


REDCap is used by thousands of institutions worldwide.



**What is REDCap?**  
 Research Electronic Data Capture


REDCap stands for Research Electronic Data Capture and is a secure application for building and managing online surveys and databases.

While REDCap can be used to collect virtually any type of data, it is specifically geared to support data capture for research studies.



There are 3 Basic Project Types in REDCap

- 1) Basic Data Entry Project**
  - Simple data collection within REDCap
  - Multiple data entry forms can be defined, but...
  - Forms used once per record
- 2) Longitudinal Project**
  - Multi-use forms (once per event)
  - Multiple Defined time-points/events/visits
  - Provides a grid to monitor the progress of data collection
- 3) Survey Project**
  - Combines with types 1 and 2 or by itself
  - Single or Multiple surveys per project
  - Public Survey URL or Managed Participant List
  - Survey Queues
  - Lots of Options (including triggers and notifications)



### Additional Features & Customizations that can be Used in Your Projects

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- Double Data Entry
- Randomization
- Data Access Groups
- Secondary Unique Fields
- Multiple Arms
- Logging
- Data Comparison
- Data Exports & Reports
- Exports to SAS, SPSS, R, Stata
- Data Quality
- User rights
- Data Import
- REDCap Mobile App

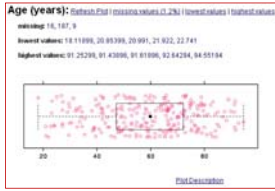



### Not an Analytical Tool


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Redcap is NOT primarily an analytical tool. The pre-defined charts and graphs provide you a snapshot of your dataset, including a set of aggregate totals. You will need to export your data in order to create your own types of charts and graphs.

The Report Tool allows you to save subsets of your data (not aggregates) and filter them according to criteria that you set. Report data-sets can be saved within REDCap and exported when needed.

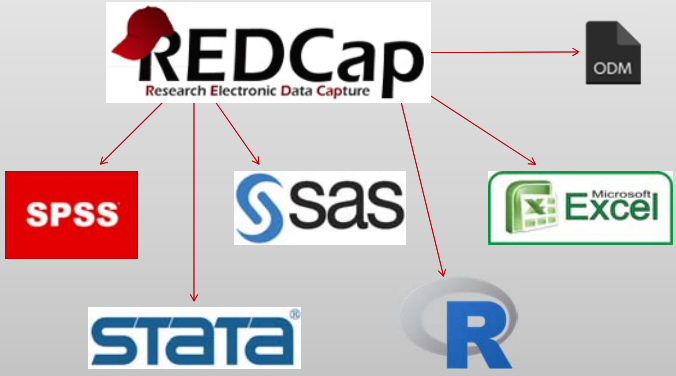







### Export Your Data To...

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### What will my data look like?





All your data in ONE table...

The headers across the top represent all the variables in your project. Variables are shortened names for each of your questions or data points. All variable names have to be unique throughout your project. So, in a basic Redcap project, each of your records are saved as a single row of data. While you might have multiple forms in your project, (i.e. Participant Information, Lab Results, and an Exit survey), all of the data from all of these forms will be returned for that subject in one single row.

SampleGraphicStats\_DATA\_2015-05-14\_1514.csv

	A	B	C	D	E	F	G
1	record_number	gender	race	gu_complications_xplant	cause_of_renal_failure	stent_or_no	urinary_infection_c
2	1	1	2	Glomerulonephritis	HTN	no stent	0008-02-29
3	2	1	2	none	DM	stent	
4	3	2	3	none	lupus nephritis	stent	
5	4	2	2		dm	no stent	
6	5	2	6		unkown	stent	
7	6	2	3	None	DM	no stent	0009-06-02
8	7	2	2	Glomerulonephritis, Previous Ren	HTN	no stent	0007-06-11
9	8	1	3	BPH	DM	stent	0010-01-04
10	9	2	3		DM	no stent	
11	10	2	3	Renal Txpl (4/2008) Graft thrombo	DM	stent	0010-08-25
12	11	1	2	Acute Cellular rejection (2 prior ki	isA nephropathy	no stent	0007-06-04

**LONGITUDINAL**

On the other hand, a second type of REDCap project, called a Longitudinal project, allows you to use each form across multiple events. For example, if your Lab Results are to be taken four times over a 4 month period, you can use the Lab Results form four times, once per each defined event. If your defined event names are event\_one, two, three and four, your exported dataset might look something like this.

HeartScoreInterventi\_DATA\_2015-03-23\_0854-1.csv

	A	B	C	D	E	F
1	study_id	redcap_event	dos	oth_ins	ed_los	time_obs
2	1001	event_one	12/1/2012		14.48333	7.695
3	1001	event_two	12/1/2012		17.43333	10.71417
4	1001	event_three	12/2/2012		25.61667	24.74528
5	1001	event_four	12/2/2012		8.5	4.173333
6	1002	event_one	12/3/2012		31.06667	17.54389
7	1002	event_two	12/3/2012	Detention	26.95	13.82611
8	1002	event_three	12/3/2012		22.83333	13.77694
9	1002	event_four	12/3/2012		21.56667	18.96639
10	1003	event_one	12/3/2012		20.28333	7.367778
11	1003	event_two	12/4/2012		22.16667	15.0775

Requirements to use REDCap?

- Must have a valid HSC Net-ID
- Must apply for a one year account and sign the User Agreement in the REDCap Account Request Form
- Renew your account annually (Reminders are sent to users by the REDCap application)



This is the Redcap Account Request form's main menu at <https://ctsc.health.unm.edu/apps/redcap> where you can apply for a REDCap Account. Even affiliates from other universities can apply for their account here as long as they have first acquired an HSC Net ID. Click the last option to renew your account when you get an expiration notification from Redcap.

Please select the option button that best describes you.

NEW REDCap Accounts

**HSC STAFF** I am an HSC regular staff employee, faculty or student with an HSC Net ID and would like a NEW REDCap Account.

**AFFILIATE** I am NOT an HSC regular staff employee, but a collaborator from an outside institution who has been granted an HSC Net ID, and would like a NEW REDCap Account.

Account RENEWALS

**RENEWAL** I have received an account expiration notification from REDCap and would like to renew my CURRENT REDCap User Agreement (extending my expiration date). I have a current HSC Net ID.

## Requirements for IRB Projects

As part of our oversight we are currently asking IRB projects to submit these credentials before we put their projects into production:

- Copy of protocol as submitted to the IRB
- Copy of IRB Approval Letter
- Copy of List of Team Members including those who have access to identified or de-identified data



## REDCap Training

Redcap doesn't exactly come with a User's manual, but there are resources that can help you get up to speed.



## The "Training Resources" Tab

One place to go is the "Training Resources" tab from right inside the Redcap application. There are nearly 2 dozen excellent tutorials covering the basics as well as many specialized types of projects.

Title	Description	Watch Video
<b>Brief Overview</b>	A quick summary of what REDCap is and what it can do.	

## The "Help & FAQ" Tab

Right next to it is the Help & Frequently Asked Questions tab. The FAQs are not complete, but they do cover a lot of territory and are well-written.

- General
  - Mobile Devices
  - Language Modules
- Project Setup / Design
  - Surveys
  - Longitudinal
  - Project Linking
  - Copy A Project
- Data Collect Instrument (DCI) Design
  - Online Designer / Data Dictionary
- Field Types
  - Text Validation Types
  - Dates
  - Calculated Fields

## Security

REDCap employs Secure Socket Layer (SSL) technology to encrypt your data as it moves from your computer to the REDCap database. Your data is then stored on an encrypted drive. Other security measures are employed by the application to protect itself from hacking.



## HIPAA

REDCap is HIPAA compliant. It provides the tools to secure your data.

*That said, for those with access to your project, it is possible to be careless with data. You need to define processes and procedures for your project that will reinforce what REDCap already offers.*



## User Rights

For example, below is a portion of the User Rights module in every project. Here you can limit who has access to what (e.g. tell Redcap who can export a dataset), and whether they can download identified data, or just a de-identified set). So...who on your team, has access to what? You need to manage your users' access to your project.

**Basic Rights**

- Expiration Date (if applicable)
- Highest level privileges:
  - Project Design and Setup
  - User Rights
  - Data Access Groups
- Privileges for data exports (including PDFs and API exports, reports, and data):
  - Data Exports:
    - No Access
    - De-Identified\*
    - Remove all tagged Identifier fields.
    - Full Data Set
  - Add / Edit Reports: Also allows user to view ALL reports (but not necessarily all data in the reports)

**Data Entry Rights**

NOTE: The data entry rights "only" pertain to a user's ability to view or edit data on a web page in REDCap (e.g., data entry forms, reports). It has no effect on data imports or data exports.

	No Access	Read Only	View & Edit	Edit survey responses
Pre-Screening Survey (survey)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="checkbox"/>
Participant Info Survey (survey)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="checkbox"/>
Participant Morale Questionnaire (survey)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="checkbox"/>
Blood Samples	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
Completion Data (to be entered by study personnel only)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
Survey	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	

## Field Properties

When you define a field, you need to tell REDCap which ones contain Protected Health Information. These fields won't be exported to a "de-identified" dataset. But REDCap won't know which fields contain your sensitive information until you select them using the "Identifier?" box shown below.

Field Type: Text Box (Short Text)

Question Number (optional):

Field Label: Date of birth

Field Annotation (optional):

Variable Name (utilized during data export): dob

Validation (optional):

Required?  No  Yes

Identifier?  No  Yes

Custom Alignment: Right / Vertical (RV)

Field Note (optional):

### Develop Security Policies & Procedures for your Project

Security needs to happen at all levels

- System and Application Level
- Project Level
- User Level

Redcap is a flexible tool, but...

- Security can be maximized at any level
- Security can be ignored at any level

Defining processes and procedures that work in tandem with REDCap's built-in features can help make your project more secure.



### Public-Privacy Enemy # 1 = Your Data Exports

The Number One process you can develop to increase the security of your data is to “mindfully” manage your Data Exports. Whether you are the sole user or part of a team, you should know what you are downloading, where it is going, and what happens to it when you are finished with it.



### Defeating Privacy Enemy #1

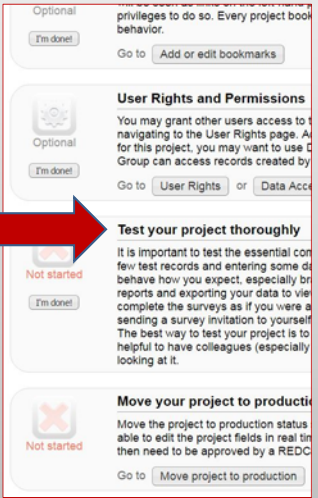
- Remember that if a user has “User Rights” permissions they have ALL permissions available for their project
- Minimize the number of users on your project with “User Rights” permissions
- Tightly control who has access to “DE-IDENTIFIED” data
- Be mindful of where you leave casually downloaded data sets and delete them when you no longer need them
- Only export identified data when you absolutely need it



### REDCap Mobile App

- Designed for use in rural areas or wherever wi-fi access is non-existent or unreliable.
- Data can be synched to main REDCap project when user is back in an area with reliable wi-fi.
- Use on Android or iOS tablet devices.
- Requires use of VPN for synching data from outside the HSC firewall.
- Requires special permission and training by a REDCap Administrator.
- Requires its own User Agreement
- Eliminates the need for paper-based instruments.





Optional privileges to do so. Every project book behavior.  
Go to [Add or edit bookmarks](#)

**User Rights and Permissions**  
Optional You may grant other users access to navigating to the User Rights page. A for this project, you may want to use Group can access records created by  
Go to [User Rights](#) or [Data Access](#)

**Test your project thoroughly**  
Not started It is important to test the essential core few test records and entering some data behave how you expect, especially before reports and exporting your data to view complete the surveys as if you were a sending a survey invitation to yourself! The best way to test your project is to helpful to have colleagues (especially looking at it.)  
Go to [Test your project thoroughly](#)

**Move your project to production**  
Not started Move the project to production status able to edit the project fields in real time then need to be approved by a REDCap  
Go to [Move project to production](#)

## When the Serious work Begins:

- Consider how REDCap should fit into your project in terms of process flow
- Consult with a Biostatistician
- Plan out your instruments ahead of time
- **FULLY TEST THE FUNCTIONALITY OF YOUR REDCAP PROJECT WHILE YOU ARE IN DEVELOPMENT MODE..... BEFORE MOVING TO PRODUCTION**

## End of Instructional Material