April 10, 2017

REDCap Basics Outline

Welcome

**INTRODUCTION**

* Mike and RITO
* Emily

My name is -. What I do here is -. I work with RITO for … and RITO staff are here… What we are going to do today is get you started and put you on your way to getting started collecting data. We’re going to talk about getting access to REDCap and some basic project workflow, which will be the biggest part of this presentation. If you have any questions, feel free to raise your hand. I’ll also pause every so often to ask for questions.

Goals

* Overview
* Getting started

On our agenda today….

**AGENDA**

Brief history of RedCAP

* Developed by professor at Vanderbilt in 2006 specifically to meet needs of researchers having a secure method to enter data that met current standards of compliance. Allowed researchers to take control of the creation and execution of the data collection parts of their project.
* In 2006, still growing and popular, formed REDCap consortium of academic, nonprofit, and gov institutions to be active contributing members.
* Now an engaged community of experts interested in research data support
* In use in 2309 institutions in 108 countries
* 404,000 projects
* Chances are good that researchers you know have user REDCap

**WHAT IS REDCAP**

* REDCap is an acronym that stands for Research Electronic Data capture
* It is web-based, access from any device
* Also cross-platform and available from a mac, windows machine or tablet
* It’s secure; we have strict security measures and can meet HIPAA compliance needs for projects (talk to RITO for specifics, if you have questions). Patient data can be contained in REDCap.
* Was built by researchers for researchers, who were fed up with having to put all of their in Excel or Access and said “there has to be a better way!”
* Finally, REDCap provides a high degree of customizability
  + For example, if your PI comes to you and wants you to add a specific scoring tool halfway through the protocol or change the flow, you can do that. You don’t have to do a lot of reprogramming.
* Mature, secure web app
* Specially for gathering research data
* Two modes of data collection
  + Personal database
* Online surveys
  + Administer simple recruitment surveys
  + Collect data for clinical trials

**WHY USE REDCAP?**

* Ease of use: built to be used by people who aren’t programmers; you don’t need programming experience to use it. You don’t need to know HTML, Java, C-Sharp or other programming languages out there
* High level of control and quality control. There are login features, ways to check and query your data and fix it.
* Flexibility
* All the automony! If all goes well, you won’t need a programmer at all. You can run a project from A to Z without RITO assistance.
* Wide user base: community, local users, training materials online, in-person training and upping the institutional knowledge here at UNMC and in the IDeA CTR
* Stored at **Nebraska Medicine (NM?)** data centers here in NE, not a third party site
* Support operational activities such as class registration or evaluations (your evaluation for this course will be based n REDCap)
* Administer multi-site studies
* Eliminate double data entry and promote data integrity
* Accessibility – web-based and right there.
* Still secure

**KEY FEATURES**

* Form design, logic, user control, audit trails, directed or anonymous participation surveys, reporting, longitudinal studies and randomized clinical control trials.

**Security**

* Hosted at UNMC in our data center, which itself is secure
* Three-tier restriction on access:
  + System login (NetID, you have an account)
  + Project access (you create your own project or get added to someone else’s project)
  + User restriction via access groups, set up by project administrator (you can only see the first form, you can see everything, you can run reports, for example). This is the final level of security.
* Audit trails are extensive. Logged for each step of the project.
* De-identified data
  + Can identify variables as PHI
    - Whether a date-shift with a random number or a name that gets removed from data. This is available in the user rights for accessing data, as well as in the export of data (export de-identified data instead of the fully data set with identifiers)
  + Use the export module with de-identifying option

**ROLES FOR PROJECT MEMBERS**

**Basic Data Entry – project tasks**

* Add/edit records
* Search
* Unique record IDs
* Deleting test records (and test records are not production records!)

Reports

* Custom
* Subset

**PROJECT OWNERS**

**Project Setup**

* Steps you must complete before moving to production, presented in a logical order

**Access Groups**

* Overall management Mange the project data
* Deidentification
* Move it to another REDCap project
* Erase all data (only while in DEVELOPMENT)

Moving to production (and assuming costs)

Including external people in project team (to access data, account creation costs)

Regulatory issues, copyright

**COST AND SUPPORT**

* RITO provides basic support: classes, online documentation, some project consultation.
* Charges: building the project for you/project development, post-production changes, management of external users, data transfer/storage, projects longer than one year, recovering data if deleted by user error (but this comes with lots of safeguards, so it’s uncommon!)
* Summary of charges is available on the RITO site.
* Service Level agreements can be arranged

**Two Modes (Mike’s slide)**

**RITO**

* + We are responsible for hosting, maintaining, upgrading, support as needed
  + **TO ACCESS IS YOU ARE IN IDeA PERSON…**

**SAMPLE SURVEY**

**SAMPLE SURVEY FOOD ALLERGIES**

* Today focus on a sample data collection project pertaining to food allergies in people who visit specific clinics in Nebraska
* Highlight
  + Food allergies conditional logic
  + Weight satisfaction logic
  + Link to BMI in Wikipedia
  + Weight calculation (if below neither satisfied nor dissatisfied)
  + Upload PDF
  + Submission

---LIVE DEMONSTRATION—

**GETTING STARTED**

**Getting Started**

* How to access it (system login, project access, user restrictions)
* UNMC REDCap site
* Account process. Create account, log in, get started.

**Overall Navigation**

* Home
* My Projects
* Request New Project
* Help & FAQ
* Training Resources (dropdown)
* Send IT
  + Using 'Send-It', upload and send files to multiple recipients, including existing project documents, that are too large for email attachments or that contain sensitive data.

General Orientation

* **Home** screen with Home, My Projects, Request New Project, Training Resources, FAQ
* Going into REDCap. It’ll look more like this.
* Home button (lots of info about REDCap)
* **My Project** is huge list of active projects
* Click on link to go to project
* Quick statistics, overview of instruments
* Status – production or development

**Requesting a Project**

* Name & purpose (do a test project/practice sandbox) to try all features
  + After you get a name, give it a purpose.
  + When you DO use for research, select Research. This is where you input PI name and IRB information. You can fill it out later.
* After that, Choose template type
  + Basic is very bare bones. This is fine for you if you are really comfortable with REDCap: you know exactly what you need and you want to start from scratch
  + The other templates are a great start for getting you oriented to what a survey or longitudinal data collection project looks like and what you need to fill out.
* Demonstration of **Request New Project**
  + Pick practice (briefly show “Research” IRB fields)
  + Skip blank slate template
  + Choose an existing template
  + Lots of options in here. Select **Single Survey;** click create project
  + Approval process: You can create projects – but to move then to **Production** requires approval by local REDCap administrator
  + The default state for a project is development. The “graduated” and “ready for deployment state is “production.”
  + Functionality between the two is pretty much the same. To make changes, you need to go through an approval process. Admin will double check your work to make sure that you don’t lose any data. For example if you want to delete a variable, that would be a clear data loss. So, that is checked for you.
  + When you request to move to production, your project is reviewed and approved. Once in production, when you touch you project and change it, then request to implement that change, it is reviewed and you may be contacted by RITO. This requires administrator time to ensure project integrity.

**PROJECT SETUP**

* One you have a new project, you’re going to spend a lot of time in project set-up mode
* Step-by Step process
  + **Main project settings**: longitudinal, surveys, titles
  + **Instrument design:**  where you pick your variables –NOTE **REDCAp shared library**
  + **Event Design:** if you do have longitudinal events, you will want to set up baseline, time 1, time 2, etc. This only shows up with you have longitudinal mode ON; won’t show up if mode is off
  + **Modules –** allow you to tailor some functionality within your project
  + **Bookmarks –** different from bookmarks in my browser because they are linked to the project itself (such as a protocol PDF that you want all memebrs to share; just add here as a bookmark)
  + **User rights-** optional if you are the only user
  + **Move to production –** from development to production
    - **You muse move to production before you collect any real data.** Do your tests in development, work out all the issues. But you get logging, audit and help safeguard against data integrity issues

**Project Set-up page**

* Quickly over these things; looks busy, but is actually fairly simple
* **Top left:** Main navigation on left (your login)
* Project status
* **Data collection window**: dependent on functions you have turned on (survey); scheduling shows up when I have a longitudinal study with surveys. Record status dashboard is going to be there regardless of what you turn on, and is usually how you start collecting data
* **Applications**: if you have user rights to applicaitons, they will show up.
  + **Calendar** – if you use, it has to be contained within REDCap, can’t be exported to Outlook
  + **Data exports etc** – where you run reports and export them
    - **Click on** – select format (LOTS to chose from; see also deideintifying options)
  + **Data import** – opposite from export. Can import legacy data. Good instructions on how to do it.

I**NTRODUCTION TO DESIGN**

**Online Designer General**

* Instruments (create, import, upload; rename, copy, delete, download; no limit to number of forms in project)
* Variables (must have at least one in each instrument)
* Surveys vs instruments (instruments can be tuned into surveys; any survey can still be filled as a form)

**Variable Creation**

* Necessary attributes (field name, type, label)
* Optional attributes (is this required?, identifier, alignment, field note, field annotation, action tags)
* Conditional attributes (validation, min, max, ontology lookup, choices)
* Matrixed fields (are collections or variables)

**Field Types**

* Unstructured
* Structured
* Special & calculation **(show Mike’s slide on BMI calculation)**
* Display (HTML, video, etc)
* Matrix

**Raw data example**

* Record status dashboard

**Shared library of data collection instruments**

* Located on Project REDCap main website
* repository for REDCap data collection instruments and forms that can be downloaded and used by researchers at REDCap partner institutions.
* Curated instruments have been approved for inclusion by the REDCap Library Oversight Committee (REDLOC) after review for research relevance, accuracy in function and coding and copyright issues

**Reports (Project home) and logging (left), briefly**

**SUPPORT FROM UNMC**

**Sequential course, more coming**

**Evaluation**

**Products of your work with REDCap:** Cite it

* If you’re using REDCap, cite it. Boilerplate language is available (show this boilerplate example) <https://projectredcap.org/resources/citations/>

**Store data and make it available**

* Journal or funding body requirements vary greatly.

**Further questions, contact RITO.**