An Introduction to REDCap v5

Presented by

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DISC
Data Informatics Services Core

Services provided:
- Selection of appropriate data collection and management tools
- Development of data collection systems and instruments
- Custom application and database programming
- Assistance with all aspects of data management

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REDCap™
Research Electronic Data Capture

Upcoming Events:
- Weekly All-Hands Consortium Meeting - Every Friday, 1-2PM Central

| Introduction | Software | Consortium Partners | Become a Partner | Video Resources | Citing REDCap | Library |

The **REDCap Consortium** is composed of **564 active institutional partners** from CTSA, GCRC, RCMI and other institutions in **51 countries**. The consortium supports a secure web application (REDCap) designed exclusively to support data capture for research studies.

The REDCap application allows users to build and manage online surveys and databases quickly and securely, and is currently in production use or development build-status for more than **59,000 projects** with over **78,000 users** spanning numerous research focus areas across the consortium. To find out if your institution is already running REDCap, you will find contact information on the Consortium Partners page. Learn more about REDCap by watching a brief summary video (4 min).

Map of REDCap Consortium Partners

View fullscreen map

Map | Satellite

ASIA

Atlantic Ocean

AFRICA

SOUTH AMERICA

Pacific Ocean

Indian Ocean

AUSTRALIA

Google

Terms of Use

Recent publications using REDCap:

Infantile hemangiomas and retinopathy of prematurity: clues to the regulation of vasculogenesis. *Eur. J. Pediatr. 2013 Jan;*

Application of Chemical Exchange Saturation Transfer (CEST) MRI for Endogenous Contrast at 7 Tesla. *J Neuroimaging. 2013 Feb 12;*

Blacks Have a Greater Sensitivity to ?1-Adrenoceptor-Mediated Venoconstriction Compared With Whites. *Hypertension. 2013 Feb 11;*

Fenofibrate lowers blood pressure in salt-sensitive but not salt-resistant hypertension. *J Hypertens. 2013 Feb 4;*

Contribution of Endogenous Bradykinin to Fibrinolysis, Inflammation, and Blood Product Transfusion Following Cardiac Surgery: A Randomized Clinical Trial. *Clin Pharmacol Ther. 2012 Dec 24;*

Comparative Effectiveness of Dynamic Abdominal Sonography for Hernia vs Computed Tomography in the Diagnosis of Incisional Hernia. *J Am Coll Surg. 2013 Jan 25;*

View all 499 articles

## CTSA Clinical & Translational ® Science Awards

The Clinical and Translational Science Awards (CTSA) is a registered trademark of DHHS.

Consortium Partners

REDCap is hosted at multiple consortia partner institutions. In most cases, a centralized group (e.g. CTSA, RCMI or GCRC Informatics Core) supports all study-specific projects for the institution, thus eliminating duplication of infrastructure requirements and support personnel. Click on the *View collaborators* link for any institution listed below to find contact information for the core informatics group supporting REDCap. If your institution is not listed, see the Become a Partner page to find more information about joining our group.
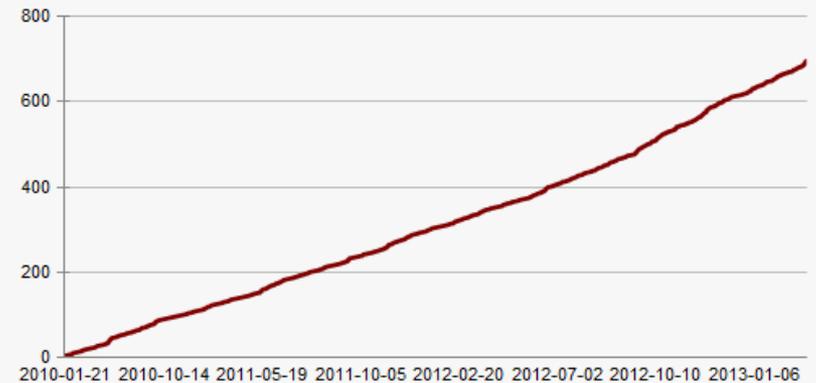
Consortium access view:

[ ] [Log in]

ALL REDCap Projects (Consortium-wide)
Production and Development
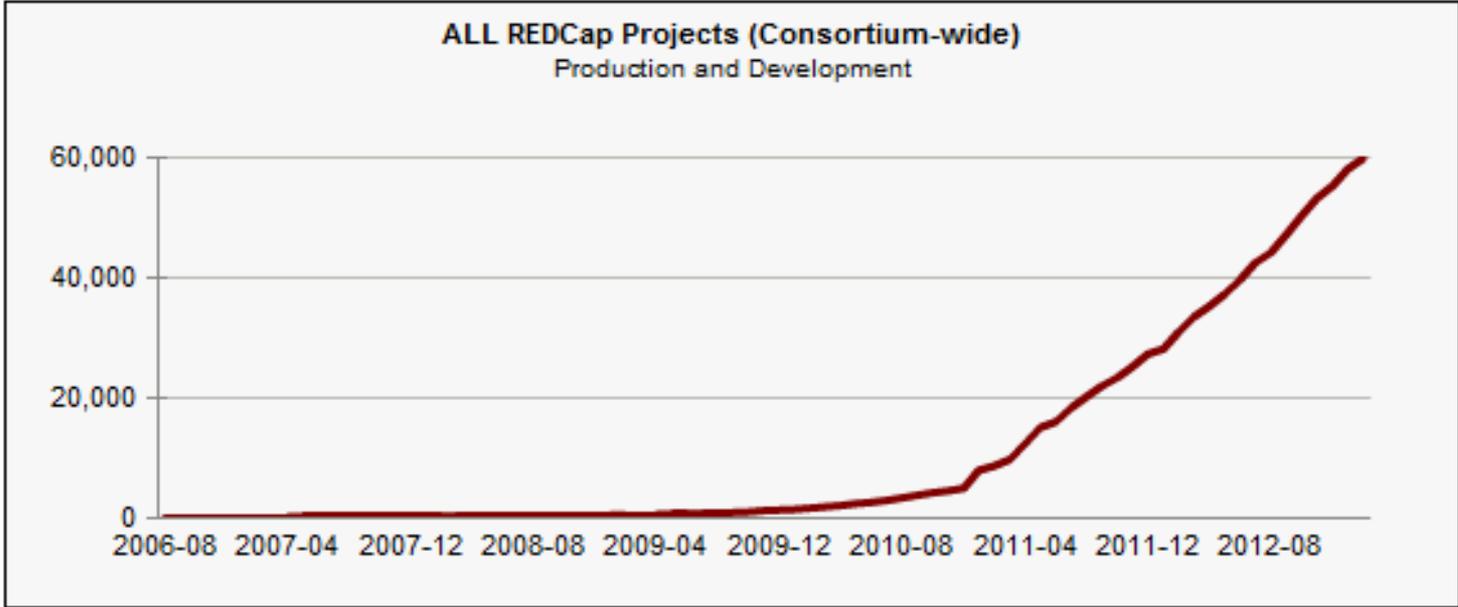
Our REDCap growth since January 2010…
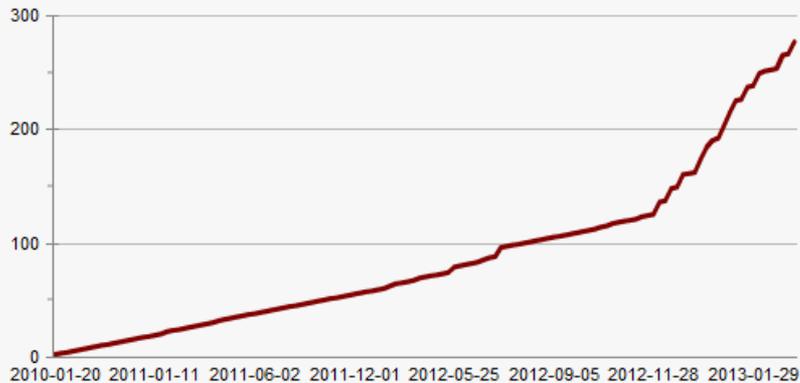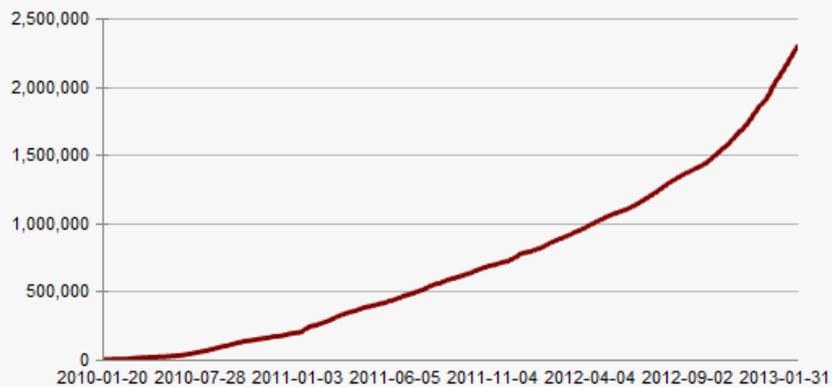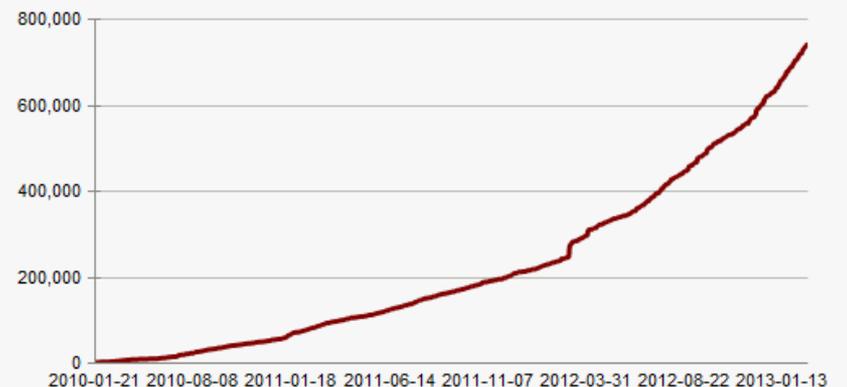
What's new in REDCap version 5?

- Multiple Surveys per Project
  - In v4, only 1 survey was allowed per database.
  - In v5, projects can now have multiple surveys per database
- Project Templates
  - Templates are simply a new project pre-loaded with fields, forms/surveys, and events (if longitudinal).
  - Existing projects can be copied as templates
- Schedule Survey Invitations
  - Survey invitations can now be scheduled to be sent anytime. Large surveys can be set to send during off-peak times.
- Record Status Dashboard
  - This gives a visual overview of every record in your project.
- Automated Survey Invitations
  - Invitations can now be scheduled or triggered by conditions.
  - Example: Participant finishes a survey, 30-day follow-up survey is queued
  - Example: A response value in the survey triggers the next survey.

REDCap™

Log In

Please log in with your user name and password. If you are having trouble logging in, please contact Andre Hackman (410)614-5646.

Username: [   ]

Password: [   ]

[Log In]   Forgot your password?

Welcome to REDCap!

REDCap is a secure, web-based application for building and managing online surveys and databases. Using REDCap's stream-lined process for rapidly developing projects, you may create and design projects using 1) the online method from your web browser using the Online Designer; and/or 2) the offline method by constructing a 'data dictionary' template file in Microsoft Excel, which can be later uploaded into REDCap. Both surveys and databases (or a mixture of the two) can be built using these methods.

REDCap provides automated export procedures for seamless data downloads to Excel and common statistical packages (SPSS, SAS, Stata, R), as well as a built-in project calendar, a scheduling module, ad hoc reporting tools, and advanced features, such as branching logic, file uploading, and calculated fields.

Learn more about REDCap by watching a 🎞 brief summary video (4 min). If you would like to view other quick video tutorials of REDCap in action and an overview of its features, please see the Training Resources page.

NOTICE: If you are collecting data for the purposes of human subjects research, review and approval of the project is required by your Institutional Review Board.

If you require assistance or have any questions about REDCap, please contact Andre Hackman (410)614-5646.

REDCap Features

Build online surveys and databases quickly and securely - Create and design your project rapidly using secure web authentication from your browser. No extra software is required.

Fast and flexible - Conception to production-level survey/database in less than one day.

Export data to common data analysis packages - Export your data to Microsoft Excel, PDF, SAS, Stata, R, or SPSS for analysis.

Ad Hoc Reporting - Create custom queries for generating reports to view or download.

Scheduling - Utilize a built-in project calendar and scheduling module for organizing your events and appointments.

Easily manage a contact list of survey respondents or create a simple survey link - Build a list of email contacts, create custom email invitations, and track who responds, or you may also create a single survey link to email out or post on a website.

Save your data collection instruments as a PDF to print - Generate a PDF version of your forms and surveys for printing to collect data offline.

Advanced features - Auto-validation, calculated fields, branching/skip logic, and survey stop actions.

Using Biostatistics Center REDCap service

- Standard charge per project is $95/month with no term commitment and includes:
  - Initial training session with designated project team member
  - "Routine" support for form and project development
  - Server administration, maintenance and backup
- Each additional project for the same Principle Investigator is charged $47.50/month
- School of Nursing and Johns Hopkins Bayview ICTR charged $47.50/month. Local team supports REDCap users directly.
- Fully functional development server made available free of charge for all users

Biostatistics Center REDCap Environment

- We support and administer two instances of REDCap
  - Shared instance is for most REDCap projects
  - Dedicated instance is for a large data coordinating center
  - Each instance has separate web server and database server pair
  - All servers are running Ubuntu Linux

Biostatistics Center REDCap customizations

- Randomization
  - To address requests for randomization of study participants, we made modifications that will assign randomized treatments.
  - Requires a pre-populated table with random treatment assignments
  - Can send custom email notifications with or without treatment info.
- Email notifications
  - Use cases were patient randomizations and a Serious Adverse Event form.
  - Upon submission of SAE form with status of "Complete", email is sent to specified email address(es).
  - Created a separate REDCap project to allow for management of notification email addresses.

REDCap Benefits

- Web-based
- Nothing to install and no compatibility issues!
- Fast and flexible survey setup and design
- No programmer required
- Multi-site access
- Surveys can be saved as PDF with/without data
- Ability to correct data on the fly, with audit trail
- Data are easily exported from REDCap
- Active and responsive support consortium

REDCap Review

- Things REDCap does well…
  - Rapidly build forms by constructing the codebook
    - This "forces" good data practices by requiring the codebook BEFORE data entry
  - Easily import data from existing data or ongoing data source
    - Data is checked for problems before final import. Allows for adjudication of data.
  - Automatic audit trail of all activity
    - Becoming a standard requirement for most studies.
  - Exporting data
    - Datasets including any or all data fields are easy to construct
    - Automatic de-identification
    - Corresponding program file for all of the major stats package to import and label data
  - User Management
    - Multiple users per project
    - Permissions can be set to limit access to forms and applications
  - Web Accessible
    - Only requires a browser to access the program
    - Issues of security and backup are handled by server administrators

REDCap Review

- Limitations of REDCap…
  - Form layout has limited customization
    - This could be a problem if your project requires complex or precise layout.
    - Orientation of fields at a minimum would be helpful (i.e. radio buttons shown horizontally or vertically)
  - No "unlimited" repeating rows (subforms)
    - You must allocate the estimated number of fields ahead of time.
    - Example: What meds are you currently taking? Number of responses will vary. REDCap requires fields *med1,med2,…medn*
  - No simple method within REDCap to "browse" all records
  - No adjustable double-data entry – Currently ALL or NONE of records

REDCap Review

- Concluding thoughts…
  - REDCap creates a "standard" that most projects can use
    - Benefits the institution by reducing the hundreds of small data "islands"
    - Benefits the study in reduced technical costs for programming and security
    - Efforts on one project can be leveraged and are easily used in another.
    - Reduces the risk of corporate knowledge loss with staff turnover.

  - The REDCap consortium "drives" the development agenda
    - Consists of similar institutions and individuals
    - Lessons learned are rapidly shared to benefit all

REDCap Resources

- **REDCap Consortium Site**
  http://project-redcap.org/

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