

# REDCap Executive Overview

Institute for Clinical and Translational Science (ICTS)

University of Iowa



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[https://icts.uiowa.edu/confluence/download/attachments/53149797/REDCap\\_Executive\\_Overview.pdf](https://icts.uiowa.edu/confluence/download/attachments/53149797/REDCap_Executive_Overview.pdf)

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# What is REDCap?

Research Electronic Data Capture  
(REDCap)

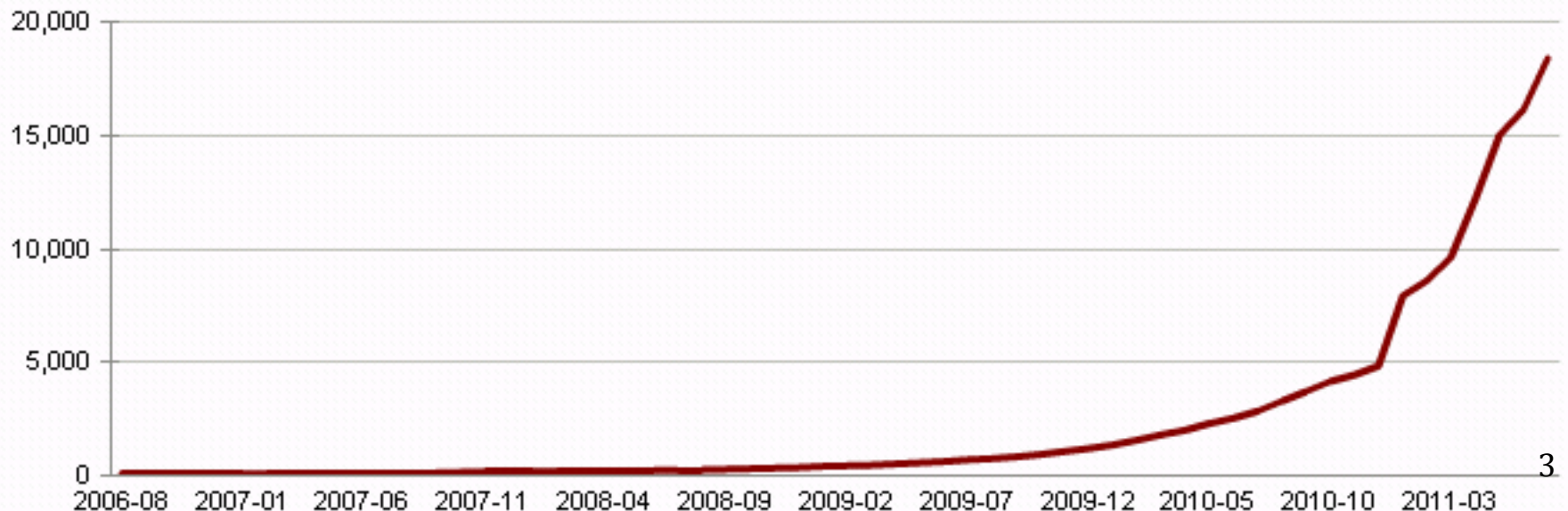
REDCap is a web-based application designed to give Researchers and Clinicians the capacity to create and manage databases and surveys in order to support data capture for research studies.



# Who uses REDCap?

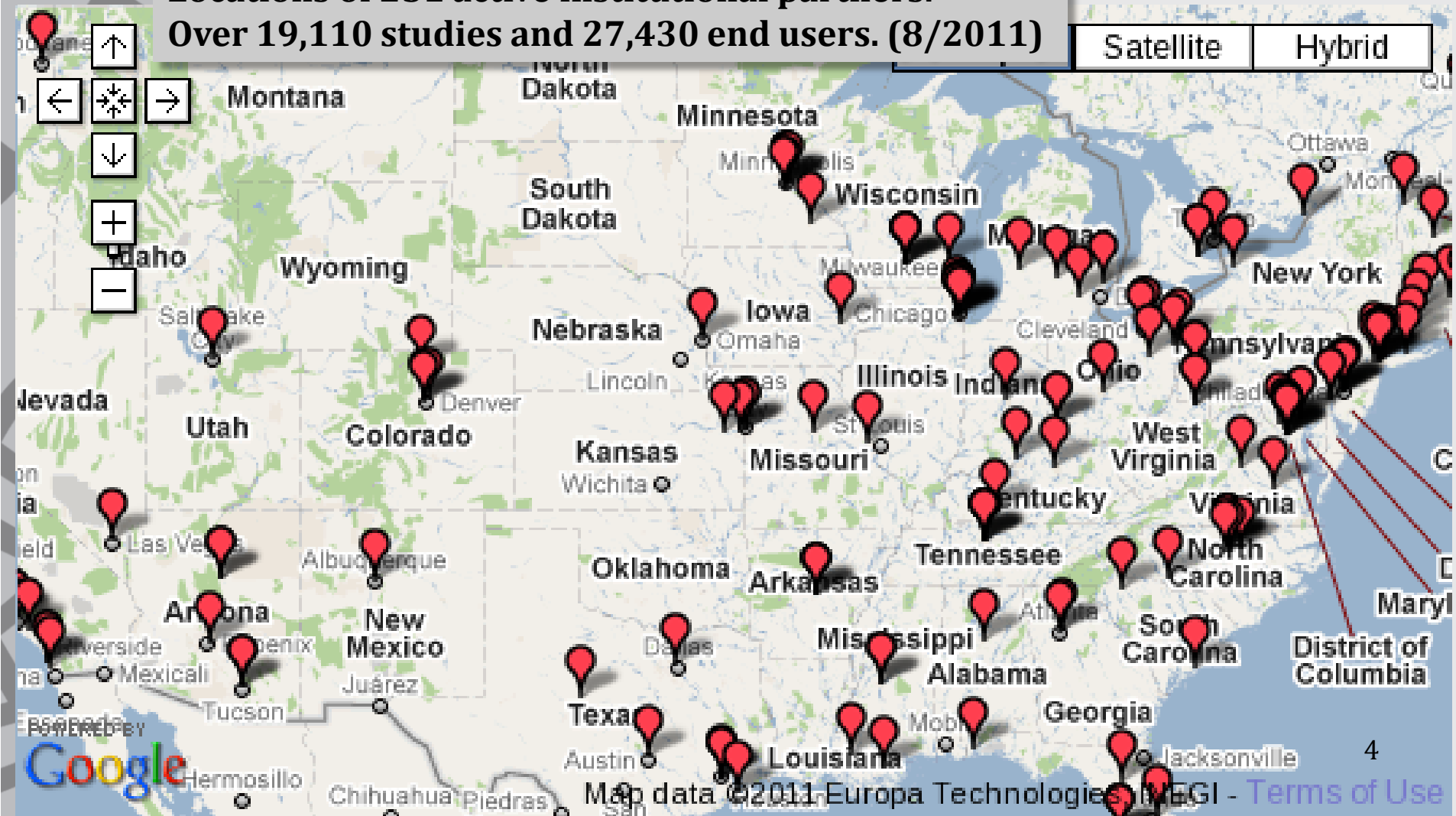
- 252 active institutional partners (worldwide)
- More than 19,110 studies
- Over 27,434 end-users (8/2011)

**ALL REDCap Projects (Consortium-wide)**  
Production and Development



# REDCap Consortium

Locations of 251 active institutional partners.  
Over 19,110 studies and 27,430 end users. (8/2011)



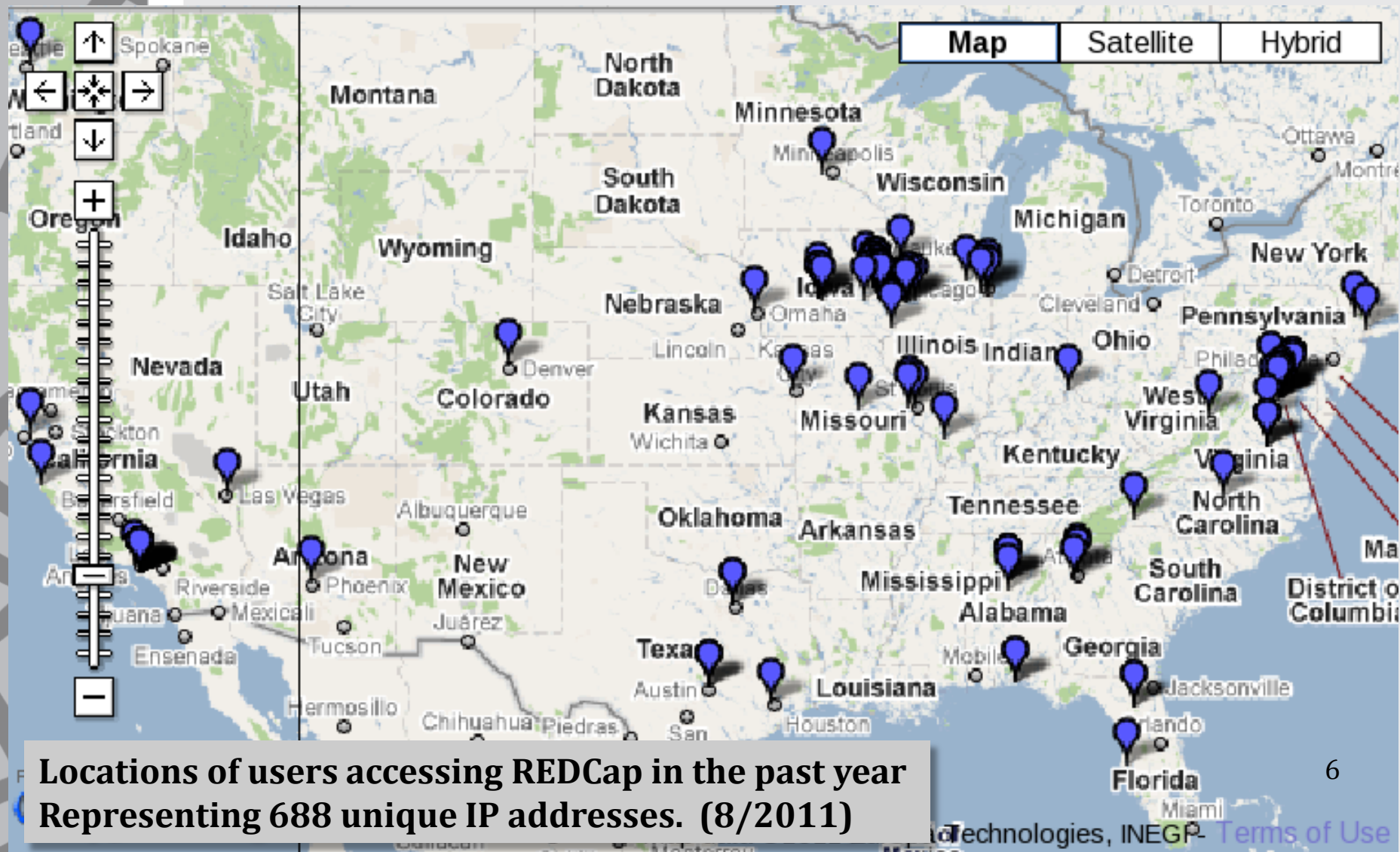
# REDCap access at U Iowa



- Any University of Iowa investigator or research team can use REDCap
- Anyone with a valid HawkID and password can login:
  - <https://redcap.icts.uiowa.edu>



# U of Iowa REDCap Collaborators



# REDCap via Online Designer

Current instrument: **Demographics**

[Preview instrument](#)

[Add Field Here](#)



Variable: study\_id

**Study ID**

[Add Field Here](#)



Variable: consent

**Has the subject been consented?**

☐ Yes ☐ No

[reset value](#)

[Add Field Here](#)



Variable: date\_consented

**Date Consented**



[Today](#)

[Add Field Here](#)





Variable: date\_consented\_was

**Days since consented:**

[View equation](#) [Disclaimer](#)

# REDCap Data Collection Form

Study ID	<input type="text" value="vol15"/>
Has the subject been consented?	<input type="radio"/> Yes <input type="radio"/> No <a href="#">reset value</a>
Date Consented	<input type="text"/>  Today
Days since consented:	<input type="text"/> <a href="#">View equation</a> <a href="#">Disclaimer</a>
Demographics Information	
First Name	<input type="text"/>
Last Name	<input type="text"/>
Street, City, State, ZIP	<div><input type="text"/></div> <a href="#">Expand</a>
Phone number	<input type="text"/>
Date of Birth	<input type="text"/>  Today 8
Age	<input type="text"/> <a href="#">View equation</a> <a href="#">Disclaimer</a>



# REDCap Form Field Types

- **Variety of Field types:**

- ☐ Single line of text
- ☐ Multiple text lines
- ☐ Dropdown list
- ☐ Radio buttons
- ☐ Checkboxes
- ☐ Slider
- ☐ File upload
- ☐ File download
- ☐ Label
- ☐ Section
- ☐ Images

The collage displays several examples of REDCap form fields:

- Text Field Value:** A simple text input field.
- Text Field Note:** A text input field with a note below it.
- Text Field Label:** A text input field with a label above it.
- Section:** A section header with a title and a description.
- Image:** An image field showing a person's face.
- Inline Image Field Label:** An image field with a label above it.
- File Upload Field Label:** A file upload field with a label above it.
- File Upload Field Note:** A file upload field with a note below it.
- Text Zipcode Field Note:** A text input field with a note below it.

# REDCap User Form Features

- **Branching logic (conditional questions)**
- **Calculated fields**
- **Client side form validation**
- **Built in report builder**
- **Repeating forms for longitudinal studies**
- **Survey for pre-screening data collection**



# REDCap User Admin Features

- **Draft/production mode (change control)**
- **Create database**
- **Copy databases**
- **Export/Import data**
- **Record locking (prevent changing of validated records)**
- **Audit trail logging (who, did what, when)**



# User Rights Management

- **Grant collaborator access to the database**
- **Grant user access type to database data (e.g. read only, read/write)**
- **Grant user access to form functionality (e.g. edit, reports, import, export, etc.)**



# REDCap Privacy Features

- Identified data can be flagged in the interface.
- Data protection can be applied to those that have restricted access to identifiers.
- All transactions are fully encrypted
- Logins use secure authentication



# REDCap User Rights

HawkID	Expiration	Calendar	Data Export Tool	Data Import Tool	Data Comparison Tool
fmccclurg	never	✓	Full Data Set	✓	✓
hdavis	never	✓	Full Data Set	✗	✗

## Comprehensive User Rights

HawkID	Expiration	Calendar	Data Export Tool	Logging	File Repository	User Rights	Data Access Groups	Graphical Data View & Stats	Reports & Report Builder	Lock/Unlock Records	Project Setup/Design	Create Records	Rename Records	Delete Records
hdavis	never	✓	Full Data Set	✓	✓	✓	✓	✓	✓	✗	✓	✓	✗	✗
khaggert	never	✓	De-Identified	✓	✓	✓	✓	✓	✓	✗	✗	✓	✗	✗
lheureuxj	never	✓	✗	✓	✓	✗	✗	✓	✓	✗	✗	✓	✗	✗
mckillipj	never	✓	✗	✓	✓	✗	✗	✓	✓	✗	✗	✓	✗	✗
mlhein	never	✓	✗	✓	✓	✗	✗	✓	✓	✗	✗	✓	✗	✗

Record Locking Customization	Lock/Unlock Records	Project Setup/Design	Create Records	Rename Records	Delete Records
✗	✗	✓	✓	✗	✗
✗	✗	✗	✓	✗	✗

# REDCap Export Features

- **Data can be exported to statistical packages (SPSS, SAS, R or Excel)**
- **Data access can be granted or restricted when exporting for analysis**
- **Exports can include identified or de-identified data only on a per user basis**

# REDCap Report Features

## New Test Report

Study ID (study_id)	Has the subject been consented? (consent)	Date Consented (date_consented)	Age (age)	Ethnicity (ethnicity)	Race (race)	BMI (bmi)	Gender (sex)
<a href="#">vol1</a>		2010-12-13	19	Unknown / Not Reported (2)	White (4)	28.3	Female (0)
<a href="#">vol12</a>	Yes (1)	2011-03-15	19	Hispanic or Latino (0)	Asian (1)	17.4	Male (1)
<a href="#">vol14</a>	Yes (1)	2011-03-31	19	Unknown / Not Reported (2)	Unknown / Not Reported (6)		
<a href="#">vol2</a>		2011-02-25	42	NOT Hispanic or Latino (1)	White (4)	20.8	Male (1)
<a href="#">vol3</a>		2011-01-19	37	Hispanic or Latino (0)	Multiracial (5)	16.8	Male (1)
<a href="#">vol4</a>		2010-02-10	26	NOT Hispanic or Latino (1)	Black or African American (3)	16.2	Female (0)
<a href="#">vol5</a>		2011-02-14	68	NOT Hispanic or Latino (1)	White (4)	11.6	Male (1) 16
<a href="#">vol6</a>		2011-02-23	29	NOT Hispanic or Latino (1)	White (4)	8.7	Male (1)



# REDCap Logging Features

Time / Date	HawkID	Action	List of Data Changes OR Fields Exported
2:24pm 07/13/2011	fmcclurg	Data Export	participant_id, redcap_icts_logo, introduction, training_specifics, current_training, july_registered_when_invited, first_name, last_name, training_topics, training_other, comments
2:13pm 07/13/2011	fmcclurg	Manage/Design	Enabled survey notification for users
2:11pm 07/13/2011	fmcclurg	Manage/Design	Email survey participants
2:06pm 07/13/2011	fmcclurg	Manage/Design	Add survey participants
9:31am 07/11/2011	fmcclurg	Manage/Design	Bring survey back online
9:24am 07/11/2011	fmcclurg	Manage/Design	Download report (CSV)
9:07am 07/11/2011	fmcclurg	Manage/Design	Download report (CSV)
8:45am 07/11/2011	fmcclurg	Manage/Design	Take survey offline
3:26pm 07/05/2011	fmcclurg	Manage/Design	Edit report
3:25pm 07/05/2011	fmcclurg	Manage/Design	Edit report
3:46pm 07/01/2011	fmcclurg	Manage/Design	Email survey participants
3:45pm 07/01/2011	fmcclurg	Manage/Design	Add survey participants
3:39pm 07/01/2011	fmcclurg	Manage/Design	Delete survey participant
3:39pm 07/01/2011	fmcclurg	Manage/Design	Add survey participants 17
12:04pm 06/30/2011	[survey respondent]	Created Response 33	current_training(629) = checked, first name = 'Tyler',

# REDCap System Security

- **Physical Security**
  - Primary Data HCIS Pomerantz Data Center
  - Data backups – ITS Lindquist Data Center
- **Operating System Security**
  - HawkID Based Logins
  - Data Encrypted
  - Remote System Audit Logs



# REDCap Security Certifications

- **ITS System Security Scan**
  - ❖ All identified issues mitigated
- **ITS Web Application Evaluation**
  - ❖ In progress
- **FISMA compliant (moderate rating)**
  - ❖ For confidentiality, integrity, and availability
- **National Children's Study**
  - ❖ Received Authority to Operate



# **REDCap Data Backups**

- **Data is replicated every 15 minutes to remote data center**
- **Over 100 versions of data are maintained**
- **Reliable and tested disaster recovery strategy**



# REDCap Documentation

- **Training within REDCap:**

- **FAQs (Help & FAQ Tab):**



<https://redcap.icts.uiowa.edu/redcap/index.php?action=help>

- **Video (Training Resources Tab):**



<https://redcap.icts.uiowa.edu/redcap/index.php?action=training>

- **Local REDCap documentation:**



<https://icts.uiowa.edu/confluence/display/ICTSit/REDCap>



# REDCap Newsletter



- **Monthly REDCap Newsletter**

- ☐ Upcoming Training
- ☐ Helpful Tips
- ☐ New REDCap Functionality
- ☐ Frequently Asked Questions (and answers)
- ☐ Featured REDCap Projects
- ☐ Unique Uses of REDCap

- **REDCap LISTSERV Subscription:**

- ❖ <https://list.uiowa.edu/scripts/wa.exe?SUBED1=REDCAP&A=1>

