

An Overview and New Feature Update

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Presenter: Andre Hackman

Current Position:

Faculty, Research Associate
Biostatistics Department
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Background:

- 19 years, involved with public health research at the Johns Hopkins Bloomberg School of Public Health both in the United States and overseas.
- First I I years, in the Department of International Health supporting large, maternal mortality trials in Nepal and Bangladesh as well as anemia prevention trials in east Africa.
- Past 8 years, working in the Johns Hopkins Biostatistics Center as the Associate
 Director of the Data Informatics Services Core which provides data management
 services to researchers both inside and outside of Johns Hopkins University.

Johns Hopkins Biostatistics Center Team





Upcoming Events:

· Weekly All-Hands Consortium Meeting - Every Friday, 1-2PM Central

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

REDCap is a mature, secure web 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. The REDCap Consortium is composed of 2,007 active institutional partners in 107 countries who utilize and support REDCap in various ways.

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 293,000 projects with over 404,000 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 (5 min) or overview (14 min).

Map Satellite Atlantic Ocean Pacific Ocean SOUTH AMEN Map data ©2016 Terms of Use Report a map error

Recent publications using REDCap:

ICU-RESPECT: An Index to Assess Patient and Family Experiences of Respect in the Intensive Care Unit J Crit Care. 2016 Jun 29;36:54-59. doi: 10.1016/j.jcrc.2016.06.018.

Patellar Articular Overlap on MRI Is a Simple Alternative to Conventional Measurements of Patellar Height Orthop J Sports Med. 2016 Jul 8:4(7):2325967116656328. doi:

10.1177/2325967116656328. eCollection 2016.

Mid-Term Results and Predictors of Patient Reported Outcomes of Birmingham Hip Resurfacing J Arthroplasty. 2016 Jul 6. pii: S0883-5403(16)30343-6. doi:

10.1016/j.arth.2016.06.049.

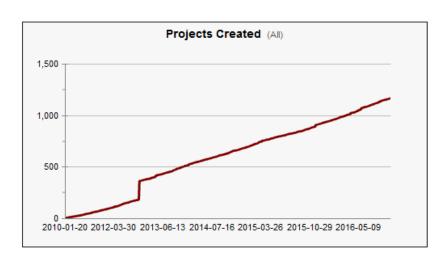
Patterns of Distant Metastases After Surgical Management of Non-Small-cell Lung Cancer Clin Lung Cancer. 2016 Jul 5. pii: S1525-7304(16)30169-3. doi: 10.1016/j.cllc.2016.06.011.

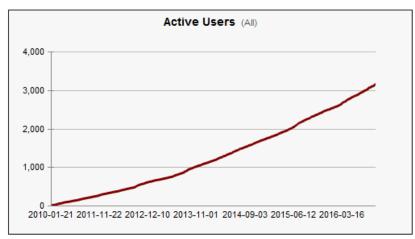
Electronic data collection in epidemiological research. The use of REDCap in the Pelotas birth cohorts Appl Clin Inform. 2016 Jul 13;7(3):672-81. doi: 10.4338/ACI-2016-02-RA-0028.

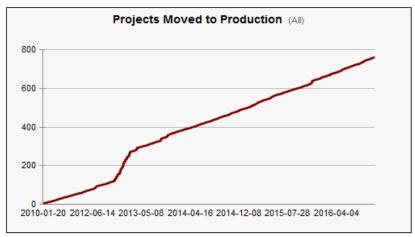
Factors associated with tobacco use among patients with multiple chronic conditions Int J Cardiol. 2016 Jul 5;221:1004-1007. doi: 10.1016/j.ijcard.2016.07.041.

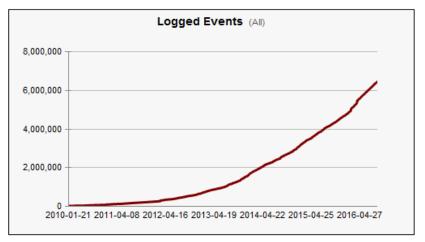
View all 2,581 articles

Our REDCap growth since January 2010...







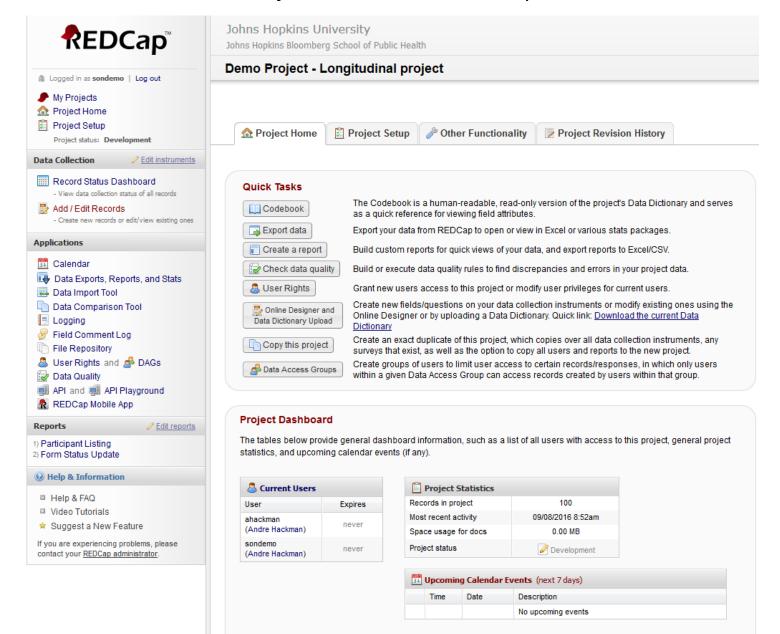


REDCap Benefits

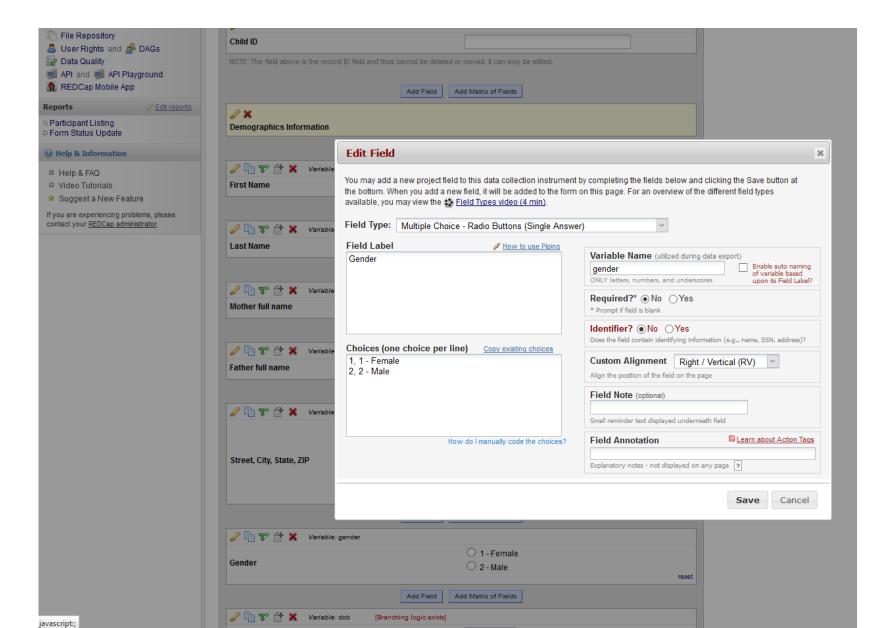
- Web-based
- Uses your browser Nothing extra to install
- Fast and flexible survey setup and design
- No programmer required
- Multi-site access
- Multi-user access
- Data collection instruments can be saved as PDF with/without data
- Ability to correct data on the fly, with audit trail
- Data are easily exported from REDCap
- Active and responsive support consortium



Project Home View in REDCap



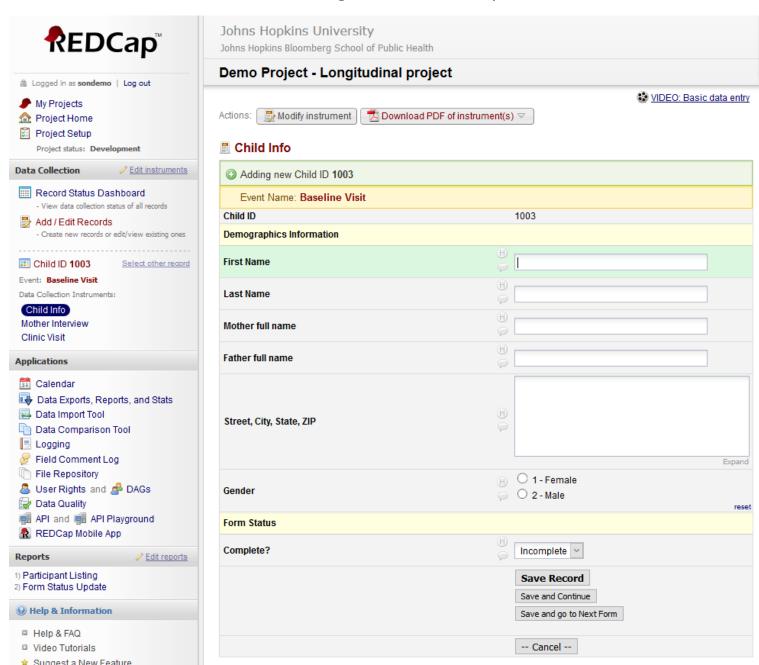
Online Form Designer in REDCap



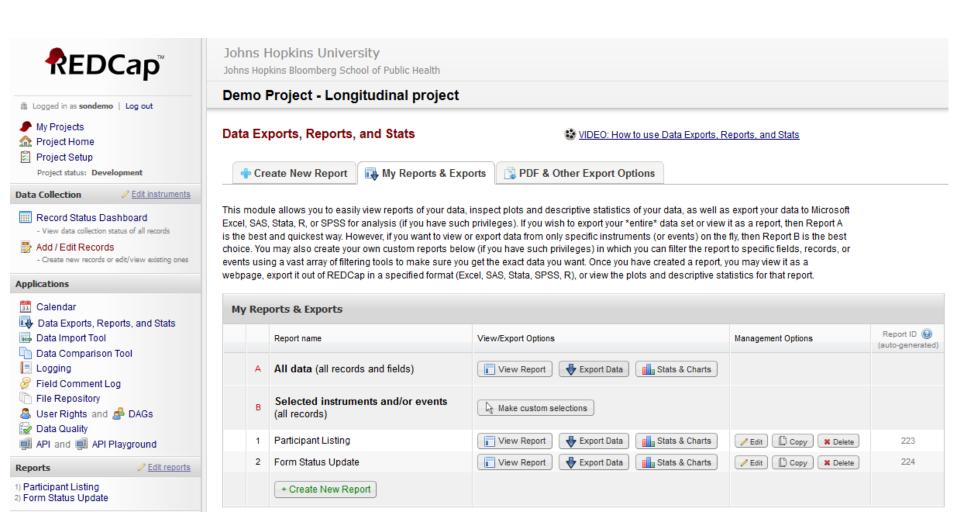
Offline Data Dictionary in REDCap download csv text file --> edit --> upload

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F	LE HOME INSERT PAGE	GE LAYOUT FORMULAS		_	or ACROBAT TEAM	Andre Hackman
		✓ Ruler ✓ Formula Ba	ar Q		Split View Side by Side	
Non	mal Page Break Page Custom Preview Layout Views	✓ Gridlines ✓ Headings	Zoom 100% Zoom to New A Selection Window	rrange Freeze All Panes +	Unhide Reset Window Position Switch Windows	
	Workbook Views	Show	Zoom	All Tulles	Window Macros	
Da		£				
B36	· · · · · ·	fx demographics	5			
	A	В	С	D	E	F
1	Variable / Field Name	Form Name	Section Header	Field Type	Field Label	Choices, Calculations, OR Slider Labels F
32	gender	demographics		dropdown	Gender	0, 0 - Female 1, 1 - Male
33	currentlypreg	demographics		radio	<h1>Are you currently pregnant?</h1>	0, 0 - No 1, 1 - Yes 2, 2 - Do not know
34	testscale	demographics		slider	test scale	0 5 10
35	desctest	demographics		descriptive	Descriptive text test	
36	test_negcode_radio	demographics		radio	Testing Question with a negative coding for missing/don't	k 1, Happy 2, Neither happy nor sad 3, Sa
37	test_negcode_ckbox	demographics		checkbox	Testing Question with a negative coding for missing/don't	k 1, Happy 2, Neither happy nor sad 3, Sa
38	not_happy	demographics		text	Not Happy	
39	pain	demographics		slider	pain	mild moderate severe
40	testformat	demographics		text	<h3>Penetration Aspiration Scale. </h3> <u>Rosenbek et a</u>	al, Dysphagia 11:93 98 <i>April </i> 199 F
41	phone_number	demographics		text	Phone number	g
42	sample1yn	demographics		radio	1. Sample Question	1, Yes 0, No
43	sample2yn	demographics		radio	2. Sample Question	1, Yes 0, No
44	sample3yn	demographics		radio	3. Sample Question	1, Yes 0, No
45	sample4yn	demographics		radio	4. Sample Question - eligible is No	1, Yes 0, No
46	sample5yn	demographics		radio	5. Sample Question - eligible is No	1, Yes 0, No
47	samplesum	demographics		calc	Eligible for Study? (1-3 must be Yes, 4-5 must be No)	if([sample1yn]+[sample2yn]+[sample3yn]=
48	painlevelslider	demographics		slider	Pain Level	None (0) Mild (5) Extreme (10)
49	painlevelvalue	demographics		calc	Pain Level Value	[painlevelslider] / 10
50	like_fruit	demographics		dropdown	Do you like fruit?	1, yes 0, no
	samplecheckall	demographics		checkbox	For this question check all that apply:	1, apples 2, oranges 3, grapes 4, banar

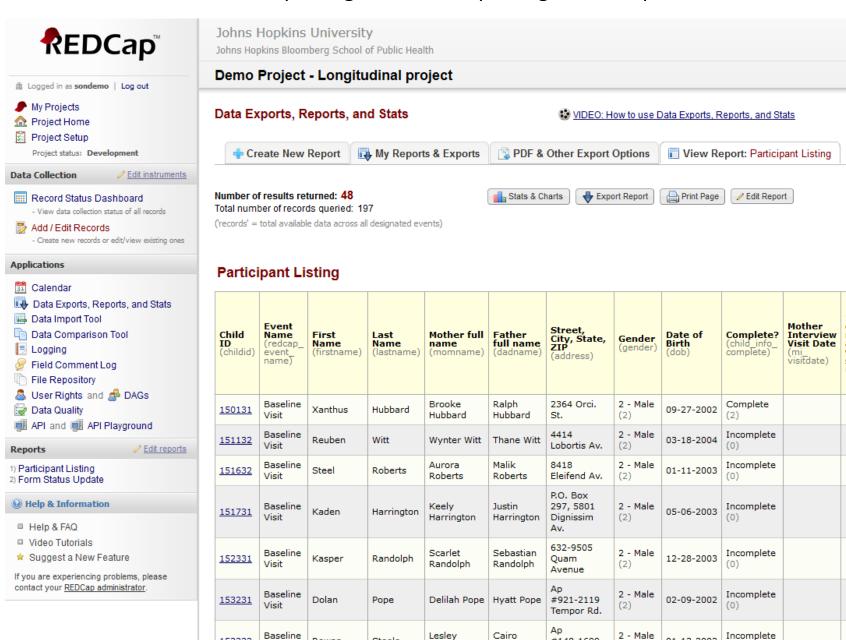
Entering Data in REDCap



Exporting Data and Reporting in REDCap



Exporting Data and Reporting in REDCap



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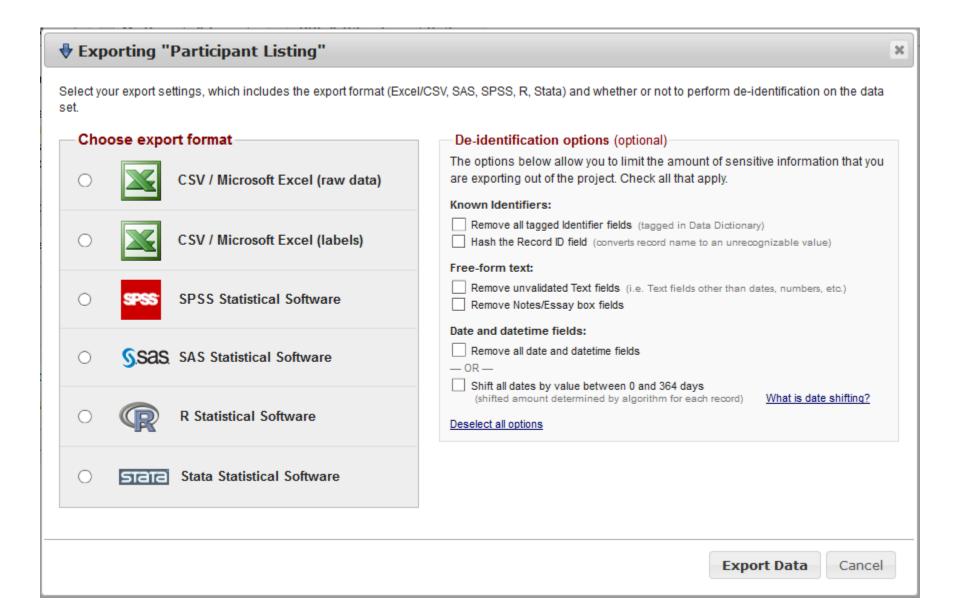
Visit

Rowan

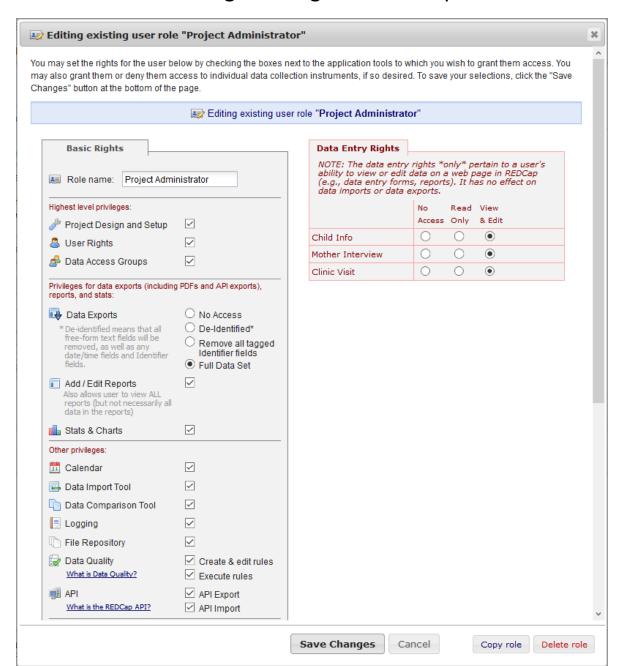
Steele

Steele

Exporting Data and Reporting in REDCap



Setting User Rights in REDCap



Audit Trail Logging in REDCap



Johns Hopkins University

Johns Hopkins Bloomberg School of Public Health

Presentation Demo Database 3

Logging

Download entire logging record to Microsoft Excel (CSV)

This module lists all changes made to this project, including data exports, data changes, and the creation or deletion of users.

Filter by event: All event types (excluding page views) ▼

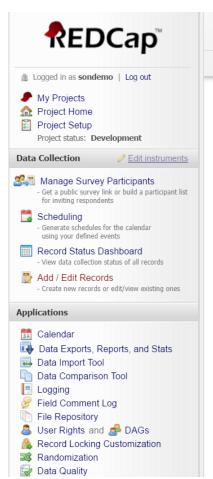
Filter by user name: All users ▼

Filter by record: All records ▼

Displaying events (by most recent): 601 - 700 ▼

Time / Date	Username	Action	List of Data Changes OR Fields Exported
10:31am 07/28/2011	ahackman	Data Export	study_id, first_name, last_name, address, dob, gender, currentlypreg
10:19am 07/28/2011	ahackman	Manage/Design	Reorder project fields
10:16am 07/28/2011	ahackman	Manage/Design	Download data dictionary
7:47am 07/28/2011	ahackman	Updated Record 1002 (Baseline - Arm 1: Treatment group)	gender = '1'
7:46am 07/28/2011	ahackman	Manage/Design	Edit project field
7:46am 07/28/2011	ahackman	Manage/Design	Edit project field
4:15pm 07/21/2011	ahackman	Manage/Design	Download exported data file (CSV raw)
4:15pm 07/21/2011	ahackman	Data Export	study_id, first_name, last_name, address, dob, sex sample2yn, sample4yn, sample5yn
3:59pm 07/21/2011	ahackman	Manage/Design	Reorder project fields
2:42pm 07/14/2011	ahackman	Manage/Design	Rename data access group
2:42pm 07/14/2011	ahackman	Manage/Design	Rename data access group
2:34pm 07/14/2011	ahackman	Data Export	study_id, first_name, last_name, address, dob, sex currentlypreg, testformat
2:21pm 07/14/2011	ahackman	Manage/Design	Reorder project fields
2:20pm 07/14/2011	ahackman	Manage/Design	Reorder project fields
1:45pm 07/11/2011	ahackman	Data Export	study_id, first_name, last_name, address, dob, sex currentlypreg, testformat, phone_number, sample1yn
1:38pm 07/11/2011	ahackman	Manage/Design	Download data dictionary

Data Quality Module in REDCap



Johns Hopkins University ICTR - Clinical Research Unit

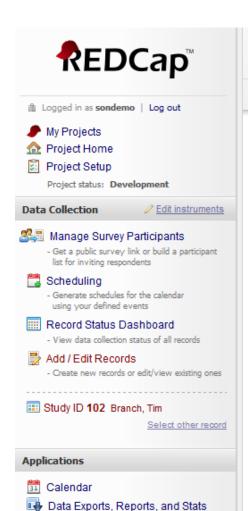
Intro to Data Management 2015-16 T4 Demo (master)

Data Quality

This module will allow you to execute data quality rules upon your project data to check for discrepancies in your data. Listed below are some pre-defined data rules that you may utilize and run. You may also create your own rules or edit, delete, or reorder the rules you have already created. To find discrepancies for a given rule, simply click the Execute button next to it, or click the Execute All Rules button to fire all the rules at once. It will provide you with a total number of discrepancies found for each rule and will allow you to view the details of those discrepancies by clicking the View link next to each. Read more detailed instructions.

a Quality	Rules	Execute rules: All All except A&B Apply to:	All custom (Clear			
Rule #	Rule Name	Rule Logic (Show discrepancy only if)	Real-time execution ?	Total Discrepancies	Johns Hopkins University	University of Maryland	Delet
А	Missing values*	-		Execute			
В	Missing values* (required fields only)	-		Execute			
С	Field validation errors (incorrect data type)	-		Execute			
D	Field validation errors (out of range)	-		Execute			
Е	Outliers for numerical fields (numbers, integers, sliders, calc fields)	-		Execute			
F	Hidden fields that contain values**	-		Execute			
G	Multiple choice fields with invalid values	-		Execute			
Н	Incorrect values for calculated fields	-		Execute			
1	Participant is older than 50. Please confirm that they are currently pregnant.	[currentlypreg] = "1" and [ageyrs] > 50	②	Execute			×

Surveys in REDCap



□ Data Import Tool
 □ Data Comparison Tool
 □ Data Compariso

Field Comment Log
File Repository

🚨 User Rights and 🧀 DAGs

Logging

Johns Hopkins University

ICTR - Clinical Research Unit

Intro to Data Management 2015-16 T4 Demo (master)

Event Grid

The grid below displays the form-by-form progress of data entered into the project for one particular Study ID for all defined events. You may click on the colored buttons to access that form for that event. If you wish, you may modify the events below by navigating to the Define My Events page.

Legend for status icons: Incomplete Incomplete (no data saved) ? Univerified Partial Survey Response Complete Completed Survey Response

Study ID 102 Branch, Tim (Arm 1: Treatment group)

Data Collection Instrument	Baseline (1)	3 Month visit	6 Month visit	1 Year visit	Acute Care Visit #1 (5)	Acute Care Visit #2	Acute Care Visit #3	Acute Care Visit #4 (8)	Acute Care Visit #5
Demographics	•								
Baseline Form									
Follow-up Form									
Final Survey (survey)									
Acute Care Visit Form									

Surveys in REDCap

Fina	al Survey	Resize font:
Please	e complete the survey below. you!	
1)	Did you feel that participating in this study was helpful?	○ Yes ○ No reset
2)	During your visits, were the study staff helpful and informative?	○ Yes ○ No reset
3)	Would you be willing to participate in a future study?	○ Yes ○ No reset
4)	Do you have any suggestions or feedback for the study team?	Expand
	Submit	

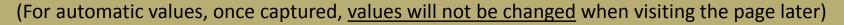
We're Upgrading to REDCap v6.16.8 (finally!)

- Our timeline...
 - Currently running v6.8.2 (released 8/26/2015)
 - Upgrading to v6.16.8 (released 9/8/2016)
 - We had hoped to complete the upgrade last weekend but ran into non-REDCap technical issues and some testing issues.
 - We are expecting to upgrade this coming weekend if testing goes well!



New action tags

Tag	Description
@LATITUDE	Allows a Text field to capture the latitude of the user.
@LONGITUDE	Allows a Text field to capture the longitude of the user.
@PASSWORDMASK	Masks the value of a Text field so that the true value is not visible on the webpage after it has been entered (like password fields on login pages).
@NOW	Automatically provides the user's current time as the value of a Text when the page is loaded.
@TODAY	Automatically provides the user's current date as the value of a Text when the page is loaded.
@USERNAME	Sets a field's value to the username of the current REDCap user. If this is used on a survey, the value will be "[survey respondent]".
@DEFAULT	Sets a field's initial value. For text fields, Piping is allowed inside the default value to pipe data from another field in the project - e.g., @DEFAULT="Name: [first_name] [last_name], DOB: [dob]"
@HIDEBUTTON	Hides the 'Now' or 'Today' button that is typically displayed to the right of date, time, and date/time fields.





New mobile app action tags

Tag	Description
@APPUSERNAME-APP	In the REDCap Mobile App, this action tag sets a field's value to the app username of the current mobile app user
@HIDDEN-APP	Hides the field only on the form ONLY on the REDCap Mobile App. Field will stay hidden even if branching logic attempts to make it visible.
@READONLY-APP	Makes the field read-only (i.e., disabled) on the form ONLY on the REDCap Mobile App so that its value cannot be changed.
@BARCODE-APP	Allows the REDCap Mobile App to capture the value of a barcode or QR code by scanning it with the device's camera.

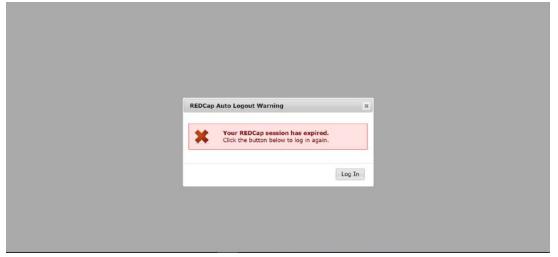


Screen timeout more secure

OLD (Data still visible)

NEW (Blank background)







Custom Event Labels

Custom Event Labels can now be optionally added for any event in a longitudinal project when adding/editing events on the Define Events page.

Study ID 1001 Hackman, Andre

(Arm 1: Treatment group)

OLD event grid

Data Collection Instrument	Baseline	3 Month visit	6 Month visit	1 Year visit	Acute Care Visit #1	Acute Care Visit #2	Acute Care Visit #3	Acute Care Visit #4	Acute Care Visit #5
Demographics									
Baseline Form									
Follow-up Form									
Acute Care Visit Form (survey)									

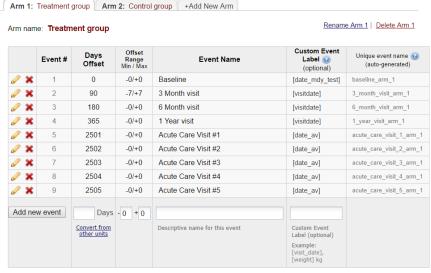
Study ID **1001** Hackman, Andre (Arm 1: Treatment group)

Acute Acute Acute Acute Acute Care Care Care Care 3 Month 6 Month 1 Year Care Visit **Data Collection Instrument** Visit Visit Visit Visit Baseline visit visit visit 08-06-2015 | 11-09-2015 | 02-08-2016 | 08-08-2016 | 2015-11-24 Demographics NEW event grid Baseline Form Follow-up Form Acute Care Visit Form (survey)



Custom Event Labels

 Custom Event Labels can now be optionally added for any event in a longitudinal project when adding/editing events on the Define Events page.



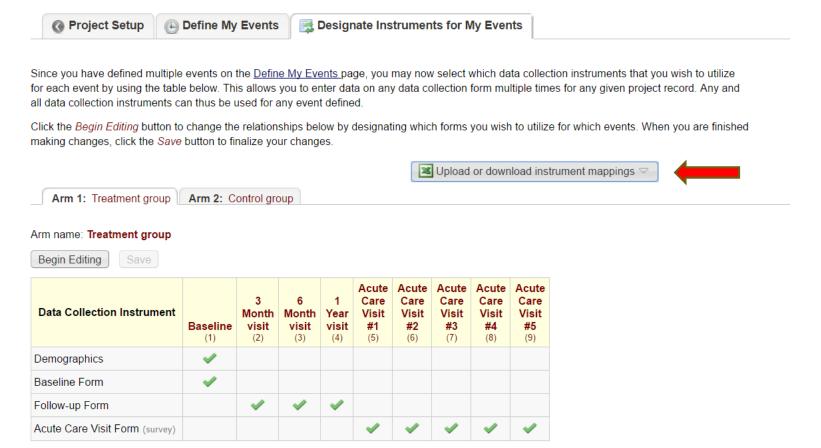
Study ID **1001** Hackman, Andre (Arm 1: Treatment group)

Data Collection Instrument	Baseline 08-06-2015	3 Month visit 11-09-2015	6 Month visit 02-08-2016	1 Year visit 08-08-2016	Acute Care Visit #1 2015-11-24	Acute Care Visit #2	Acute Care Visit #3	Acute Care Visit #4	Acute Care Visit #5
Demographics									
Baseline Form									
Follow-up Form									
Acute Care Visit Form (survey)									



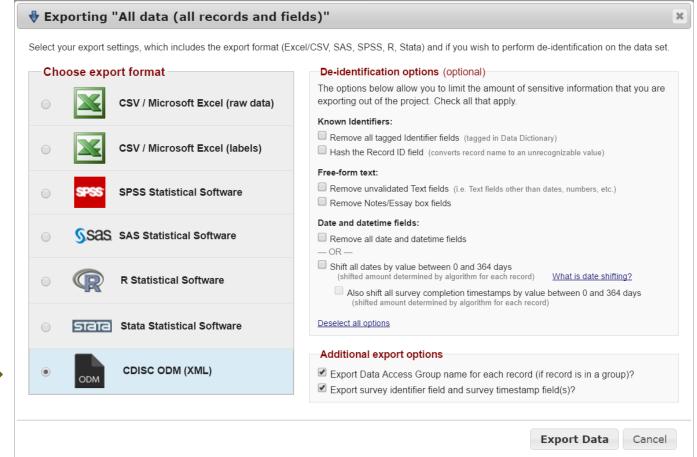


Arms and Events can be downloaded/uploaded





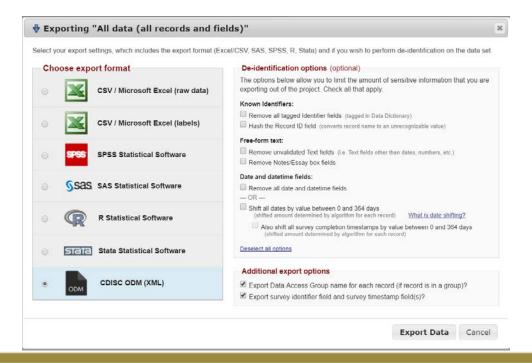
Users may now export a project's data in CDISC ODM format.





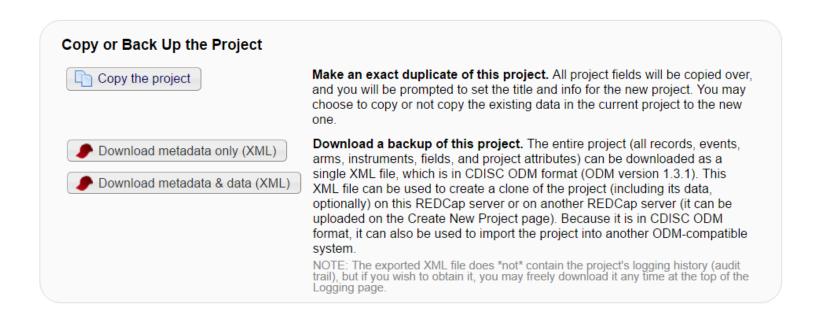


- Large exports will not halt with errors
 - REDCap will now invisibly revert to a backup process that utilizes a local temp file on the server for temporarily storing data during the export process, rather than relying on server memory solely.



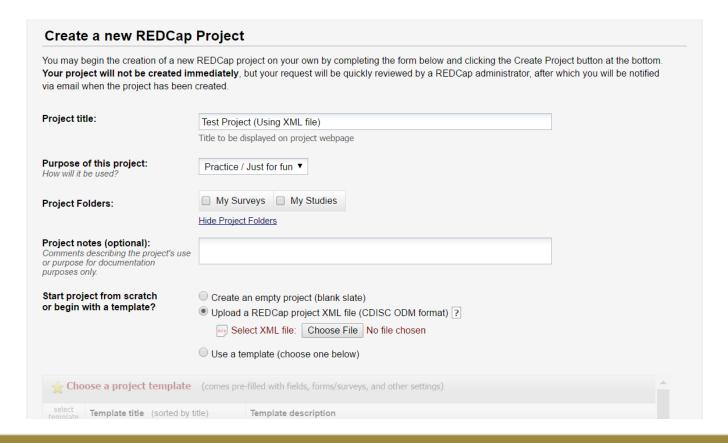


- An entire REDCap project can now be exported as a single XML file in CDISC ODM format.
 - The file includes events, arms, instruments, fields, and project attributes – even Descriptive field attachments.





 Create a new project from a REDCap XML file or other XML file containing metadata in CDISC ODM format.

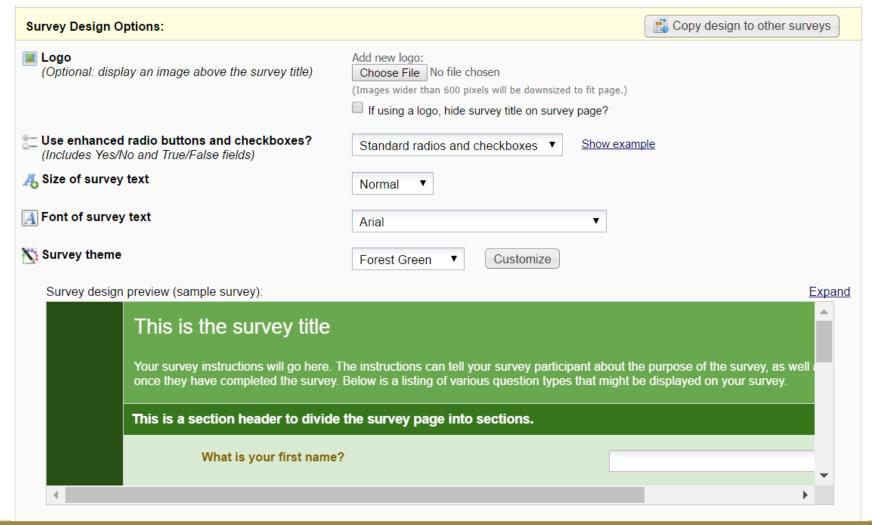




Survey themes

- Size of survey text Set the survey text to a bigger font size (Normal, Large, or Very Large).
- Font of survey text Set the font family of all the text displayed on the survey (Arial, Georgia, Tahoma, and more).
- Survey theme Set the color scheme for the survey.
- A "survey design preview" box is displayed on the Survey Settings page so that the user can see how their survey design choices will make their survey look to respondents.
- Create institution-specific themes: Work with REDCap administrators







Enhanced radio buttons and checkboxes for surveys

Standard

Submit

 Radio buttons and checkboxes are displayed differently on the survey page, in which they appear as large animated buttons that look more modern and stylish than traditional radios and checkboxes.

Enhanced

Submit

Pre-screen date: Pre-screen date: 09-28-2016 Today M-D-Y 09-28-2016 Today M-D-Y Enter your age in years: Enter your age in years: 35 35 Gender: Gender Female Male Male rese Indicate all of the days that are you available: Sunday Indicate all of the days that are you available: Monday **Monday** Sunday Tuesday ✓ Wednesday Tuesday Wednesday Thursday Friday Thursday ✓ Friday Saturday Saturday



- Live Filters for reports and exports
 - Reports can have up to 3 fields that can be designated as a Live Filter.
 - During export, use can choose to apply the currently selected Live Filter to the report when exporting.







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 - During export, use can choose to apply the currently selected Live Filter to the report when exporting.







Project Folders

 Project Folders are a way for users to organize the projects on their My Projects page by putting them into groups. The folder can be given a name and can be color-coded (by setting a text color and background color) so that it displays boldly in the My Projects page.

My Projects Crganize	Fi	Filter projects by title				
Project Title	Records	Fields	Instruments	Туре	Status	
My Surveys (2)						
Test Survey (Andre)	6	19	1 form 2 surveys		₽	
Demo Test Survey	3	24	2 surveys	100		
My Studies (4)						
Presentation Demo Database 3	36	184	3 forms 1 survey			
Test Database (randomization 2)	4	9	1 form			
Demo Project - Longitudinal project	100	46	3 forms			
Intro to Data Management 2015-16 T4 Demo (master)	7	147	4 forms 1 survey			

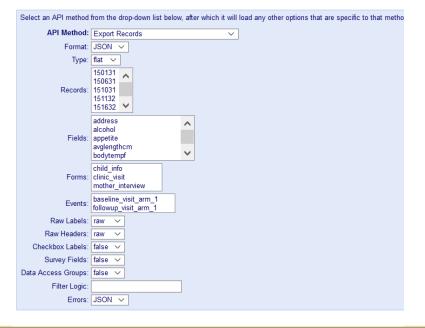


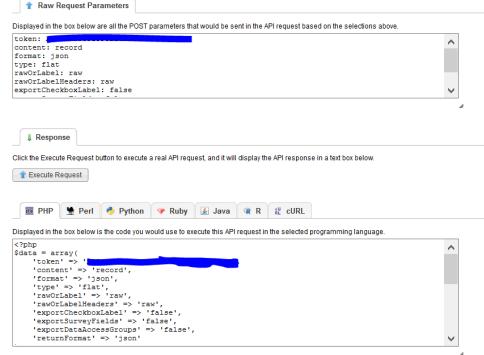
API Playground

 Interface that allows experimentation with the REDCap API without actually writing any code.

API Playground

The API Playground is an interface that allows experimentation with the REDCap API without actually writing any code. You can explo different API methods and their various options to customize a given API request. You may even execute a real API request and see the response that REDCap returns from the request. If you are interested in creating an API script, the section at the bottom will provide of the response that REDCap returns from the request. If you are interested in creating an API script, the section at the bottom will provide of the response to give you a head start. For details on the capabilities of the REDCap API and how to use it, ple REDCap API documentation.







Server-side field validation

- Currently, client-side field validation is performed
- REDCap will now also perform server-side validation to validate all submitted values prior to saving them to ensure they are valid values.
- If invalid values, then the value will not be saved, and the page will be reloaded with an error message (similar to the Required Fields error message) informing the user that invalid values were entered and should thus be corrected, if desired. This new server-side validation improves the overall quality of data being entered on surveys and forms.



Coming soon..

- One-to-many data
 - No longer need to set up structure ahead of time
 - Repeat fields, forms and events on the fly
- Mobile app dashboard
- Better data exploration options
- Request tracking
- Electronic new project requests



Questions?

Thank you!



REDCap Resources

REDCap Consortium Site

http://project-redcap.org/

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Office: (410) 614-2661

http://www.jhsph.edu/JHBC

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