

REDCAP

INTRODUCTION CLASS (101)



Agenda

Overview



*What is
REDCap?*

Getting access



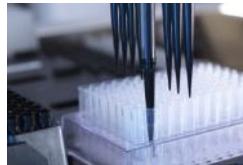
*Project
Navigation*

Design



*How to design
your variables...*

Testing



*Testing your
forms, user rights*

Data collection



*Creating
records*

Export



Exporting Data

ITHS' Focus

- Speeding science to clinical practice for the benefit of patients and communities.
- Promotes translation of scientific discovery by:
 - ❑ Fostering innovative research
 - ❑ Cultivating multi-disciplinary partnerships
 - ❑ Training the next generation of researchers
- More information: www.iths.org



Laboratory

Clinic

Community

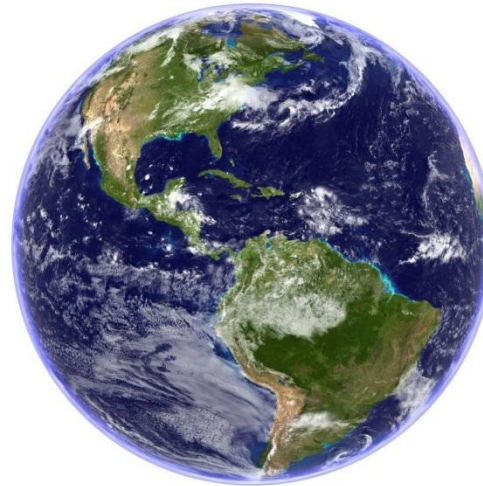


Institute of Translational Health Sciences
ACCELERATING RESEARCH. IMPROVING HEALTH.

What is REDCap?

- ▶ Electronic Data Capture (EDC)
- ▶ Web based
- ▶ Built for research
- ▶ HIPAA compliant
- ▶ User-friendly
- ▶ ITHS REDCap
 - ▶ Free to use (WWAMI Region)
 - ▶ Highly secure
 - ▶ Backed up weekly

**5000+ installations
worldwide**



Accessing REDCap

University of Washington net ID's

Use your UW net ID to login at:

<https://redcap.iths.org>

to create an account

Other University ID's

Select universities can log in with their ID's on our REDCap installation

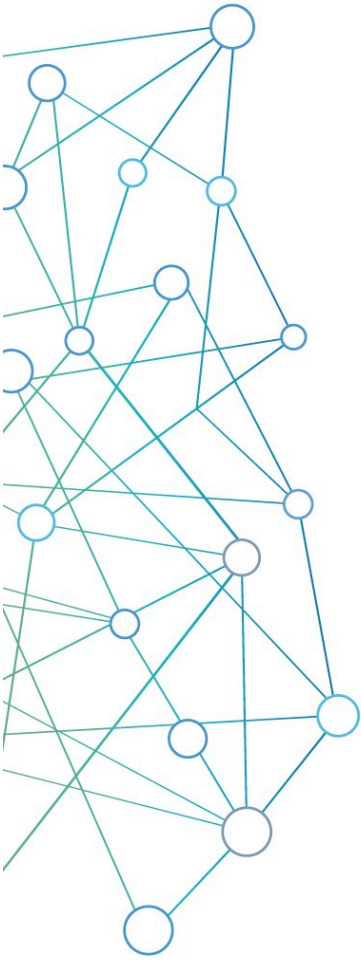
Partner Institutions

Fred Hutch, SCCA, Seattle Children's, PATH, and regional institutions can request ID's

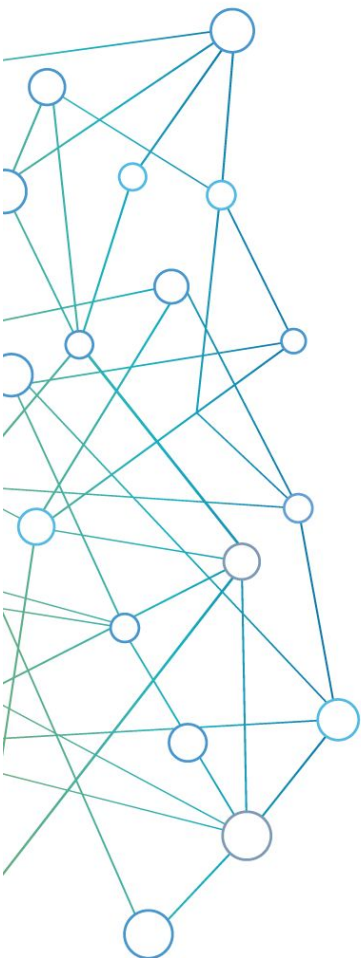
Others

Can use ITHS REDCap for free as long as they are affiliated with one of our partner institutions

ITHS new outside user request form



Security



Web service setup

- *Managed by the UW*
 - *Encrypted on secure servers (256 bit)*
 - *UW HIPAA compliant*
-

Three tiered access

- *System login*
 - *Project access*
 - *User restrictions*
-

Audit trails

- *Logging feature*
-

De-identified data export

- *Identify variables as Personal Health Information (PHI)*
- *Export module with de-identifying option*

Overall Navigation

Home

My Projects

Request New Project

Training Resources

Help & FAQ

My Profile



REDCap Home My Projects + New Project Help & FAQ Training Videos Control Center Logged in as [User] My Profile Log out

Listed below are the REDCap projects to which you currently have access. Click the project title to open the project. [Read more](#)

My Projects [Organize](#)

Project Title	Records	Fields	Instrument	Type	Status
+ Demo (25)					
+ RCCon17 (16)					
+ Ops (8)					
+ Consults (29)					
+ [Redacted] (6)					
+ 3rd party role (3)					
+ Leaf (2)					
+ Bugs (3)					
+ [Redacted] (3)					
+ [Redacted] (2)					

The projects listed below are public and are accessible by anyone. No authentication (i.e. username/password) is required to access them directly. (Note to Administrators: To hide all public projects, modify the setting in the Control Center on the Home Page Configuration page.)

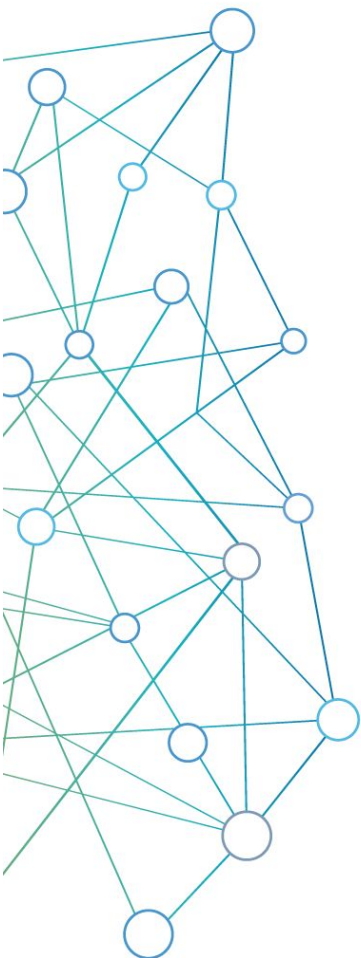
Public Projects

Example Survey

[Show archived projects](#)

REDCap 7.6.0 - © 2017 Vanderbilt University

Project Request / Approvals



Project requests

Done within one business day

Needed information

- *Project title*
 - *Purpose*
 - *Research*
 - *Principal investigator*
 - *IRB*
 - *Type of research*
 - *Project folder*
 - *Project notes*
-

Template, blank slates & XML files

- *Use a template to get started quickly*
 - *Use the blank slate option to start from scratch*
 - *Use a REDCap XML file to load an entire project*
-

Project-Level Navigation

Navigation

Data collection

Applications

Help & Information

Project Home

Project Setup

Other Functionality



Logged in as [username]
Log out
My Projects or Control Center
Project Home
Project Setup
Project status: Development

Data Collection

Manage Survey Participants

Scheduling

Record Status Dashboard

Add / Edit Records

Applications

Calendar

Data Exports, Reports, and Stats

Data Import Tool

Data Comparison Tool

Logging

File Repository

User Rights and DAGs

Record Locking Customization

E-signature and Locking Mgmt

Data Quality and Resolve Issues

API and API Playground

REDCap Mobile App

ITHS REDCap User Mailing List

Free REDCap Classes

ITHS REDCap (User) FAQ

Reports

1) Obama

2) Males

3) Females

4) Example sliding range

5) Females only

6) AE report

ITHS

Institute of Translational Health Sciences
Accelerating Research. Improving Health.

University of Washington Seattle
Institute of Translational Health Science (ITHS)

Demo Project

Project Home

Project Setup

Other Functionality

Project Revision History

Project status: Development Completed steps 1 of 8

Complete!

Main project settings

Disable

Use surveys in this project?

VIDEO: How to create and manage a survey

Disable

Use longitudinal data collection with defined events?

Modify project title, purpose, etc.

Not started

Design your data collection instruments & enable your surveys

Add or edit fields on your data collection instruments (survey and forms). This may be done by either using the Online Designer (online method) or by uploading a Data Dictionary (offline method). You may then enable your instruments to be used as surveys in the Online Designer. Quick links: [Download PDF of all instruments](#) OR [Download the current Data Dictionary](#)

Go to [Online Designer](#) or [Data Dictionary](#)

You may also browse for pre-built data collection instruments in the [REDCap Shared Library](#)

Have you checked the [Check For Identifiers](#) page to ensure all identifier fields have been tagged?

In progress

Define your events and designate instruments for them

Create events for re-using data collection instruments and/or set up scheduling.

Go to [Define My Events](#) or [Designate Instruments for My Events](#)

Optional

Enable optional modules and customizations

Modify

Repeatable instruments and events

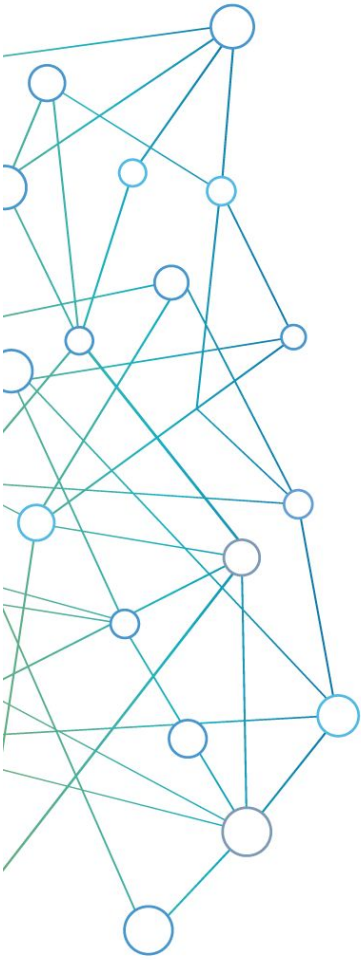
Disable

Auto-numbering for records

Disable

Scheduling module (longitudinal only)

Instrument Design



Online designer

- *Wizard type instrument design*
 - *Very forgiving*
 - *Great way to learn*
-

REDCap shared library

- *Quickest way to load an instrument*
 - *Curated by Vanderbilt University*
-

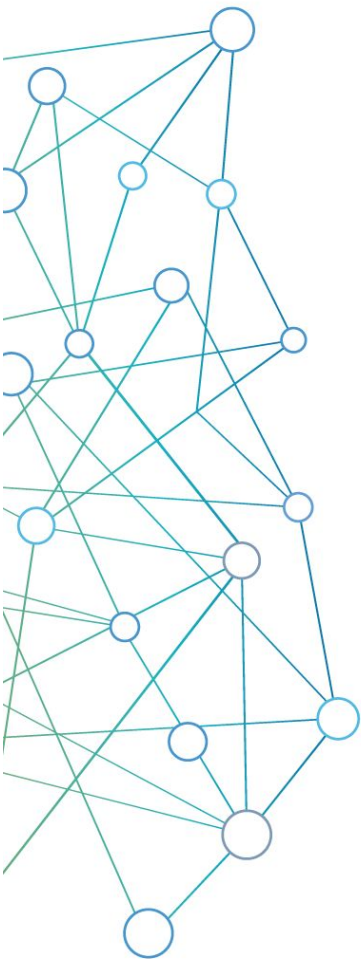
Zip files

- *Import individual instruments from other projects*
 - *Great for sharing commonly used instruments*
-

Data dictionary

- *Advanced feature that defines all data collection instruments*
- *Excel file that you customize outside of REDCap*

Online Designer General



Instruments

- *Create, Import, Upload*
 - *Rename, Copy, Delete, Download instrument ZIP*
 - *No limit on the number of forms in a project*
-

Variables

- *Each instrument has to have at least one variable*
 - *Variables can be deleted, edited, and moved within a project*
-

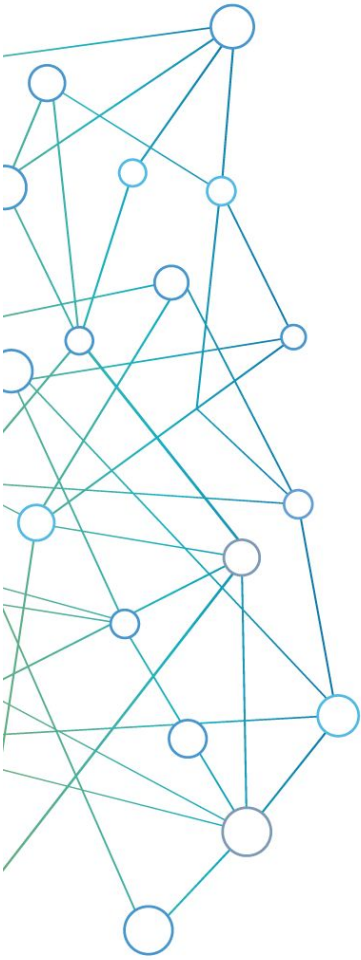
Variable limits

- *No real “technical” limit*
 - *Best practices: No more than 1000 variables per form*
-

Surveys versus Forms

- *Each instrument can be turned into a survey*
- *Any survey can still be filled out as a form*

Variable Creation



Necessary attributes

- *Variable name*
 - *Field type*
 - *Field label*
-

Optional attributes

Required, Identifier, Custom Alignment, Field note, Field Annotation, Action tags

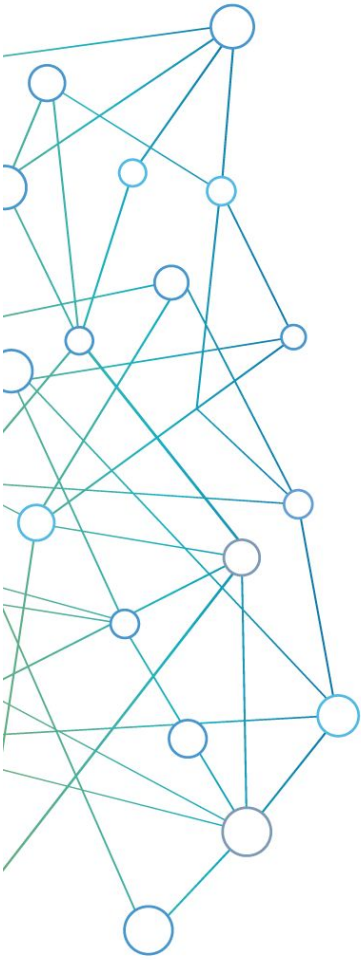
Conditional attributes

Validation, Minimum, Maximum, Ontology lookup, Choices

Matrix fields

Collection of variables

Field Types General



Unstructured field types

- *Free text*
 - *Comment boxes*
 - *Dates, numbers, etcetera*
-

Structured field types

- *Limited set of answers*
 - *Pre-defined*
-

Special & calculation field types

- *Uploading files*
 - *Doing calculations with entered data*
-

Display field types

- *Plain text, HTML, video, audio, pictures, files*

Unstructured Field Types

Unstructured

Structured

Special

Calculations

Display

Matrix



Text box

- ▶ Free text
- ▶ Validation
 - ▶ Dates, numbers, emails, phone numbers etcetera
 - ▶ Minimum & maximum
- ▶ Bio-medical ontologies (Look-up tables)
 - ▶ Over 400 different ontologies available
 - ▶ e.g. ICD-9, ICD-10, Medications

Notes box

- ▶ Great for bigger pieces of text
 - ▶ Clinical notes
 - ▶ Comments on surveys
 - ▶ Descriptions

Structured Field Types

Unstructured

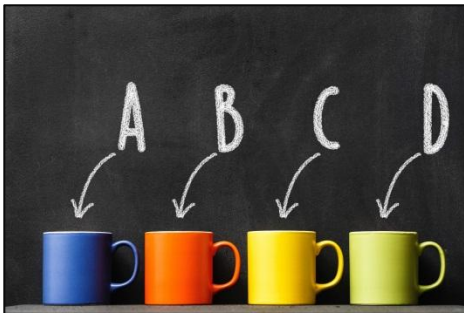
Structured

Special

Calculations

Display

Matrix



Single answer

- ▶ Drop down
- ▶ Radio button
- ▶ Slider
 - ▶ 0 to 100 default scale but can be adjusted
- ▶ Pre-baked choices:
 - ▶ Yes/No
 - ▶ True/False

Multiple answer

- ▶ Checkboxes
 - ▶ Stored differently as single answer
 - ▶ Has different branching logic syntax

Special Field Types

Unstructured

Structured

Special

Calculations

Display

Matrix



Signature

- ▶ Allows people to “sign”
- ▶ Captures a small jpeg file
- ▶ Preferable to the “check if agree” method
- ▶ Works on both computers and touch enabled devices

File upload

- ▶ Any file type is allowed
- ▶ REDCap just stores the file
- ▶ 100 Mb limit per upload
- ▶ Useful for:
 - ▶ Photos
 - ▶ Consent documents
 - ▶ Scanned documentation

Calculation Field Type

Unstructured

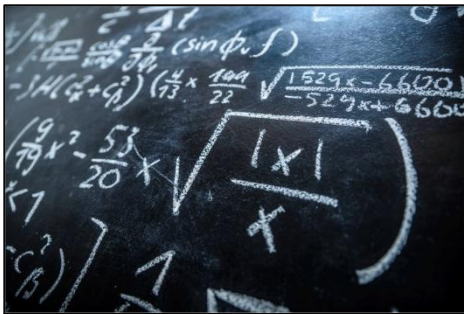
Structured

Special

Calculations

Display

Matrix



Calculations

- ▶ Always have to have a number as an end result
- ▶ Limited to variables in that particular record
- ▶ Same syntax as branching logic
- ▶ Special functions are allowed
 - ▶ Datediff()
 - ▶ Sum()
 - ▶ Mean()
 - ▶ Full list ([FAQ special functions](#))
- ▶ Used for:
 - ▶ Scoring tools
 - ▶ Simple calculations (like BMI)
- ▶ Test out calculations in a test record

Display Field Types

Unstructured

Structured

Special

Calculations

Display

Matrix



Descriptive field

- ▶ Text
 - ▶ HTML is allowed
- ▶ Video
 - ▶ Hosted outside of REDCap (YouTube, Vimeo)
 - ▶ Inline or Inside popup
- ▶ Audio
- ▶ Picture
- ▶ Files
 - ▶ 100 Mb limit

Section header

- ▶ Used to separate blocks of variables
- ▶ Can be used in surveys to create separate pages

Matrix Field Types

Unstructured

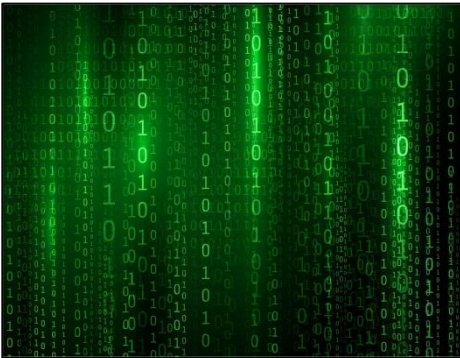
Structured

Special

Calculations

Display

Matrix

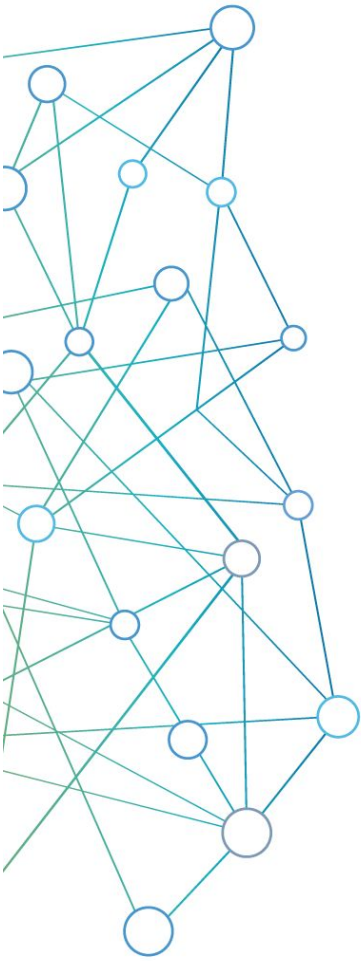


Matrix

- ▶ Groups a set a variables together
 - ▶ Radio buttons
 - ▶ Ranking
 - ▶ Checkboxes
- ▶ Columns are the options
 - ▶ All the options for all the variables have to match
- ▶ Rows are the questions/variables
- ▶ Branching logic is allowed on individual questions

Branching Logic

Drag and Drop Method



The art of hiding fields

Set up a logic statement to be either true or false based on entered variables

A true outcome shows a field, a false one hides the field

Project limited

References values in other forms or events, but not other projects

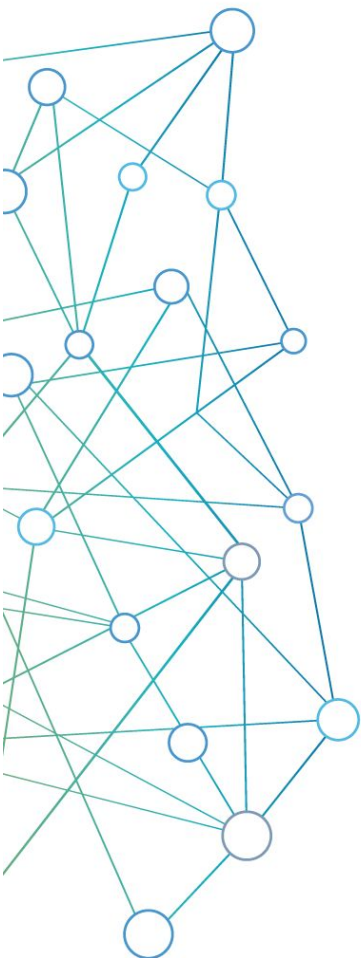
Drag and drop method

Allows you to craft logic without knowing the syntax or having any kind of programming experience

Syntax method

Allows for much more complex logic, but is difficult to set up correctly

Basic User Rights



Adding users to your project

Anybody, that has a user account on the ITHS REDCap server can be added to your project as a user with a custom set of rights

Form rights

Hide forms completely, View-only mode or full access

Application rights

Give users only access to application they actually need

User roles

Useful for when you need to add a lot of users with the same rights quickly

Approval process

Most of the time, you will not have contact with the REDCap administrator.

However there are some specific situations where there are some safety measures that require administrator involvement.

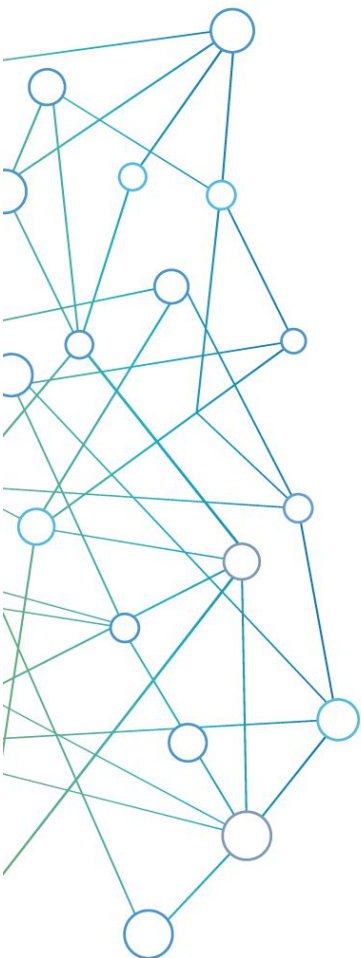
**Project creation /
Copy project**

*Approved quickly and almost always
Done to keep REDCap running smooth*

Change approval

*Approved within one business day
Done to prevent inadvertent data loss
You have final say*

Basic Data Entry



Add / Edit Records

Located in the data collection menu. Entering a new record ID will create a new record. Entering an existing record ID will allow you to edit the record.

Data Search

Allows the user to search based on one of the capture variables, provided that they are unique enough to identify records.

Unique record ID's

Each REDCap record will have a unique ID. The ID is always stored in the very first variable of your very first instrument.

Deleting test records

Done by moving to production, erasing all data, or deleting individual records

Record Status Dashboard

Study ID	Baseline Baseline (Arm 1: Intervention Drug A)	Field Type Demo Baseline (Arm 1: Intervention Drug A)	Follow up Month 1 (Arm 1: Intervention Drug A)	Medications Month 1 (Arm 1: Intervention Drug A)	Follow up Month 2 (Arm 1: Intervention Drug A)	Medications Month 2 (Arm 1: Intervention Drug A)	Follow up Month 3 (Arm 1: Intervention Drug A)
<u>1</u> Obama, Barry							
<u>2</u> Putin, Vladimir							
<u>3</u> Merkel, Angela							
<u>4</u> Lagarde, Christine							
<u>10</u> Rubio, Marco							
<u>12</u> Biden, Joe							
<u>14</u> Trump, Donald							

Legend for status icons:







- Incomplete
- Incomplete (no data saved) ?
- Unverified
- Partial Survey Response
- Complete
- Completed Survey Response

Basic Data Export

You can export your entire data set in a few seconds in a couple of different formats.

You can also create and save custom reports that create subsets of your data. These subsets are exportable in the same way as the entire data set.

Choose export format

<input checked="" type="radio"/>		CSV / Microsoft Excel (raw data)
<input type="radio"/>		CSV / Microsoft Excel (labels)
<input type="radio"/>		SPSS Statistical Software
<input type="radio"/>		SAS Statistical Software
<input type="radio"/>		R Statistical Software
<input type="radio"/>		Stata Statistical Software

Thank You

Questions?

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