

How to design a database for electronic data capture in



Outline

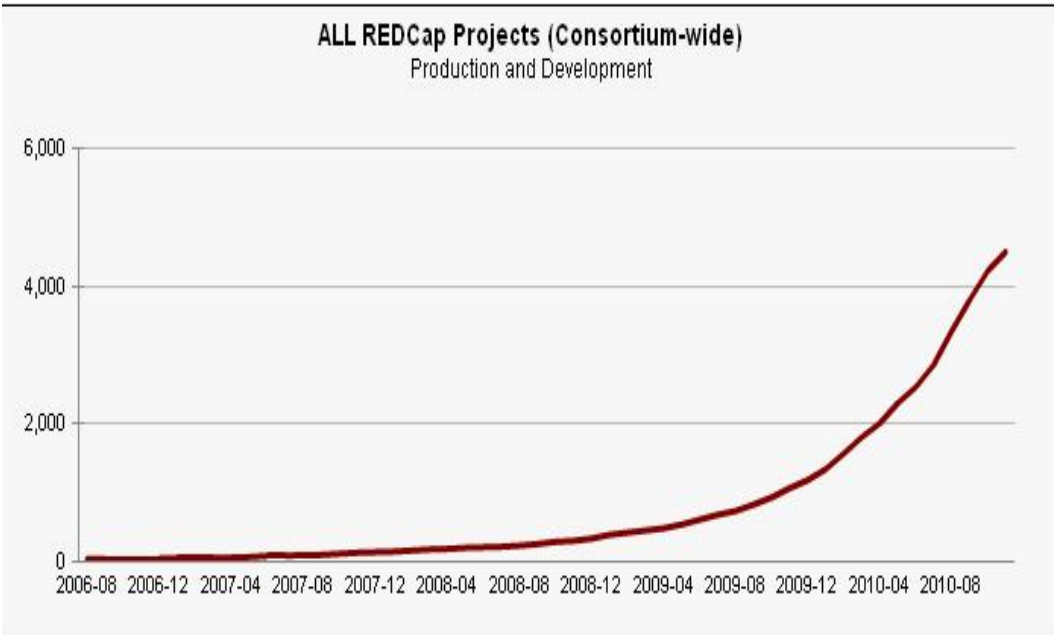
- REDCap background
- REDCap features
 - System features
 - Database design features
 - Data Entry(DE) & management features
- Real-time CRF creation
- CRF creation using a template
- DE overview
- REDCap modules overview

- **Research Electronic Data Capture (REDCap) Background**
 - secure web-based application
 - designed & developed exclusively for research studies by Vanderbilt University (VU) (www.project-redcap.org)
 - available at no cost to REDCap consortium partners
 - Currently 228 consortium partners

Map of REDCap Consortium Partners



Data from REDCap Consortium



Features of REDCap

System Features

- **Secure and web-based**
 - Input data or build database from anywhere
 - secure web connection with authentication & data logging.
 - Installed on server(s) & configured for intranet and/ or internet access.
- **21 CFR part 11 Capable**
 - server can be configured to ensure compliance

- **Fully customizable**
 - total control to shape database and features
 - written in php – source code available to partners
 - Support RDBMS but for optimal performance MySQL database is recommended.

- **Well Supported by partners**
 - Online mailing lists/ forum
 - Weekly web-seminar/ conferences
 - Online tutorials

Database Design Features

- **Stream-lined process for rapidly building a database**
 - Point/Click & drag for real-time CRF Creation
 - Or upload from csv file.

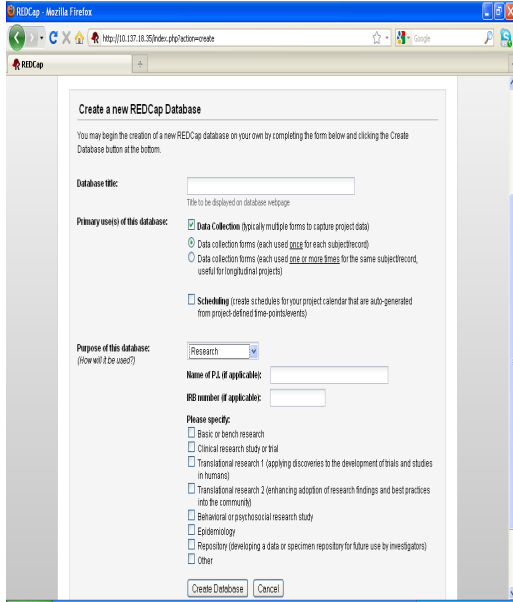
- **Database changes easily implemented**
 - database field(s) can be modified or added when study is in progress.

Data Entry & Management Features

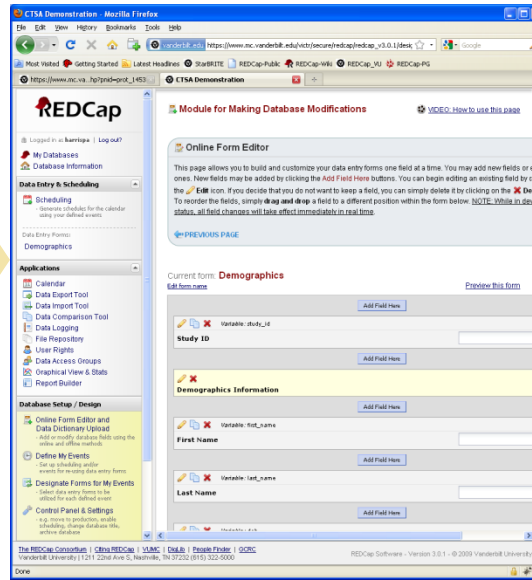
- **Supports following Advanced features:**
 - Auto-validation (Range/ data checks)
 - Branching/skip logic
 - Data calculation (e.g. can automatically calculate value for Body Mass Index (BMI))
 - File uploading and sending of files (links) from REDCap database with link expiring option
 - Can set database to allow double data entry

- **Multi-site access**
 - Researchers from multiple sites and institutions can access same database.
- **Export data to common statistical packages**
 - Exports raw data and syntax files to SAS, Stata, R, and SPSS.

REDCap Database design Summary



Create Blank database with no eCRF



Point/Click Drag (Ajax) For Real-time CRF Creation or Uploading from csv file.

Optional Longitudinal CRF Mapping



Optional Participant Scheduling Setup Screens





New Database name

[Home](#)[My Databases](#)[Create New Database](#)[Training Resources](#)[Send-It](#)[Control Center](#)

Create a new REDCap Database

You may begin the creation of a new REDCap database on your own by completing the form below and clicking the Create Database button at the bottom.

Database title:

Title to be displayed on database webpage

Primary use(s) of this database:

- Data Collection** (typically multiple forms to capture project data)
- Data collection forms (each used once for each subject/record)
- Data collection forms (each used one or more times for the same subject/record, useful for longitudinal projects)
- Scheduling** (create schedules for your project calendar that are auto-generated from project-defined time-points/events)

Purpose of this database:

(How will it be used?)

Name of P.I. (if applicable):

IRB number (if applicable):

Please specify:

- Basic or bench research
- Clinical research study or trial
- Translational research 1 (applying discoveries to the development of trials and studies in humans)



Logged in as **admin** | [Log out](#)

- My Databases
- Database Information

Data Entry Forms

Demographics

Applications

- Calendar
- Data Export Tool
- Data Import Tool
- Data Comparison Tool
- Logging
- File Repository
- User Rights
- Data Access Groups
- Record Locking Customization
- E-signature and Locking Mgmt
- Graphical View & Stats
- Report Builder

Database Setup / Design

- Online Form Editor and Data Dictionary Upload
- Add or modify database fields using the online and offline methods
- Control Panel & Settings
- e.g. move to production, delete database, enable scheduling, change database title
- Check For Identifiers

Anaemia

This database may be used for collecting and reporting data. Please cite the REDCap project when publishing manuscripts (citation information and template methods language are available [here](#)). Contact [Gerald Kandulu](#) for additional details or help with this application.

Current Users	
User	Expires
admin (admin admin)	never

Database Statistics	
Records in database	0
Data exports	0
Logged events	1
Most recent activity	12:59pm 11/30/2010
Space usage for docs	0 MB
Database status	Development

Upcoming Calendar Events (next 7 days)		
Time	Date	Description
		No upcoming events

Click To Start eCRF Design





Logged in as admin | Log out

My Databases

Database Information

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Online Form Editor

The Online Form Editor will allow you to make database modifications to fields and data entry forms very easily using only your web browser. Below you have the options to select an existing form to edit, to delete a form, to create a new form, and to reorder your forms as they are displayed. NOTE: While in development status, all field changes will take effect immediately in real time.

Existing data entry forms: Demographics

the fields on the form selected above, or rename the fields

the form selected above (and all its fields)

a new form named to appear the selected form above

the form named to appear the selected form above



REDCap Shared Library

The REDCap Shared Library is a repository of data entry forms that can be downloaded and used in your REDCap databases. Click the 'Download' button below to begin searching for forms in the library. In the library, you may view them on the web page or download as a PDF, and then download them back into REDCap to save them in your database. *Try it out!*

a new form from the REDCap Shared Library (search the library)

Upload Data Dictionary

This module may be used for making changes to the database, such as adding new fields or modifying existing fields, by using an offline method called the Data Dictionary. The Data Dictionary is a specifically formatted CSV (comma delimited) file within which you may construct your database fields and afterward upload the file here to commit the changes to your database.

Click the 'Browse' button below to select the file on your computer, and upload it by clicking the 'Upload File' button. Once your file has been uploaded, changes will NOT immediately be made but will be displayed and checked for errors to ensure that all the formatting in your Data Dictionary is correct before official changes are made to the database. If

Add New Field

You may add a new database field to this data entry form by clicking the **Add New Field** button at the bottom. When you add a new field, it will automatically be added to the database. For an overview of the different field types available, you may view the [Field Types](#) page.

Field type on eCRF

Select a Type of Field

Text Box

--- Choose Field Type ---

- Text Box
- Notes / Essay Box
- Calculated Field
- Multiple Choice (Only One Answer) - Radio Buttons
- Multiple Choice (Only One Answer) - Drop-down List
- Multiple Choice (Multiple Answers) - Checkboxes
- File Upload
- Begin New Section (Section Header with Descriptive Text)
- Dynamic Query (SQL)

Variable Name (utilized during data export)

ONLY letters, numbers, and underscores

Validation? (optional) --- None ---

Required?* No Yes

* Prompt if field is blank

Identifier? No Yes

Does the field contain identifying information (e.g. name, SSN, address)?

Field Note (optional)

Branching/Skip Logic (optional) [How do I use this?](#)

Save

Save

Select the fields below and clicking the Save button at the bottom will add the field to the form on this page. For an overview of the different field types available, you may view the [Field Types](#) page.

Field type in database if Text Box

Variable Name (utilized during data export)

ONLY letters, numbers, and underscores

Validation? (optional) --- None ---

Required?* No Yes

* Prompt if field is blank

Identifier? No Yes

Does the field contain identifying information (e.g. name, SSN, address)?

Field Note (optional)

- None ---
- Date
- Time
- Datetime
- Integer
- Number
- Zipcode
- Phone
- Email

Branching/Skip Logic (optional) [How do I use this?](#)

Add New Field ✕

You may add a new database field to this data entry form by completing the fields below and clicking the Save button at the bottom. When you add a new field, it will automatically be appended to the form on this page. For an overview of the different field types available, you may view the [Field Types video \(5 min\)](#).

Select a Type of Field

Text Box ▼

Field Label

1. Study Number

database field name

Variable Name (utilized during data export)

enrd1std

ONLY letters, numbers, and underscores

Validation? (optional) Integer ▼

Minimum: 1000

Maximum: 2000

Required?* No Yes

* Prompt if field is blank

Identifier? No Yes

Does the field contain identifying information (e.g. name, SSN, address)?

Field Note (optional)

Branching/Skip Logic (optional) [How do I use this?](#)

Save

Question on eCRF

- Logged in as admin
- My Databases
- Database Information
- Data Entry Forms
- Demographics
- Applications
 - Calendar
 - Data Export Tool
 - Data Import Tool
 - Data Comparison
 - Logging
 - File Repository
 - User Rights
 - Data Access Groups
 - Record Locking
 - E-signature and L
 - Graphical View & S
 - Report Builder
- Database Setup / Des
 - Online Form Editor and Data Dictionary
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- E-signature and Lock
- Graphical View & Edit
- Report Builder

- Online Form Editor and Data Dictionary
- Add or modify databases online and offline methods
- Control Panel & Settings
- e.g. move to production, enable scheduling, change theme
- Check For Identifiers
- Project Revision History

- General Help
- Video Tutorials

If you are experiencing problems please contact your data administrator.

Add New Field

types available, you may view the [Field Types video \(5 min\)](#).

Select a Type of Field

Text Box ▼

Field Label

2. Date of interview

defining range check and data type validation

Variable Name (utilized during data export)

enrd2dte

ONLY letters, numbers, and underscores

Validation? (optional)

Date ▼

Minimum: 2010-12-01

Maximum: 2012-01-01

Required?* No Yes

* Prompt if field is blank

Identifier? No Yes

Does the field contain identifying information (e.g. name, SSN, address)?

Field Note (optional)

YYYY-MM-DD

Branching/Skip Logic (optional)

[How do I use this?](#)

Defining field note to aid clarity during DE

Save

Add New Field

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Select a Type of Field

Multiple Choice (Only One Answer) - Radio Buttons

Field Label

1. Participant Gender

Choices (one choice per line)

0, Female
1, Male

Variable Name (utilized during data export)

ens1 gen

ONLY letters, numbers, and underscores

Required?* No Yes

* Prompt if field is blank

Identifier? No Yes

Does the field contain identifying information (e.g. name, SSN, address)?

Field Note (optional)

Branching/Skip Logic (optional)

[How do I use this?](#)

Save

defining coded response
for radio buttons



Edit Field

You may add a new database field to this data entry form by completing the fields below and clicking the Save button at the bottom. When you add a new field, it will automatically be appended to the form on this page. For an overview of the different field types available, you may view the [Field Types video \(5 min\)](#).

Select a Type of Field

Multiple Choice (Only One Answer) - Drop-down List

Field Label

6.1. Urine pregnancy test result

Choices (one choice per line)

1, Positive
0, Negative
9, Indeterminate

Variable Name (utilized during data export)

enrs51res

ONLY letters, numbers, and underscores

Required?* No Yes

* Prompt if field is blank

Identifier? No Yes

Does the field contain identifying information (e.g. name, SSN, address)?

Field Note (optional)

Branching/Skip Logic (optional)

[How do I use this?](#)

[enrs1qen] = 0 and [enrs21age] > 15 and [enrs51st] = 1

Save

defining coded response for drop-down list

Edit Field

You may add a new database field to this data entry form by completing the fields below and clicking the Save button at the bottom. When you add a new field, it will automatically be appended to the form on this page. For an overview of the different field types available, you may view the [Field Types video \(5 min\)](#).

Select a Type of Field
Multiple Choice (Multiple Answers) - Checkboxes

Field Label
7. Participant symptoms

Choices (one choice per line)
1, Headache
2, Fever
3, Sweats
4, Cough
5, Vomiting
6, Chest pain

Variable Name (utilized during data export)
enrs7syp
ONLY letters, numbers, and underscores

Required?* No Yes [Disabled]
* Prompt if field is blank

Identifier? No Yes
Does the field contain identifying information (e.g. name, SSN, address)?

Field Note (optional) tick as per observation

Branching/Skip Logic (optional) [How do I use this?](#)

Save

[How do I manually code the choices?](#)

creating check responses



Edit Field

You may add a new database field to this data entry form by completing the fields below and clicking the Save button at the bottom. When you add a new field, it will automatically be appended to the form on this page. For an overview of the different field types available, you may view the [Field Types video \(5 min\)](#).

Select a Type of Field

Calculated Field

Field Label

5. Participant Body Mass Index (BMI)

Calculation Equation [How do I format the equation?](#)

$$\text{round}([\text{enrs4wgt}] * 10000 / ([\text{enrs3hgt}] * [\text{enrs3hgt}]), 3)$$

Save

creating auto-calculations

Variable Name (utilized during data export)

enrs4bmi

ONLY letters, numbers, and underscores

Required?* No Yes

* Prompt if field is blank

Identifier? No Yes

Does the field contain identifying information (e.g. name, SSN, address)?

Field Note (optional)

Branching/Skip Logic (optional)

[How do I use this?](#)

Edit Field

You may add a new database field to this data entry form by completing the fields below and clicking the Save button at the bottom. When you add a new field, it will automatically be appended to the form on this page. For an overview of the different field types available, you may view the [Field Types video \(5 min\)](#).

Select a Type of Field

Calculated Field

Field Label

2.1. Participant age at enrolment

Variable Name (utilized during data export)

enrs21age

ONLY letters, numbers, and underscores

Required?* No Yes

* Prompt if field is blank

Identifier? No Yes

Does the field contain identifying information (e.g. name, SSN, address)?

Calculation Equation [How do I format the equation?](#)

`round(datediff([enrd2dte],[enrs2dob],"y"), 2)`

Field Note (optional)

Branching/Skip Logic (optional) [How do I use this?](#)

Save

Using date difference and rounding functions in calculations



Edit Field



You may add a new database field to this data entry form by completing the fields below and clicking the Save button at the bottom. When you add a new field, it will automatically be appended to the form on this page. For an overview of the different field types available, you may view the [Field Types video \(5 min\)](#).

Select a Type of Field

Multiple Choice (Only One Answer) - Drop-down List

Field Label

6. Urine pregnancy test done

Variable Name (utilized during data export)

enrs5tst

ONLY letters, numbers, and underscores

Required?* No Yes

* Prompt if field is blank

Identifier? No Yes

Does the field contain identifying information (e.g. name, SSN, address)?

Field Note (optional)

Choices (one choice per line)

1, Yes
0, No[How do I manually code the choices?](#)

Branching/Skip Logic (optional)

[How do I use this?](#)

[enrs1gen] = 0 and [enrs21age] > 15

Save

defining branching or skip logic
(question available when
condition is true)



5. Participant Body Mass Index (BMI)

View

Edit Field



You may add a new database field to this data entry form by completing the fields below and clicking the Save button at the bottom. When you add a new field, it will automatically be appended to the form on this page. For an overview of the different field types available, you may view the [Field Types video \(5 min\)](#).

Select a Type of Field

File Upload



creating field that allows to upload files

Field Label

8. Chest X-ray image

Variable Name (utilized during data export)

enrs8xray

ONLY letters, numbers, and underscores

Required?* No Yes

* Prompt if field is blank

Identifier? No Yes

Does the field contain identifying information (e.g. name, SSN, address)?

Field Note (optional)

Branching/Skip Logic (optional)

[How do I use this?](#)

Save

Upload document



6. Participant Body Mass Index (BMI)

Edit Field

You may add a new database field to this data entry form by completing the fields below and clicking the Save button at the bottom. When you add a new field, it will automatically be appended to the form on this page. For an overview of the different field types available, you may view the [Field Types video \(5 min\)](#).

Select a Type of Field

Dynamic Query (SQL)

Field Label

1. Antibiotic given

Variable Name (utilized during data export)

erlmd1ant

ONLY letters, numbers, and underscores

Required?* No Yes

* Prompt if field is blank

Identifier? No Yes

Does the field contain identifying information (e.g. name, SSN, address)?

Field Note (optional)

Branching/Skip Logic (optional)

[How do I use this?](#)

SQL Query (must be a 'select' query)

select name from [dataserver].[medicals].[antibiotics]

Save

Allow value to be retrieved from REDCap or other database based on query e.g. pull list of medications from SPINE

Add New Field

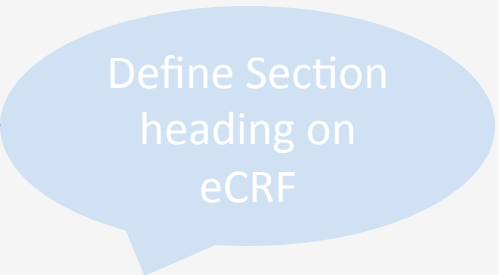
You may add a new database field to this data entry form by completing the fields below and clicking the Save button at the bottom. When you add a new field, it will automatically be appended to the form on this page. For an overview of the different field types available, you may view the [Field Types video \(5 min\)](#).

Select a Type of Field

Begin New Section (Section Header with Descriptive Text) v

Field Label

Medication Given



Save

Home Insert Page Layout Formulas Data Review View

Paste Clipboard Font Alignment Number Styles Cells Editing

Calibri 11 General Conditional Formatting Format as Table Cell Styles Insert Delete Format Cells Sort & Filter Find & Select

	A	B	C	D	E	F	G	H	I
1	Variable / Field	Form Name	Section Head	Field Type	Field Label	Choices OR Calculations	Field Note	Text Valid	Text Validatio
2	enr1pid	enrolment	CRF Header	text	1. Participant ID			integer	
3	enrd2dte	enrolment		text	2. Date of interview		YYYY-MM-	date	01/1
4	enrs1gen	enrolment	Social Details	radio	1. Participant Gender	0, Female 1, Male			
5	enrs2dob	enrolment		text	2. Participant Date of Birth		YYYY-MM-	date	01/C
6	enrs21age	enrolment		calc	2.1. Participant age at enrolment	<code>datediff([enrd2dte],[enrs2dob],"y")</code>			
7	enrs3hgt	enrolment		text	3. Participant Height(cm)		To 1 decin	number	
8	enrs4wgt	enrolment		text	4. Participant weight (kg)		To 1 decin	number	
9	enrs4bmi	enrolment		calc	5. Participant Body Mass Index (BMI)	<code>round([enrs4wgt]*10000/([enrs3hgt]*[enrs3hgt]),3)</code>			
10	enrs5tst	enrolment		dropdown	6. Urine pregnancy test done	1, Yes 0, No			
11	enrs51res	enrolment		dropdown	6.1. Urine pregnancy test result	1, Positive 0, Negative 9, Indeterminate			
12	enrs7symp	enrolment		checkbox	7. Participant symptoms	1, Headache 2, Fever 3, Sweats 4, Cough	tick as per observation		
13	enrs8xray	enrolment		file	8. Chest x-ray image				
14									
15									
16									
17									
18									

csv data dictionary file opened in Excel

Logged in as **admin** | [Log out](#)[My Databases](#)[Database Information](#)**Data Entry Forms**[enrolment](#)**Applications**

- [Calendar](#)
- [Data Export Tool](#)
- [Data Import Tool](#)
- [Data Comparison Tool](#)
- [Logging](#)
- [File Repository](#)
- [User Rights](#)
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- [E-signature and Locking Mgmt](#)
- [Graphical View & Stats](#)
- [Report Builder](#)

Database Setup / Design

- [Online Form Editor and Data Dictionary Upload](#)
- Add or modify database fields using the online and offline methods
- [Control Panel & Settings](#)
- e.g. move to production, delete database, enable scheduling, change database title
- [Check For Identifiers](#)

page or download as a PDF, and then download them back into REDCap to save them in your database. *Try it out!*

[Download](#) a new form from the REDCap Shared Library (search the library)

Upload Data Dictionary

This module may be used for making changes to the database, such as adding new fields or modifying existing fields, by using an offline method called the Data Dictionary. The Data Dictionary is a specifically formatted CSV (comma delimited) file within which you may construct your database fields and afterward upload the file here to commit the changes to your database.

Click the **'Browse'** button below to select the file on your computer, and upload it by clicking the 'Upload File' button. Once your file has been uploaded, changes will NOT immediately be made but will be displayed and checked for errors to ensure that all the formatting in your Data Dictionary is correct before official changes are made to the database. If you wish to view an example of how your Data Dictionary may be formatted, you may download the [Data Dictionary demonstration file](#), or you may view the [Data Dictionary Tutorial Video \(14 min\)](#).

Steps for making database changes:

- 1.) [Download the current Data Dictionary](#)
- 2.) Edit the Data Dictionary
- 3.) Upload the Data Dictionary using the form below
- 4.) The changes will be made to the database after the Data Dictionary has been checked for errors

csv data dictionary
upload module**Upload your Data Dictionary file** (CSV file format only) [Browse...](#)[Upload File](#)

Data Entry Overview

Adult_Malaria | REDCap - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://10.137.18.35/redcap_v3.5.4/index.php?pid=30

Most Visited Getting Started Latest Headlines

Adult_Malaria | REDCap

REDCap™

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Blood_Smear
Admission_and_Discharge
Fundoscopic_Examination

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Report Builder

This database may be used for collecting and reporting data. Please cite the REDCap project when publishing manuscripts (citation information and template methods language are [available here](#)). Contact [Gerald Kandulu](#) for additional details or help with this application.

Current Users

User	Expires
admin (admin admin)	never
dsegula (Dalitso Segula)	never
lkanada (Lyness Kanada)	never

Database Statistics

Records in database	2
Data exports	1
Logged events	412
Most recent activity	9:58am 11/30/2010
Space usage for docs	0.01 MB
Database status	Development

Upcoming Calendar Events (next 7 days)

Time	Date	Description
		No upcoming events

The REDCap Consortium | Citing REDCap | VUMC | DigLib | People Finder | GCRC | MLWV Intranet
Malawi Liverpool WellCome Trust, Clinical Research Programme, P. O. Box 30063, BT3

REDCap Software - Version 3.5.4 - © 2010 Vanderbilt University

Waiting for www.mc.vanderbilt.edu...

PDF download option for eCRF with or without Data

eCRF ready for DE

Download page as PDF PDF with saved data

REDCap™

Logged in as **admin** | [Log out](#)

[My Databases](#)
[Database Information](#)

Data Entry Forms

enrolment

[Lock all forms](#)

Applications

- Calendar
- Data Export Tool
- Data Import Tool
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Database Setup / Design

[Online Form Editor and Data Dictionary Upload](#)
 - Add or modify database fields using the online and offline methods



Anaemia

enrolment

Adding new 1. Participant ID "1002"

1. Participant ID	1002 <small>(To rename this record, modify the value immediately below.)</small>
CRF Header	
1. Participant ID <small>* must provide value</small>	<input type="text" value="1002"/>
2. Date of interview <small>* must provide value</small>	<input type="text" value="31"/> Today YYYY-MM-DD
Social Details	
1. Participant Gender <small>* must provide value</small>	<input type="radio"/> Female <input type="radio"/> Male reset value
2. Participant Date of Birth <small>* must provide value</small>	<input type="text" value="31"/> Today YYYY-MM-DD
2.1. Participant age at enrolment	<input type="text"/> View equation Disclaimer
3. Participant Height(cm) <small>* must provide value</small>	<input type="text"/> To 1 decimal place (xxx.x) cm
4. Participant weight (kg) <small>* must provide value</small>	<input type="text"/> To 1 decimal place (xxx.x)(kg)
5. Participant Body Mass Index (BMI)	<input type="text"/>

REDCap™

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Data Entry Forms

[enrolment](#)
[Lock all forms](#)

Applications

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- [Graphical View & Stats](#)
- [Report Builder](#)

Database Setup / Design

[Online Form Editor and Data Dictionary Upload](#)
 - Add or modify database fields using the online and offline methods

Adding new 1. Participant ID "1002"

1. Participant ID 1002
(To rename this record, modify the value below.)

CRF Header

1. Participant ID
* must provide value

2. Date of interview
* must provide value

Social Details

1. Participant Gender
* must provide value

2. Participant Date of Birth
* must provide value

2.1. Participant age at enrolment
* must provide value

3. Participant Height(cm)
To 1 decimal place (xxx.x) cm

4. Participant weight (kg)
To 1 decimal place (xxx.x)(kg)

5. Participant Body Mass Index (BMI) [View equation](#) [Disclaimer](#)
* must provide value

7. Participant symptoms

- Headache
- Fever
- Sweats
- Cough
- Vomiting
- Chest pain

tick as per observation

pop-Up Calendar

Dec 2010

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

[reset value](#)

Data Entry Forms

- enrolment

Applications

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Database Setup / Design

- Online Form Editor and Data Dictionary Upload
- Control Panel & Settings
- Check For Identifiers
- Project Revision History

Reports

- 1) under_18_pregnants

Help & Information

- General Help
- Video Tutorials

CRF Header

1. Participant ID * must provide value

2. Date of interview * must provide value
YYYY-MM-DD

Social Details

1. Participant Gender Female Male reset value

2. Participant Date of Birth * must provide value Today
YYYY-MM-DD

2.1. Participant age at enrolment

3. Urine pregnancy test done drop-down list

3.1. Urine pregnancy test result drop-down list

4. Participant Height(cm) * must provide value

5. Participant weight (kg) * must provide value
To 1 decimal place (xxx.x)(kg)

6. Participant Body Mass Index (BMI) * must provide value [View equation](#) [Disclaimer](#)

7. Participant symptoms Headache Fever Sweats Cough Vomiting Chest pain tick as per observation

8. Chest x-ray image * must provide value [Upload document](#)

Medication Given

radio buttons

drop-down list

check Boxes

REDCap™

Logged in as **admin** | Log out

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- Database Information

Data Entry Forms

- enrolment
- Lock all forms

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- Data Comparison Tool
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- Record Locking Customization
- E-signature and Locking Mgmt
- Graphical View & Stats
- Report Builder

Database Setup / Design

- Online Form Editor and Data Dictionary Upload
- Add or modify database fields using the online and offline methods

1. Participant ID
* must provide value

2010-12-01 Today
YYYY-MM-DD

2. Date of interview
* must provide value

Social Details

1. Participant Gender
* must provide value

Female
Male reset value

2. Participant Date of Birth
* must provide value

YYYY-MM-DD Today

2.1. Participant age at enrolment
View equation Disclaimer

3. Participant Height(cm)
View equation Disclaimer

8. Chest x-ray image (enrs8xray)
* must provide value

Select a file then click the 'Upload Document' button

(Max file size: 64 MB)

Vomiting
 Chest pain
tick as per observation

8. Chest x-ray image
* must provide value Upload document

Form Status

Complete?
Incomplete

Lock this record for this form?
If locked, no user will be able to edit this record on this form until someone with Lock/Unlock privileges unlocks it.

Lock
 E-signature (What is this?)

file upload dialogue

Upload Document for: ✕

8. Chest x-ray image (enrs8xray)

Select a file then click the 'Upload Document' button

(Max file size: 64 MB)

Anaemia | REDCap

Logged in as **admin** | Log out

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Database Setup / Design

- Online Form Editor and Data Dictionary Upload
- Add or modify database fields using the online and offline methods
- Control Panel & Settings
- e.g. move to production, delete database, enable scheduling, change database title

Adding new 1. Participant ID 1002

1002

1. Participant ID When this record is created, modify the value immediately

CRF Header

1. Participant ID * must provide value

2. Date of interview * must provide value

Social Details

1. Participant Gender reset value

4. Participant weight (kg) To 1 decimal place (xxx.x) (kg)

5. Participant Body Mass Index (BMI) To 1 decimal place (xxx.x)(kg) [View equation](#) [Disclaimer](#)

6. Urine pregnancy test done Yes

6.1. Urine pregnancy test result


7. Participant symptoms

- Headache
- Fever
- Sweats
- Cough
- Vomiting
- Chest pain

tick as per observation

data check pop-up message during DE (value no with range)

The page at <http://10.137.18.35> says:

 The value you provided is outside the suggested range. (2010-12-01 - 2012-01-01). This value is admissible, but you may wish to verify.

enrolment

Lock all forms

Applications

- Calendar
- Data Export Tool
- Data Import Tool
- Data Comparison Tool
- Logging
- File Repository
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- Record Locking Customization
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Database Setup / Design

- Online Form Editor and Data Dictionary Upload
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Reports

- 1) under_18_pregnants

Help & Information



Anaemia

enrolment

Download page as PDF PDF with saved data

NOTE: Some fields are required!

Your data was successfully saved, but you did not provide a value for some fields that require a value. Please enter a value for the fields on this page that are listed below.

Provide a value for...

- 3. Participant Height(cm)
- 4. Participant weight (kg)
- 5. Participant Body Mass Index (BMI)
- 8. Chest x-ray image
- 1. Antibiotic given

Okay

Ignore and leave record

2. Participant Date of Birth

* must provide value

1985-12-02

YYYY-MM-DD

2.1. Participant age at enrolment

3. Participant Height(cm)

* must provide value

4. Participant weight (kg)

* must provide value

To 1 decimal place (xxx.x) cm

To 1 decimal place (xxx.x)(kg)

REDCap™

Logged in as **admin** | Log out

My Databases
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- Report Builder

Database Setup / Design

- Online Form Editor and Data Dictionary Upload
- Add or modify database fields using the online and offline methods
- Control Panel & Settings

1. Participant Gender * must provide value (H) Female Male reset value

completed eCRF

2. Participant Date of Birth (H) 1985-11-10 Today
YYYY-MM-DD

2.1. Participant age at enrolment (H) 25.05 View equation Disclaimer

3. Participant Height(cm) (H) 90.5
To 1 decimal place (xxx.x) cm

4. Participant weight (kg) (H) 75
To 1 decimal place (xxx.x)(kg)

5. Participant Body Mass Index (BMI) (H) 91.572 View equation Disclaimer

6. Urine pr (H) No

button for viewing data field history

7. Participant symptom (H)

- Headache
- Fever
- Sweats
- Cough
- Vomiting
- Chest pain

tick as per observation

8. Chest x-ray image (H) [redcap_graph.JPG \(0.02 MB\)](#)
* must provide value Remove file or Send-It

Form Status

Complete? (H) Complete

Lock this record for this form?

If locked, no user will be able to edit this record on this form until someone with Lock/Unlock privileges unlocks it.

- Lock
- E-signature (What is this?)

Save Record

Save and Continue

Anaemia | REDCap

Logged in as **admin** | Log out

My Databases
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Data Entry Forms

enrolment

Lock all forms

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Database Setup / Design

- Online Form Editor and Data Dictionary Upload
- Add or modify database fields using the online and offline methods
- Control Panel & Settings
- e.g. move to production, delete database, enable scheduling, change database title

2.1. Participant age at enrolment YYYY-MM-DD [View equation](#) [Disclaimer](#)

3. Participant Height(cm) [View equation](#) [Disclaimer](#)
* must provide value To 1 decimal place (xxxx.x) cm

4. Participant weight (kg) [View equation](#) [Disclaimer](#)
* must provide value To 1 decimal place (xxxx.x)(kg)

5. Participant Body Mass Index (BMI) [View equation](#) [Disclaimer](#)
* must provide value

Please supply reason for data changes

You must now supply the reason for the data changes being made on this page in the text box below.

Reason for changes:

typing error

giving reason for change





data field history/ log

Data History for variable "enrs2dob"

Listed below is the history of all data entered for the variable "enrs2dob" for 1. Participant ID "1001".

Date/Time of Change	User	Data Changes Made	Reason for Data Change(s)
7:06pm 11/30/2010	admin	1984-11-10	typing error
6:59pm 11/30/2010	admin	1985-11-10	

Close

4. Participant weight (kg)

* must provide value

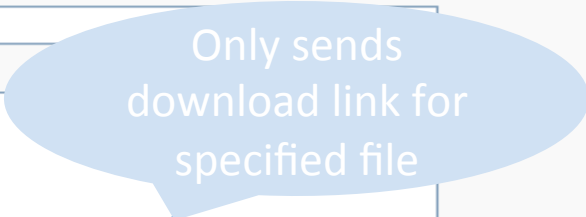
75

To 1 decimal place (xxx.x)(kg)

Send-It: Sending file "redcap_graph.JPG"**Instructions for using Send-It:**

Fill out the form below to specify to whom you wish to send the file, as well as other custom information and settings. Each email address you enter below will receive a message stating that a file is available for download. The email will include a unique link and password, which the recipient will use to navigate to the webpage for downloading the file to their computer. If the file is very large, it may take several moments to upload, so please allow it to continue to upload until it notifies you of its completion.

From:	admin admin <gkandulu@mlw.medcol.mw>
To: (recipient emails)	<input type="text" value="pi@medcol.mw"/>
	Separate email addresses with commas, semi-colons, or line breaks
Email subject: (optional)	<input type="text" value="AE X-Ray Image"/>
Email message: (optional)	<input type="text" value="participant number 1001, chest xray"/>
Expiration:	<input type="text" value="2 days"/> Specify the time after which the file will no longer be accessible for download
File:	redcap_graph.JPG (0.02 MB)
<input checked="" type="checkbox"/>	Receive confirmation? Get an email notification informing you when your file has been downloaded by <u>each</u> recipient.
<input type="button" value="Send It!"/>	



Only sends download link for specified file

REDCap modules overview

- Dynamic project status
- Participant scheduling
- Data Export and Import
- Data Comparison Tool



- User rights & activity Logging
- File Repository
- Data visualization/ Cleaning and Reports
- Record locking & e-Signatures
- API & Shared Library
- Online Tutorials & Citing REDCap in publications



Dynamic project status

- Home
- My Databases
- Create New Database
- Training Resources
- Send-It
- Control Center

Listed below are the REDCap databases to which you currently have access. Click the database title to open the database. Newly created databases begin in **Development status** ✎ as you begin to build and design them. When you are ready to begin entering real data in the database, you may move it to **Production status** ✓ to designate the database as officially collecting data. When you are finished collecting data or if you wish to stop collection, the database may be set to **Inactive status** ⚠, although it may be brought back to Production status at any time when you are ready to begin collecting data again.

My Databases	Records	Fields	Status
Pneumococcal	1	40	✓
Test	14	20	✎
Redox	49	222	✓
testdouble	0	794	✓
PAART	4	124	✓
FleetMM	0	10	✎
adapt	26	794	✓
Adapt Screening	169	223	✓
Qualitative	2	6	✎
Qualitative data collection	0	8	⚠
ACTia	18	8	✓

A user can only view project(s) for which s/he has Read/ Edit rights

Logged in as **admin** | [Log out](#)[My Databases](#)[Database Information](#)**Data Entry Forms**

[Screening](#)
[ECG](#)
[Laboratory Results](#)
[Eligibility Checklist](#)
[Haematology Chemistry Hiv](#)
[Request Formscreening La](#)
[Laboratory_Screening_Checklist](#)

Applications

[Calendar](#)
[Data Export Tool](#)
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[E-signature and Locking Mgmt](#)
[Graphical View & Stats](#)
[Report Builder](#)

Database Setup / Design**Adapt Screening**

This database may be used for collecting and reporting data. Please cite the REDCap project when publishing manuscripts (citation information and template methods language are [available here](#)). Contact [Gerald Kandulu](#) for additional details or help with this application.

Current Users

User	Expires	Data Entry Person
admin (admin admin)	never	Reviewer
emmanjamwada (Eliza Mmanjamwada)	never	#1
Janet (Janet Kambwiri)	never	Reviewer
Ikanada (Lyness Kanada)	never	Reviewer
Ilifa (Linley Lifa)	never	#2
mmukaka (Mavuto Mukaka)	never	Reviewer
mziwoya (Milton Ziwoya)	never	Reviewer

Database Statistics



Records in database	169
Data exports	13
Logged events	1505
Most recent activity	9:33am 12/01/2010
Space usage for docs	1.87 MB
Double Data Entry module	Enabled
Database status	Production

Upcoming Calendar Events (next 7 days)











Time	Date	Description
		No upcoming events

Dynamic database statistics





Data Entry & Scheduling

-  **Scheduling**
- Generate schedules for the calendar using your defined events
-  **Data Entry**
- Add or modify a database record

Applications

-  **Calendar**
-  **Data Export Tool**
-  **Data Import Tool**
-  **Data Comparison Tool**
-  **Data Logging**
-  **File Repository**
-  **User Rights**
-  **Data Access Groups**
-  **Graphical View & Stats**
-  **Report Builder**

Database Setup / Design

-  **Online Form Editor and Data Dictionary Upload**
- Add or modify database fields using the online and offline methods
-  **Define My Events**
- Set up scheduling and/or events for re-using data entry forms
-  **Designate Forms for My Events**
- Select data entry forms to be utilized for each defined event
-  **Control Panel & Settings**
- e.g. move to production, enable scheduling, change database title, archive database

Calendar

 [VIDEO: How to use this page \(5 min\)](#)

The Calendar application can be used as a project calendar within this database to help organize your schedule and keep track of any upcoming events. It will allow you to add or modify calendar events and then view them either in a daily, weekly, or monthly format below. To add a new note or calendar event to any day, click **+New** at the top of that day's box to begin entering the information. Since you have already defined multiple events for this project, you may additionally [generate a schedule](#) using your pre-defined Events, which will then be added to the calendar.

Day Week Month Agenda

◀ November 2009 ▶

 [Print Calendar](#)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
+ New 1 ☆ 99878 (Visit 1 - Exercis	+ New 2 ☆ 12345 (Visit 2 - Blood ☆ 77445 (Visit 3 - Exercis ☆ 11222 (Visit 3 - Exercis	+ New 3 ☆ 99878 (Visit 2 - Blood	+ New 4 ☆ 77445 (Visit 4 - Blood ☆ 11222 (Visit 4 - Blood ☆ 88563 (Visit 1 - Exercis	+ New 5 ☆ 12345 (Visit 3 - Exercis	+ New ☆ 99878 (Visi ☆ 88563 (Visi
+ New 8 ☆ 99878 (Visit 4 - Blood	+ New 9 ☆ 88563 (Visit 3 - Exercis	+ New 10	+ New 11 ☆ 88563 (Visit 4 - Blood	+ New 12	+ New
+ New 15	+ New 16	+ New 17 ☆ 77445 (Visit 5 - Final S ☆ 11222 (Visit 5 - Final S	+ New 18	+ New 19	+ New ☆ 12345 (Visi
+ New 22	+ New 23	+ New 24 ☆ 88563 (Visit 5 - Final S	+ New 25	+ New 26	+ New

*Participant Scheduling Module Optional
Visit-Level View Shows Status + CRFs (Longitudinal Model)*



Logged in as **admin** | [Log out](#)

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Data Entry Forms

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Database Setup / Design

- [Online Form Editor and Data Dictionary Upload](#)
- Add or modify database fields using the online and offline methods
- [Control Panel & Settings](#)
- e.g. move to production, delete database, enable scheduling, change database title
- [Check For Identifiers](#)

Data Export Tool

Use the page below to select fields you wish to extract from the database. Each row contains language from the original data entry form, plus a parenthetic listing of the actual database field name.

You may use the buttons at the top of the form to select or deselect all fields for a given data entry form, duplicate your last data retrieval, or select all fields in the database for export. Once all fields are selected, go to the bottom of this page and click the Submit button. After submitting this page, wait for a page to appear allowing you to save the file to your computer. The files are comma-delimited and may be read into SPSS, Excel, R, SAS or other analysis packages. If any fields in the database have been tagged as Identifiers, those particular fields will be displayed below in **red**.

Use the buttons below to select fields by form - or click individual fields below. Click the SUBMIT button at bottom of page to finalize data export procedure.

Every field in the database

Repeat field selection from your last export

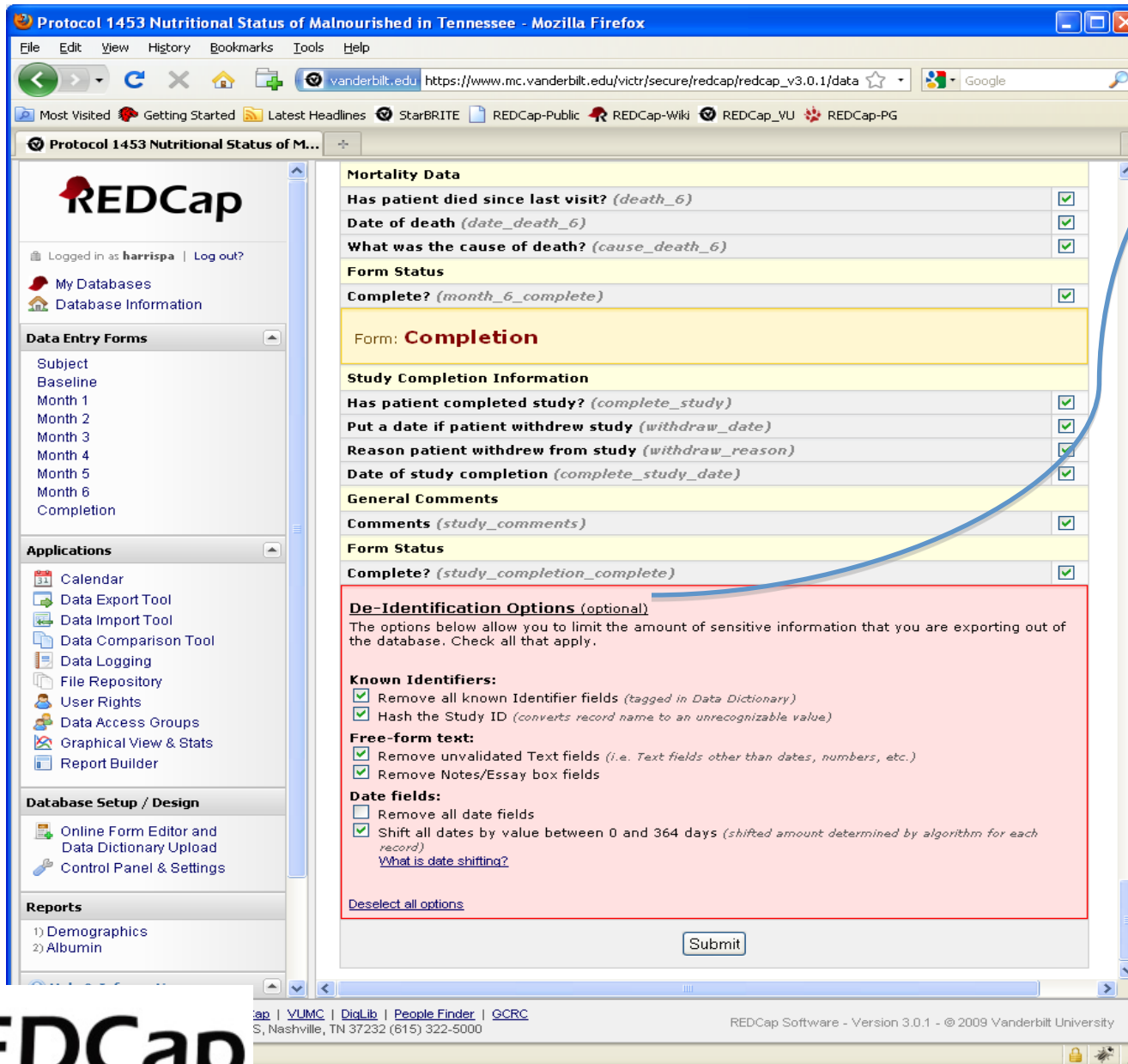
Form: enrolment

Selecting field for Export

Form: enrolment	
CRF Header	
1. Participant ID (<i>enr1pid</i>)	<input checked="" type="checkbox"/>
2. Date of interview (<i>enrd2dte</i>)	<input checked="" type="checkbox"/>
Social Details	
1. Participant Gender (<i>enrs1gen</i>)	<input checked="" type="checkbox"/>
2. Participant Date of Birth (<i>enrs2dob</i>)	<input checked="" type="checkbox"/>
2.1. Participant age at enrolment (<i>enrs21age</i>)	<input checked="" type="checkbox"/>
3. Participant Height(cm) (<i>enrs3hgt</i>)	<input checked="" type="checkbox"/>
4. Participant weight (kg) (<i>enrs4wt</i>)	<input checked="" type="checkbox"/>

Data Export + De-ID Tools

Embedded
De-Identification
Tools


















The screenshot shows the REDCap interface for 'Protocol 1453 Nutritional Status of Malnourished in Tennessee'. The left sidebar contains navigation menus for 'Data Entry Forms', 'Applications', 'Database Setup / Design', and 'Reports'. The 'Applications' menu includes 'Data Export Tool'. The main content area displays the 'Mortality Data' form, which is in 'Completion' status. A red box highlights the 'De-Identification Options (optional)' section, which includes the following options:

- Known Identifiers:**
 - Remove all known Identifier fields (tagged in Data Dictionary)
 - Hash the Study ID (converts record name to an unrecognizable value)
- Free-form text:**
 - Remove unvalidated Text fields (i.e. Text fields other than dates, numbers, etc.)
 - Remove Notes/Essay box fields
- Date fields:**
 - Remove all date fields
 - Shift all dates by value between 0 and 364 days (shifted amount determined by algorithm for each record)
[What is date shifting?](#)

A 'Submit' button is located at the bottom of the 'De-Identification Options' section.

Anaemia | REDCap

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 - e.g. move to production, delete database, enable scheduling, change database title
 - Check For Identifiers
 - Project Revision History
- Help & Information
 - General Help

	Syntax & Data
 <p>Microsoft Excel NOTE: If you are using a version of Microsoft Excel prior to Excel 2007, due to limitations the data will only be read to 255 columns when opened.</p>	 <p><input type="checkbox"/> Send file?</p>
 <p>SPSS Statistical Analysis Software Instructions: Download and save all 3 files on the right to a common location. First, double-click on the Pathway Mapper (.bat) file, which will run quickly and invisibly. (If you are not using a Windows operating system, such as Mac or Linux, please see the <i>Additional Instructions</i>.) Now double-click on the *.sps file, which will open SPSS. When the file is loaded and displayed, choose Run-->All from the top menu options. This action will launch the script that will automatically read in all data and manipulate data fields with labels, option values, etc. Additional instructions</p>	  <p> Pathway Mapper</p> <p><input type="checkbox"/> Send file?</p>
 <p>SAS Statistical Software Instructions: Download both files to common location and double-click on *.sas file. When the file is loaded and displayed, choose from the menu options: Run-->Submit. This action will launch the script that will automatically read in all data and manipulate data fields with labels, option values, etc. Before running the syntax file, be sure to change the SAS current working folder to the folder where both files were saved.</p>	  <p><input type="checkbox"/> Send file?</p>
 <p>R Statistical Software Instructions: Use command read.csv('filename') to read in data file.</p>	  <p><input type="checkbox"/> Send file?</p>
 <p>STATA Analysis and Statistical Software Instructions: Download both files to common location and double-click on *.do file. This action will launch the script that will automatically read in all data and manipulate data fields with labels, option values, etc.</p>	  <p><input type="checkbox"/> Send file?</p>



Data Import Tool

This module may be used for importing data into this database from a CSV (comma delimited) file. Below are the steps you will need to follow in order to import your data successfully into this database.

Instructions:

- 1.) [Click the link below](#) to download your data import template as a CSV (comma delimited) file. Save it locally to your computer and then open it to begin filling it with the data you wish to import.

 [Download your Data Import Template](#) (with records in rows)
OR
 [Download your Data Import Template](#) (with records in columns)
- 2.) In each column of the Data Import Template file that you downloaded, place the data for each record that you wish to import. Once all your data has been added, save the file.
 - Be sure not to change the Variables/Field Names in the file or an error may occur.
 - Also, for all of the 'dropdown' or 'radio' fields in the database, you must make sure that the numerical value (rather than the text value) is entered in those cells, or else it cannot be processed.
 - Any empty rows or columns in the file can be safely deleted before importing the file. Doing this reduces the upload processing time, especially for large databases.
- 3.) [Click the 'Browse' button below](#) to select the file on your computer, and upload it by clicking the 'Upload File' button.
- 4.) Once your file has been uploaded, the data will NOT be immediately imported but will be displayed and checked for errors to ensure that all the data is in correct format before it is finally imported into the database.











Record format: The file to be uploaded has its records stored as separate

Upload your CSV file:



Data Entry Forms

- Demographics
- Baseline Data
- Month 1 Data
- Month 2 Data
- Month 3 Data
- Month 4 Data
- Completion Data

Applications

-  Calendar
-  Data Export Tool
-  Data Import Tool
-  Data Comparison Tool
-  Logging
-  File Repository
-  User Rights
-  Data Access Groups
-  Graphical View & Stats
-  Report Builder

Database Setup / Design

-  Online Form Editor and Data Dictionary Upload
- Add or modify database fields using the online and offline methods
-  Control Panel & Settings
- e.g. move to production, enable

Differences were found between the two records!

The table below compares the two records named **9898** and **8887**. Only the fields that have differing values are listed below. If you need to correct or change the value of one of the records below, simply click on the data displayed in red, and it will take you to that form for that particular record.

Label (<i>field name</i>)	Form Name	Study ID	
		9898	8887
Date subject signed consent (<i>date_enrolled</i>)	Demographics	2008-01-30	2009-01-02
First Name (<i>first_name</i>)	Demographics	Paul	John
Last Name (<i>last_name</i>)	Demographics	Harris	Doe
Street, City, State, ZIP (<i>address</i>)	Demographics	123 Wilson Road	
Phone number (<i>telephone_1</i>)	Demographics	(388) 388-3888	
Second phone number (<i>telephone_2</i>)	Demographics	(388) 299-2888	
E-mail (<i>email</i>)	Demographics	paul.harris@vanderbilt.edu	
Has the subject given birth before? (<i>given_birth</i>)	Demographics	Yes (1)	No (0)
How many times has the subject given birth? (<i>num_children</i>)	Demographics	8	
Ethnicity (<i>ethnicity</i>)	Demographics	Hispanic or Latino (0)	
Race (<i>race</i>)	Demographics	Asian (1)	
Height (cm) (<i>height</i>)	Demographics	132	
Weight (kilograms) (<i>weight</i>)	Demographics	60	
BMI (<i>bmi</i>)	Demographics	34.4	
Patient document (<i>patient_document</i>)	Demographics	7347	
Complete? (<i>demographics_complete</i>)	Demographics	Complete (2)	Incomplete (0)

Use Case: Double-Data Entry Studies

REDCap™

Logged in as **admin** | Log out

My Databases
Database Information

Data Entry Forms

- Screening
- ECG
- Laboratory Results
- Eligibility Checklist
- Haematology Chemistry Hiv Request Formscreening La
- Laboratory_Screening_Checklist

Applications

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- Record Locking Customization
- E-signature and Locking Mgmt
- Graphical View & Stats
- Report Builder

Basic User Rights

- Calendar
- Data Export Tool No Access De-Identified Full Data Set
- Data Import Tool
- Data Comparison Tool
- Logging
- File Repository
- Double Data Entry Reviewer
- User Rights
- Data Access Groups
- Reports & Report Builder
- Database Setup/Design

Settings pertaining to record locking and E-signatures:

- Record Locking Customization
- Lock/Unlock Records Disabled Locking / Unlocking Locking / Unlocking with E-signature authority
- Users with locking privileges also have access to the E-signature and Locking Mgmt page on the left-hand Applications menu.
- [Watch video about locking](#)
- Allow locking of all forms at once for a given record?

Settings pertaining to database records: [Explain these settings](#)

- Create Records
- Rename Records

Data Entry Rights

	None	Read	Edit
Screening	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
ECG	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Laboratory Results	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eligibility Checklist	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Haematology Chemistry Hiv Request Formscreening La	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Laboratory_Screening_Checklist	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

*REDCap
Project Owners
Autonomously Control
Access
To Their Applications*

REDCap Module Access

eCRF access rights



REDCap™

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Data Entry Forms

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Applications

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Database Setup / Design

- | | | |
|--------------------------|-------------------------------------|----------|
| Double Data Entry | <input checked="" type="checkbox"/> | Reviewer |
| User Rights | <input type="checkbox"/> | |
| Data Access Groups | <input type="checkbox"/> | |
| Reports & Report Builder | <input checked="" type="checkbox"/> | |
| Database Setup/Design | <input type="checkbox"/> | |

Settings pertaining to record locking and E-signatures:

- | | | |
|--|----------------------------------|--|
| Record Locking Customization | <input type="checkbox"/> | |
| Lock/Unlock Records | <input checked="" type="radio"/> | Disabled |
| | <input type="radio"/> | Locking / Unlocking |
| | <input type="radio"/> | Locking / Unlocking with E-signature authority |
| | | What is an E-signature? |
| Watch video about locking | | |
| Allow locking of all forms at once for a given record? | <input type="checkbox"/> | |

Settings pertaining to database records: [Explain these settings](#)

- | | |
|----------------|-------------------------------------|
| Create Records | <input checked="" type="checkbox"/> |
| Rename Records | <input checked="" type="checkbox"/> |
| Delete Records | <input type="checkbox"/> |

Expiration Date (if applicable)	<input type="text" value="2011-12-31"/>
---------------------------------	---

 Notify user of their database access via email?

Database expiration date

Adapt Screening

User Rights

This page may be used for granting new users access to the database and for editing the rights of current database users. You may [edit the rights of a current user](#) by selecting them from the dropdown list below or [add a new user](#) by entering their user name in the text box and hitting the Tab key.

Choose existing database user

OR type a new user and hit the TAB key

New user name

Comprehensive User Rights View

User name	Expiration	Calendar	Data Export Tool	Data Import Tool	Data Comparison Tool	Logging	File Repository	Double Data Entry	User Rights	Data Access Groups	Reports & Report Builder	Record Locking Customization	Lock/Unlock Records	Database Setup/Design	Create Records
admin	never	✓	Full Data Set	✓	✓	✓	✓	Reviewer	✓	✓	✓	✗	✗	✓	✓
emmanjanwada	never	✓	De-Identified	✗	✓	✓	✓	DDE Person #1	✓	✗	✓	✗	✗	✗	✓
Janet	never	✓	Full Data Set	✗	✓	✓	✓	Reviewer	✓	✗	✓	✗	✗	✓	✓
Ikanada	never	✓	Full Data Set	✓	✓	✓	✓	Reviewer	✓	✓	✓	✓	✗	✓	✓
Ilifa	never	✓	De-Identified	✗	✗	✓	✓	DDE Person #2	✗	✗	✓	✗	✗	✗	✓
mmukaka	never	✓	Full Data Set	✓	✓	✓	✓	Reviewer	✓	✓	✓	✗	✗	✗	✓
mziwoya	never	✓	✗	✗	✗	✓	✓	Reviewer	✗	✗	✗	✗	✓	✗	✓

REDCap™

Logged in as **admin** | [Log out](#)

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- Report Builder

Database Setup / Design

- Online Form Editor and Data Dictionary Upload
- Add or modify database fields using the online and offline methods
- Control Panel & Settings
- e.g. move to production, delete database.



Anaemia

Login account

Logging

[Download entire logging record to Microsoft Excel \(CSV\)](#)

This module lists all changes made to this database, including data exports, data changes, and user actions.

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

Filter by user name: All users ▾

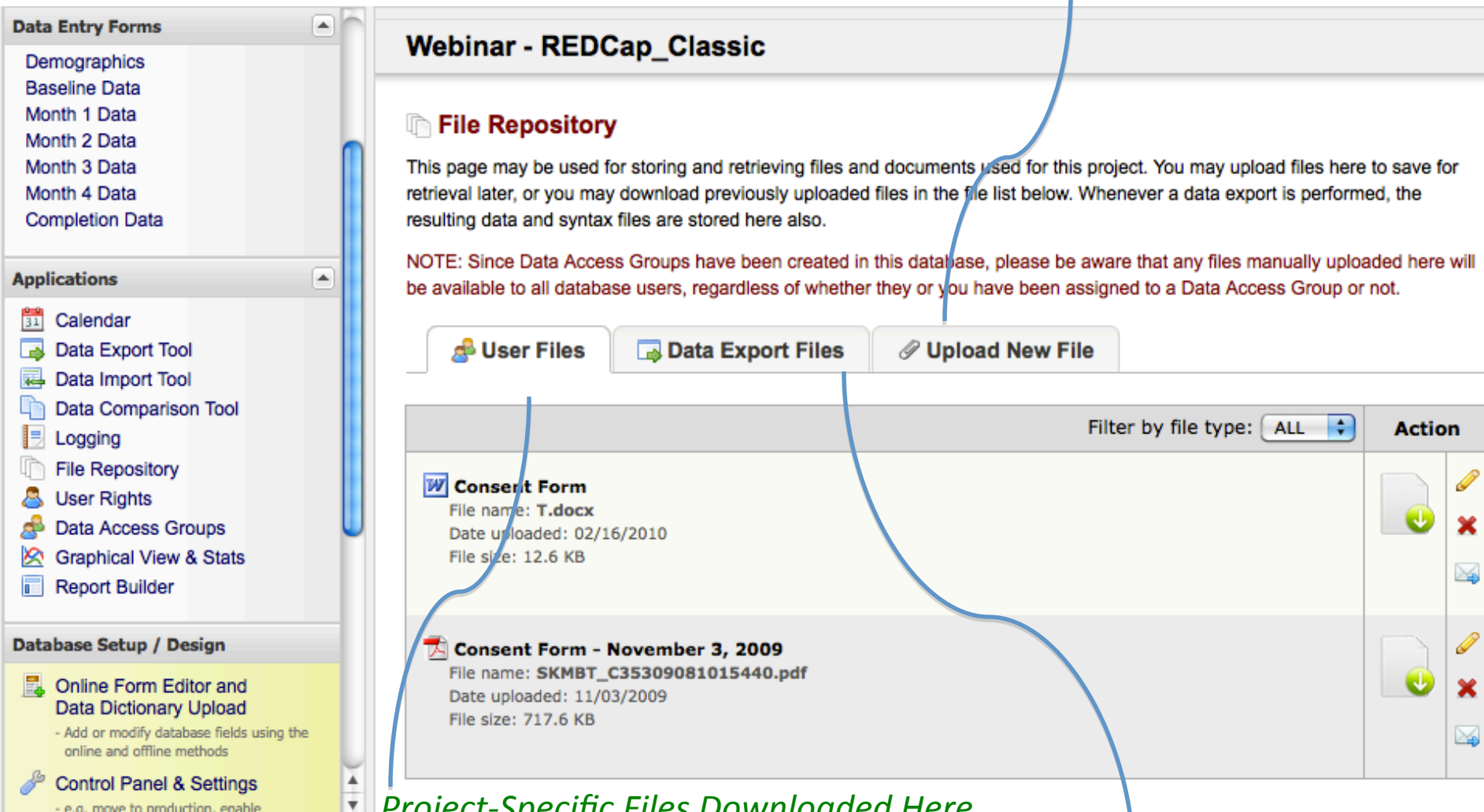
Filter by record: All records ▾

Displaying events (by most recent): 1 - 47 ▾

Reason(s) for data field changes

Time / Date	User name	Action	List of Data Changes OR Fields Exported	Reason for Data Change(s)
5:51pm 12/01/2010	admin	Updated Record 1002	enrs4wgt = '60.2', enrs4bmi = '92.898'	typing error
5:49pm 12/01/2010	admin	Updated Record 1001		locking record
5:49pm 12/01/2010	admin	E-signature 1001	Action: Save e-signature Record: 1001 Form: enrolment	
5:49pm 12/01/2010	admin	Lock/Unlock Record 1001	Action: Lock record Record: 1001 Form: enrolment	
5:42pm 12/01/2010	admin	Manage/Design	Create report	
5:40pm 12/01/2010	admin	Created Record 1002	enr1pid = '1002', enr2dte = '2010-12-01',	

Project-Specific Files Uploaded Here













Webinar - REDCap_Classic

File Repository

This page may be used for storing and retrieving files and documents used for this project. You may upload files here to save for retrieval later, or you may download previously uploaded files in the file list below. Whenever a data export is performed, the resulting data and syntax files are stored here also.

NOTE: Since Data Access Groups have been created in this database, please be aware that any files manually uploaded here will be available to all database users, regardless of whether they or you have been assigned to a Data Access Group or not.

User Files **Data Export Files** **Upload New File**

		Filter by file type: ALL	Action
	Consent Form File name: T.docx Date uploaded: 02/16/2010 File size: 12.6 KB		  
	Consent Form - November 3, 2009 File name: SKMBT_C35309081015440.pdf Date uploaded: 11/03/2009 File size: 717.6 KB		  

Project-Specific Files Downloaded Here

Data Export Files Auto-Saved

REDCap™

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Database Setup / Design

- Online Form Editor and Data Dictionary Upload
- Add or modify database fields using the online and offline methods
- Control Panel & Settings
- e.g. move to production, delete database.

You may use this page to build and save custom reports, which will query the database in real time and display the resulting data in a table format. Once created, you may view your reports at any time as well as modify or even delete them. Your saved reports be displayed on the right-hand menu as links, which can be clicked to display the report.

Create a New Report

You may create a new report by selecting the fields/variables below that you want to include in the report. You may add as many fields to your report as you wish. You will also need to provide a name for your report, which will then be displayed on the database's right-hand menu. When you are finished selecting the fields you wish to include in the report, click the Save Report button at the bottom. The new report will then be added to your list of reports above.

Name of Report:	<input type="text" value="under_18_pregnants"/>	
	Field Name / Label	Limiters (optional) Operator / Value
Field 1	enr1pid (1. Participant ID) <input type="button" value="v"/>	<input type="button" value="="/> <input type="text"/>
Field 2	enrs1gen (1. Participant Gender) <input type="button" value="v"/>	= <input type="button" value="v"/> Female <input type="button" value="v"/>
Field 3	enrs21age (2.1. Participant age at en...) <input type="button" value="v"/>	< <input type="button" value="v"/> 18 <input type="text"/>
Field 4	enrs51res (6.1. Urine pregnancy test ...) <input type="button" value="v"/>	= <input type="button" value="v"/> Positive <input type="button" value="v"/>
Field 5	<input type="button" value="v"/>	<input type="button" value="="/> <input type="text"/>
Order the Results (optional)		
First by	<input type="button" value="v"/>	Ascending order <input type="button" value="v"/>
Then by	<input type="button" value="v"/>	Ascending order <input type="button" value="v"/>



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- [Control Panel & Settings](#)
- e.g. move to production, delete database...

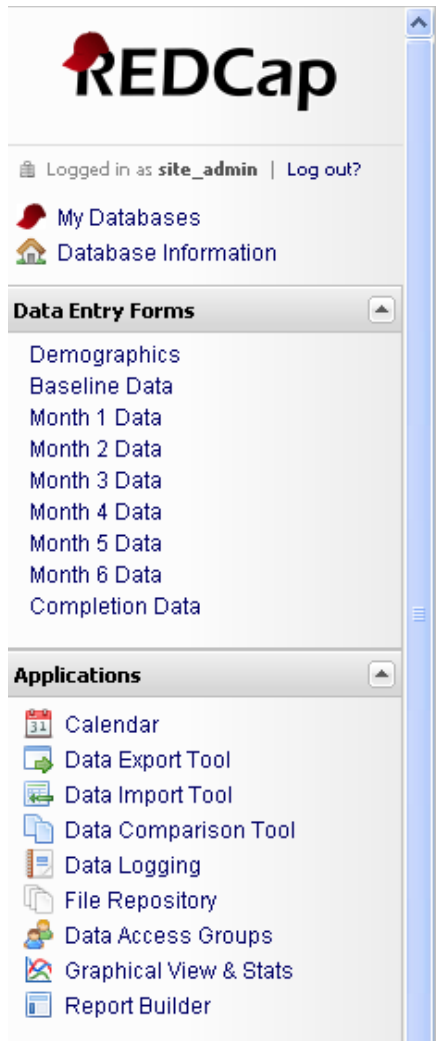
Anaemia

Download report as: [Microsoft Excel \(CSV\)](#) [XML](#)

[Print page](#) [Edit this report](#)

Number of results returned: 1
Total number of records queried: 2

under_18_pregnants			
1. Participant ID (enr1pid)	1. Participant Gender (enrs1gen)	2.1. Participant age at enrolment (enrs21age)	6.1. Urine pregnancy test result (enrs51res)
1002	Female (0)	17.93	Positive (1)



REDCap

Logged in as **site_admin** | Log out?

My Databases
Database Information

Data Entry Forms

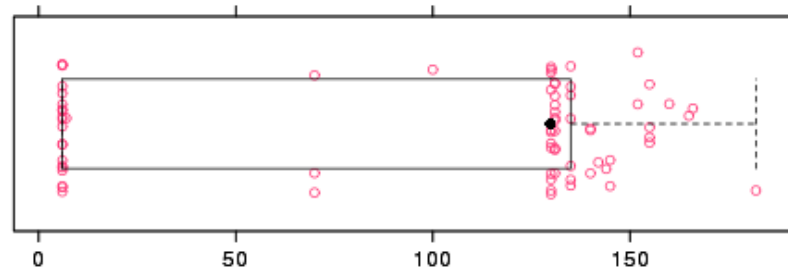
- Demographics
- Baseline Data
- Month 1 Data
- Month 2 Data
- Month 3 Data
- Month 4 Data
- Month 5 Data
- Month 6 Data
- Completion Data

Applications

- Calendar
- Data Export Tool
- Data Import Tool
- Data Comparison Tool
- Data Logging
- File Repository
- Data Access Groups
- Graphical View & Stats
- Report Builder

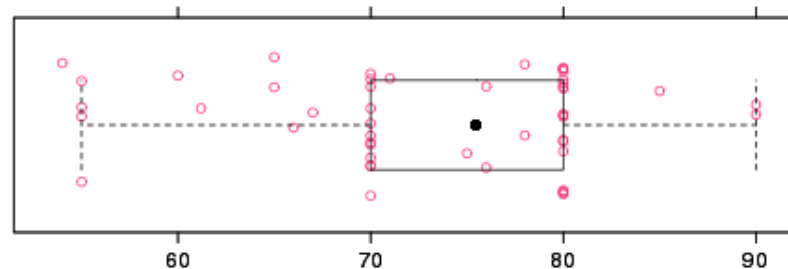
Age (years): [missing values \(90.1%\)](#)

Height (cm): [Refresh Plot](#) | [missing values \(45%\)](#) | [lowest values](#) | [highest values](#)



[Plot Description](#)

Weight (kilograms): [Refresh Plot](#) | [missing values \(61.8%\)](#) | [lowest values](#) | [highest values](#)



*Automatically Graphs Categorical & Continuous Variables
Primary Use Case: Data Cleaning*

-- Requires R-Apache Server Connection



Logged in as **admin** | Log out

My Databases
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- Lock all forms

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Database Setup / Design

- Online Form Editor and Data Dictionary Upload
- Add or modify database fields using online and offline methods
- Control Panel & Settings
- e.g. move to production, delete database, enable scheduling, change database title

2.1. Participant age at enrolment View equation Disclaimer

3. Participant Height(cm) To 1 decimal place (xxx.x) cm

* must provide value

What is an E-signature? ✕


E-signatures are an extension of the record locking/unlocking functionality. Once a data entry form has been locked for a given record in the database, a person with e-signature privileges may then apply an e-signature to that form, if they wish. The e-signature option appears as a check box that says **E-signature**, which appears just above the Save buttons and immediately below the **Locked** check box.

How it works:
Although locking a record prevents its data from being modified, the e-signature goes a step farther, and serves as the equivalent of a handwritten signature. If a record has been e-signed, then **it denotes that its data has been both locked (to prevent further changes) and authorized** (i.e. by a user with e-signature privileges). It is also important to note that **anyone with locking privileges (even if lacking e-signature authority) will negate the e-signature on a form when unlocking the record**, after which data changes can be made to the record. The e-signature can be re-applied after such data changes. For any given record, an e-signature can be saved and negated on a form an unlimited number of times. When saving an e-signature, a user will be asked to enter their username and password for verification. If the username/password verification fails three times in a row, the user will be automatically logged out of REDCap.

How to view the log of e-signature activity:
Similar to the record locking functionality, the e-signature history is also stored in REDCap's data audit trail on the Logging page. If one wishes to view the historical record of e-signatures in the database, one may do so by filtering the audit log by 'Record locking & e-signatures' either for a specific record or for all records in the database.

Close

Delete Record



Logged in as **gkandulu** | [Log out](#)

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[enrolment](#)

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Reports

- [under_18_pregnants](#)

Help & Information

- [General Help](#)
- [Video Tutorials](#)

If you are experiencing problems, please contact your [database administrator](#).

3. Participant height (cm)	<input type="text" value="90.5"/>	To 1 decimal place (xxx.x) cm
4. Participant weight (kg)	<input type="text" value="75"/>	To 1 decimal place (xxx.x)(kg)
5. Participant Body Mass Index (BMI)	<input type="text" value="91.572"/>	View equation Disclaimer
6. Urine pregnancy test done	<input type="text" value="No"/>	
	<input checked="" type="checkbox"/> Headache <input checked="" type="checkbox"/> Fever <input type="checkbox"/> Sweats	

E-signature: Username/password verification ✕

Before forms can be locked using an e-signature, you must enter your REDCap username and password so that they may be validated. After three consecutive unsuccessful attempts, you will automatically be logged out of REDCap, thus ending this session.

User name:

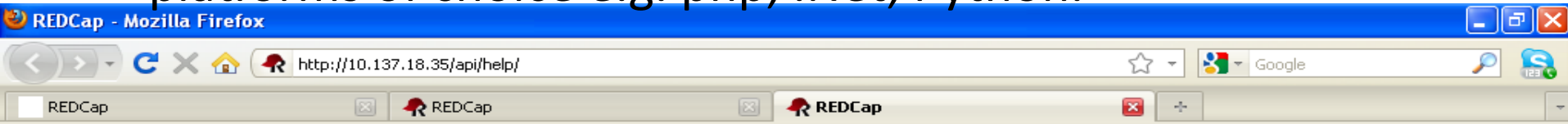
Password:

If locked, no user will be able to edit this record on this form until someone with Lock/Unlock privileges unlocks it.

Locked by admin (admin admin) on 12/06/2010 12:09pm

E-signature ([What is this?](#))

- **REDCap API** - allows programmers to customize REDCap tasks like Export/ Import of data using programming platforms of choice e.g. php, .Net, Python.



This page may be used for obtaining information for constructing or modifying REDCap API requests. Click any of the categories in the table below to expand its section.

What is an API?

The acronym "API" stands for "Application Programming Interface". An API is just a defined way for a program to accomplish a task, usually retrieving or modifying data. In REDCap's case, we provide an API method for both exporting and importing data in and out of REDCap (more functionality will come in the future). Once we expand the REDCap API's abilities to a more comprehensive feature set in the future, programmers may then use the REDCap API to make applications, websites, widgets, and other projects that interact with REDCap. Programs talk to the REDCap API over HTTP, the same protocol that your browser uses to visit and interact with web pages.

Basic Info:

- + Obtaining Tokens for API Requests
- + HTTP Response Codes and Errors
- API Examples

Although the REDCap API can be called from a variety of clients using any popular client-side or web development language that you are able to implement (e.g. .NET, Python, PHP), we are providing examples here of the API data import, data export, and metadata export, which are written in PHP and can be downloaded using the link below. You may use these files to test the REDCap API if you have a server running PHP.

NOTE: You must modify the example PHP files contained therein so they correspond to the REDCap server's API URL and other values that you wish to set for your API request. These example files require the PHP cURL library to be installed on the web server on which these files are hosted.

[Download example file \(.zip\)](#)

Supported Actions:

- + Export Records
- + Import Records
- + Export Metadata (i.e. Data Dictionary)



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REDCap Shared Library

Basic Search

Keywords:

- Search**
- [Basic Search](#)
- [Advanced Search](#)
- Library Metrics**
- [Consortium Activity](#)
- REDLOC**
- [Login](#)
- Help & Tutorials**
- [How to use the library](#)

1 2 3 4 >>

Found 79 results matching your search

Title	Type	Downloads
▶ Barthel Index	Form	36
▶ BRFSS 2009 Module 1: Pre-Diabetes	Form	17
▶ BRFSS 2009 Module 10: Prostate Cancer Screening	Form	2
▶ BRFSS 2009 Module 11: Colorectal Cancer Screening	Form	0
▶ BRFSS 2009 Module 12: Cancer Survivorship	Form	5
▶ BRFSS 2009 Module 13: Adult Asthma History	Form	2
▶ BRFSS 2009 Module 14: Arthritis Management	Form	0 ⁶⁰

Repository for
 REDCap eCRFs
 that can be used
 by other
 institutions

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Video Resources

Below are some informational videos about REDCap, REDCap Survey, and the consortium that can help you get started and gain a better understanding of the two applications and their functionality. We are currently working on adding more videos to the collection.

REDCap Consortium Webinars

- Webinar (130 min) - Dr. Paul Harris, February 2010

REDCap Tutorials

- 1) General Overview of REDCap (50 min)
- 2) The Data Dictionary (14 min)
- 3) The Database "Applications" Menu (8 min)
- 4) The REDCap Control Center (96 min)
- 5) Applications and Modules
 - The Online Form Editor and Data Dictionary Upload (3 min)
 - The Online Form Editor - in depth (5 min)
 - The Project Calendar (5 min)
 - The "Define My Events" Page (4 min)
 - The Scheduling Module (6 min)
 - The Control Panel (2 min)
 - Data Access Groups (3 min)

Online Video resource accessed through Internet

How to cite REDCap in Study manuscript that used it for DE & DM

REDCap
Research Electronic Data Capture

[Consortium Wiki](#) (Login Required)

[Introduction](#) [Software](#) [Consortium Partners](#) [Become a Partner](#) [Video Resources](#) [Citing REDCap](#) [Library](#)

Citing REDCap

Please cite the publication below in study manuscripts using REDCap for data collection and management. We recommend the following boilerplate language:

Study data were collected and managed using REDCap electronic data capture tools hosted at [YOUR INSTITUTION].¹ REDCap (Research Electronic Data Capture) is a secure, web-based application designed to support data capture for research studies, providing: 1) an intuitive interface for validated data entry; 2) audit trails for tracking data manipulation and export procedures; 3) automated export procedures for seamless data downloads to common statistical packages; and 4) procedures for importing data from external sources.

¹Paul A. Harris, Robert Taylor, Robert Thielke, Jonathon Payne, Nathaniel Gonzalez, Jose G. Conde, Research electronic data capture (REDCap) - A metadata-driven methodology and workflow process for providing translational research informatics support, *J Biomed Inform.* 2009 Apr;42(2):377-81.

Link to article: <http://www.sciencedirect.com/science/article/B6WHD-4TJT88-1/2/e77f1e54bba8c75de397340dad11aac6>

- Acknowledgements

- Paul Harris, Vanderbilt University

- (www.project-redcap.org)

- REDCap project (www.project-redcap.org)

Thank you