



Text Messaging in REDCap & REDCap Mobile App

Paul Litwin - plitwin@fredhutch.org
Collaborative Data Services (CDS)

2016 Spring REDCap Seminar Series

1. Mar 3: Creating data forms with online designer & data dictionary
2. Apr 14: Working with surveys, invites, participants, & survey queues
3. May 17: Longitudinal studies, data quality rules, reports, importing & exporting
- 4. Jun 23: REDCap mobile app & texting**
5. July 14: Advanced features (ontologies, double data entry, data access groups, randomization, and more)

Tell Your Friends & Co-Workers

- Introduction to REDCap at Fred Hutch (overview talk)
 - July 11, 2016
 - October 4, 2016
 - Continue every quarter thereafter
- Repeating the 5-part REDCap Drilldown Seminars
 - August – December, 2016
 - Continue twice a year thereafter
 - We may add additional topics or shift the agenda in future series

Agenda

- Sending SMS Messages (a.k.a. texts)
- Using the Mobile App to collect data offline

SMS Messaging in REDCap

or REDCap meets Twilio

Before Version 6.6

- In order to send survey invitations to participants, you had exactly one option:
 - Send the user an invitation in an email
 - Actually, with the REDCap API and a lot of programming, you could also invite participants using SMS (text) messages, but this was a lot of work
- With the release of Version 6.6 on May 29, 2015, you can now have a choice in sending invites to participants from within REDCap using email or SMS (text) messages

Texting Setup & Configuration (1 of 4)

1. Create an SMS Messaging account at Twilio (<http://twilio.com>)
 - This costs money but the costs are quite reasonable

Numbers	Local Text Messages	
\$1.00 per month	\$0.0075 to receive	\$0.0075* to send

All
steps in
Twilio

2. Generate your Twilio Account SID, Auth token, and phone number
3. Turn off logging in Twilio for Data Compliance!
 - Go to Voice Products | Programming Voice | Configure or Settings
 - Disable Request Inspector

Texting Setup & Configuration (2 of 4)

4. Setup the project to enable Twilio SMS for the project

In REDCap



Optional

I'm done!

Enable optional modules and customizations

- Auto-numbering for records [?](#)
- Scheduling module (longitudinal only) [?](#)
- Randomization module [?](#)
- Designate an email field to use for invitations to survey participants [?](#)
Field currently designated: `email_address` ("Email Address")


Additional customizations

Settings displayed to super users only:

- Twilio SMS and Voice Call services for surveys [?](#)


Texting Setup & Configuration (3 of 4)

5. Configure Twilio account settings for the project at “Twilio SMS and Voice Call services” dialog
 - You’ll need Twilio Account SID, Auth token, and phone number from step #2
6. Now you will be able to configure survey settings for the project using additional project setup section



Not started

[I'm done!](#)

 **Twilio SMS and Voice Call services**

To begin utilizing the Twilio SMS and Voice Call services in this project, click the 'Configure' button below. Once you have the Twilio service enabled and have created a survey in this REDCap project, you may click the 'analyze surveys' button, which will run an analysis on all your surveys to determine if they can be used as an SMS survey or as a Voice Call survey.

Go to [Configure Twilio settings for surveys](#) or [Analyze surveys for SMS & Voice Calls](#)

**All steps in
REDCap**

Texting Setup & Configuration (4 of 4)

- Click on “Configure Twilio settings for surveys” and answer a few questions at dialog
 - Note that there are additional voice call settings and completion of the survey via an SMS conversation settings *(all require additional Twilio fees to use)*

In REDCap

Twilio SMS and Voice Call services

Language and gender used for voice calls
Choose the language of your survey question text, and select the regional dialect in which you want it to be spoken (used in voice calls only).
English, United States (Male voice)

Choose survey invitation types to use
You may select several different ways for participants to be invited to take surveys and also the medium in which they will take the surveys.
* Only REDCap administrators are allowed to enable the Twilio option to initiate a survey as an SMS conversation. Much like email, SMS is not considered a secure form of communication, so you may not want to administer surveys as SMS conversations if the participant will be submitting identifying information (PHI or PII) unless you have been granted special permission from the participant to do so. Given such sensitive privacy issues, only your local REDCap administrator can enable the optional setting to use SMS surveys. Please notify your administrator about this if you wish to have this option enabled.

Survey as webpage
 Send survey invitation with survey link via SMS

Survey as voice call
 Initiate survey as voice call
 Send survey invitation via SMS to take survey as voice call (respondent makes call)
 Send survey invitation via SMS to take survey as voice call (respondent receives call when replying via SMS)

Survey as SMS conversation
 Initiate survey as SMS conversation*

Automatically append response instructions to questions?
If this option is set to 'No', then the survey respondent will be given only a question's field label and option choices' text as-is, which means that you will need to modify your question text to say 'For chocolate, press 1. For vanilla, press 2...'. But if you set this option to 'Yes', you may leave your existing question text 'Chocolate, Vanilla, ...', and REDCap will automatically add 'Press 1' to the end of the 'Chocolate' choice text for a voice call, for example. And for an SMS message, it will add '(1)' to the beginning of the choice text in the message.
Yes, auto-append response instructions

Choose the default invitation preference for new participants
If new participants are created via data entry form (rather than via survey), then you may select their default survey invitation preference that will get assigned to them when their record is created. This is useful if you are creating records using a data import or on a data entry form, but wish to send survey invitations later for SMS surveys or voice call surveys, in which this setting automatically sets their invitation preference for you. Without this setting, you would otherwise have to set each participant's preference individually in the Participant List. Also, this value will be used as the pre-selected setting of the delivery preference on the Participant List page when adding new participants to the list.
SMS invitation (contains survey link) ?

(Optional) Designate a phone number field for survey invitations
text_phone ("Phone number (for text messages)")

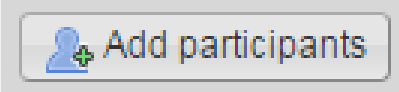
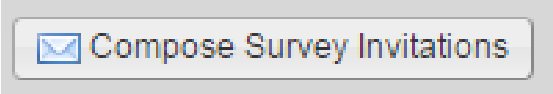
Save Cancel

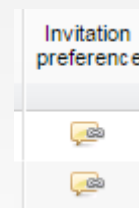
Using Texting to Invite Participants

- Decide first whether you will be..
 1. Using a survey with a (potential) participant list –or–
 2. You will be contacting study participants for (follow-up) surveys –or–
 3. Using anonymous broadcast text message

Inviting Participants

Using a survey with a participant list

- Add participants
 - [Manage Survey Participants](#)
 - [Participant List](#)
 - 
- Adjust email/text preference for invites in Participant List
- Send out invites
 - [Manage Survey Participants](#)
 - [Participant List](#)
 - 
- Information in participant list will not flow through to survey results

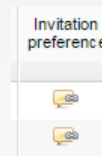


Inviting Participants

You will be contacting study pts for follow-up surveys

1. Setup capturing of phone number on baseline instrument
 - Project Setup
 - Configure Twilio settings for surveys
 - (Optional) Designate a phone number field for survey invitations

2. Adjust email/text preference for invites in Participant List



3. Setup Automated Survey Invitations

● Online Designer



4. As a participant completes the trigger form, invites will be sent out (optionally after a configurable delay with or without conditions)

Inviting Participants

Using anonymous broadcast text message

- Manage Survey Participants
 - Public Survey Link
 - Voice Calling and SMS options for the Public Survey

Invite participants via Voice Call or SMS

- The phone numbers you use will not be tracked against survey completions

Using the REDCap Mobile App

or How to collect data in REDCap when offline

Before Version 6.5

- In order to collect data in REDCap, you have to be connected to the Internet
- But on May 22, 2015, Vanderbilt released the REDCap Mobile App in iOS and Android versions

Using the REDCap Mobile App

1. Download App and configure for project & create users
(Connection required; once per device)
 - Your user account will need mobile app rights.
2. Download data to device (Connection required)
 - Only if mobile users will need to edit existing records
3. Create and/or Update records on device (Disconnected)
4. Synchronize Device with REDCap server (Connection required)

Setting up the REDCap Mobile App

Online

1. Download and install REDCap Mobile App (once per device)
2. Initialize the App and create the Admin account (once per device)
3. Create user accounts on each device (once per device/user)
 - You must be logged in as Admin user to create/manage user accounts
4. Connect each user account to REDCap Project (once per device/user)

Connect each user account to REDCap Project

(once per device/user)

1. From REDCap – will require assistance of REDCap Administrator
 - a. Create REDCap user(s) that will have REDCap mobile rights. It could be [one REDCap user per device](#) or one REDCap user for multiple devices, or even one REDCap user for each mobile device user
 - b. Log in as this user and click [API | Request API token](#)
 - c. Still logged in as this user, click [REDCap Mobile App](#) and from [Set Up Project in Mobile App](#) tab, use either the [QR code](#) or [Initialization code](#) (click first on [Can't get the QR code to work?](#)) to setup project on device
 - d. Use either QR code or Initialization code on device to setup project for each user

Collecting New Records in REDCap Mobile App

Offline

1. Data collector user logs into device
2. Press [My Projects](#)
3. Press [link](#) containing Name of Project
4. Press [Collect Data](#)
5. Press [link](#) containing Name of Instrument
6. Press [Create New Record](#)
7. Enter data and press [Save Record](#)
8. Continue creating records

Updating Records in REDCap Mobile App

Online & Offline

1. Data collector user logs into device
2. Press [My Projects](#)
3. Press [link](#) containing Name of Project
4. Press [Check for Other Records on Server](#) or [Refresh Setup & Data \(online\)](#)
5. Press [Collect Data](#)
6. Press [link](#) containing Name of Instrument
7. Press [link](#) of Existing Record (or press [Create New Record](#))
8. Enter data and press [Save Record](#)
9. Continue updating/creating records

Synchronizing with REDCap Mobile App

Online

1. Data collector user logs into device
2. Press [My Projects](#)
3. Press [link](#) containing Name of Project
4. Press [Send Data to Server](#)
5. Press [Begin Send of All Data](#) or [Select a Partial Set of Records](#)

Refreshing Project in REDCap Mobile App

Online

This is necessary when you have modified one or more instruments

1. Data collector user logs into device
2. Press [My Projects](#)
3. Press [link](#) containing Name of Project
4. Press [Refresh Setup & Data](#)

Managing Users in REDCap Mobile App

Online

1. Admin user logs into device
2. Press [Add new User](#) or press on [link](#) of the name of existing user
3. Logout of Admin account

Android Emulators

- One way to use the REDCap Mobile app with Windows tablets or laptops is to employ an Android emulator on Windows/OSX
- Resources
 - <http://www.androidauthority.com/best-android-emulators-for-pc-655308/>
 - <http://techapple.net/2014/05/3-best-android-emulators-for-mac-os-macbook-run-and-install-android-app-on-your-mac-os-x-macbook-airpro/>

Summary

REDCap Supports Two Exciting New Features

- Use of SMS (Text) Messaging for surveys
- REDCap Mobile app allows offline data collection on iOS, Android, and Windows/OSX (using an Android emulator such as BlueStack)

CDS REDCap Seminar Series

1. Mar 3: Creating data forms with online designer & data dictionary
2. Apr 14: Working with surveys, invites, participants, & survey queues
3. May 17: Longitudinal studies, data quality rules, reports, importing & exporting
4. Jun 23: REDCap mobile app & texting
5. **July 14: Advanced features (ontologies, double data entry, data access groups, randomization, and more)**

Tell Your Friends & Co-Workers

- Introduction to REDCap at Fred Hutch (overview talk)
 - July 11, 2016
 - October 4, 2016
 - Continue every quarter thereafter
- Repeating the 5-part REDCap Drilldown Seminars
 - August – December, 2016
 - Continue twice a year thereafter
 - We may add additional topics or shift the agenda in future series



Thank you!

Paul Litwin - plitwin@fredhutch.org
Collaborative Data Services (CDS)