

Survey distribution through sureSMS within REDCap

REDCap mini-dictionary

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Survey distribution through sureSMS within REDCap

This is a guideline that shows how to set up a REDCap project to send text messages from REDCap using SureSMS as the distributor.

REDCap mini-dictionary

- `events` are connected to Data Collection instruments.
- `instruments` contain fields we or patients need to put information into.
- `fields` contain information and can be referred to in branching logic as `[field_name]`.
- `records` contain data for a participant

Text messages can be sent from each survey as an "Automated Survey Invitation" AND from the Alerts & Notification application. Before you can send texts, however,, you must correctly set up a field to contain the email2sms email address for each recipient. This field is used throughout REDCap to send text messages. The guideline below will show you how to set up an "email2sms" field and send text messages from REDCap as an automated survey invitation or an alert.

You need

- a REDCap project
- Recipient phone number in a field called for example `[phone_number]`

MUST-DO: Prepare the email2sms field

Define a new field within an instrument that will contain your recipients' email2sms email addresses.

You can use the action tag `@PREFILL` to construct an email address like in the example with a Danish phone number below:

```
@PREFILL = '+45[event_where_phone_number_field_is][phone_number].[sureSMS-username].[sureSMS-password]@2sms.nu'
```

(please note that there should be no linefeed. It is just wrapped because of page width)

In our example project, this looks like:

Edit Field

You may add a new project field to this data collection instrument by completing the fields below and clicking the Save button at the bottom. When you add a new field, it will be added to the form on this page. For an overview of the different field types available, you may view the [Field Types video \(4 min\)](#).

Field Type: Text Box (Short Text, Number, Date/Time, ...)

Field Label: Use the Rich Text Editor ?
email2sms

Action Tags / Field Annotation (optional)
@PREFIX = '+45[patient_info_arm_1][phone_number].+4529930785.Cuu2N6Lq@2sms.nu'
[Learn about @ Action Tags](#) or [using Field Annotation](#)

Variable Name (utilized in logic, calcs, and exports)
email2sms
ONLY letters, numbers, and underscores
 Enable auto naming of variable based upon its Field Label?

How to use: [Smart Variables](#) [Piping](#) [Field Embedding](#)

Validation? (optional) Email
- or -
-- select ontology service --

Required?* No Yes
* Prompt if field is blank

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

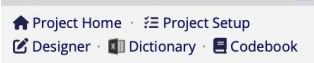
Custom Alignment Right / Vertical (RV)
Align the position of the field on the page

Field Note (optional)
Small reminder text displayed underneath field

Save **Cancel**

To use the email2sms field when setting up automated invitations (described later), we need to

1. Choose "Email" in the "Validation?" dropdown menu. Then this email is visible in the next steps.

2. Go to "Project Setup" in the REDCap left-side menu . Under "Enable optional modules and customisations", click on

Designate an email field for communications (including survey invitations and alerts) ? a window pops up

3. Choose the email2sms field in the dropdown menu at the top

Designate an email field for communications (including survey invitations and ...)

Choose an email field to use for invitations to survey participants:

-- select a field --
Demographics
email2sms "email2sms"

an direct specific email communications to the email address provided. Alerts & Notifications. If a field is designated for that purpose, then any records in your project that have an email address captured for that particular field will have that email address show up as the participant's

Navigate back and Your custom email field is now visible in the Project Setup overview page.

Designate an email field for communications (including survey invitations and alerts) ?
Field currently designated: **email2sms** ("email2sms")

Now this field can be used in other REDCap functionalities as we see later.

SMS setup with "Automated Survey Invitations"

- In the left-side menu of REDCap, click the  button in "Project Home and Design".
- You should now be in the  tab. Find the instrument where your survey is.
- Under  click the  button for that instrument.

- Click on **Survey settings** and navigate down to "Survey Customizations:" to select the email2sms field to get that particular survey to use the email2sms field as the recipient mail address. Save changes! If you don't complete this step, nothing will be sent. It may look like it has been sent in the log, but thorough testing will reveal, no text messages will be received.

Survey-specific email invitation field
Designate an email field for sending survey invitations for this survey only ?

✓ -- select a field --
Demographics
email2sms "email2sms"

Note: This option will override the project-level email invitation field (if enabled on the Project Setup page) and will also override any email address originally entered into the Participant List. Also, if this field has no value and the project-level email field is enabled, then the project-level email field's value will be used instead.

email invitation field has been enabled already. Please note that it is not required here if a project-level email field has already been defined. This is an optional

- Go back to the "Online Designer. Click **+Automated Invitations** next to the Survey Settings you just modified. A pop-up will show a "+Set up" button. Click this button to modify the conditions for

Automated Survey Invitations (ASI) **Automated Invitations**

Click the buttons below to set up or modify automated survey invitations.

+ Set up Daily Survey

Note that you can only set up

surveys for events that are linked to that instrument AND that are enabled as a survey.

- A window pops up where you can tailor your survey:

Define Conditions for Automated Survey Invitations (ASI)

In this pop-up you may define your conditions for automated survey invitations that will be sent out for the survey (and event, if a longitudinal project) listed in the Info box below. [Tell me more](#)

Activate automated invitations for this survey?
Survey title: Daily Survey
Event: Daily Survey
"Active" must be selected in order for automated survey invitations to be triggered and sent using the conditions specified in this popup. You may make it Not Active (and vice versa) at any point in the future. ?
 Active Not Active

STEP 1: Compose message
From: DATA-SET-GO TEST test@data-set-go.dk
(select any project user to be the "Sender")
To: [All participants who meet the conditions defined]
Subject: test_daily
Send test email

Paragraph **B I U** **¶** **↶ ↷**
☰ ☲ ☱ **A** **🔍** **<>** **I** **↻**

TEST- må gerne besvares.
Please take this survey.
You may open the survey in your web browser by clicking the link below:
[survey-link]
If the link above does not work, try copying the link below into your web browser:
[survey-url]
This link is unique to you and should not be forwarded to others.

NOTE: You may modify or remove any text you wish in the Compose Message text box above. Make sure you include either [survey-link] or [survey-url] in the text or else the participant will not have a way to take the survey.
[How to use Piping in the survey invitation](#) **Reminder:** Never pipe private info (e.g., PII, PHI) into

STEP 2: Conditions
Specify conditions for sending invitations:
 When the following survey is completed:
-- select a survey --
OR
 When the following logic becomes true:
[patient_info_arm_1][record_id]="3"
(e.g., [enrollment_arm_1][age] > 30 and [enrollment_arm_1][sex] = "1")
[How do I use special functions?](#)
Test logic with a record: -- select record --
 Ensure logic is still true before sending invitation? ?
[How to use "stop logic" to disable an automated invite](#)

STEP 3: When to send invitations AFTER conditions are met
 Send immediately
 Send on next -- select day -- at time H:M
 Send the invitation days hours minutes
after the exact time that the automated invitation was triggered ?
 Send at exact date/time: D.M.Y H:M

STEP 4: How many times to send it (repeating surveys only)
 Just once
 Multiple times on a recurring basis:
 Send every 1 hours after initially being sent.
Tip: A monthly recurrence can be approximated as 30.44 days.
 Send up to 2 times total (including the first time sent).
Leave blank to continue triggering and sending forever.
[Learn about Data Collection Strategies for Repeating Surveys](#)

- Modify the settings you require. Pro-tip: for testing purposes send immediately so you can see whether it is working
- Click on the radio button "Active" to activate the survey
- Click "Save"
- After a little while, your text messages have been generated and you can see the invitations within the "Survey Distributions Tool" tab "Survey Invitation Log"

- To speed up REDCap, get REDCap to re-evaluate the surveys to send out, click the Auto Invitations options button and then the Re-evaluate Automated Survey Invitations.

[Project Home](#)
[Project Setup](#)
[Online Designer](#)
[Data Dictionary](#)
[Codebook](#)

[VIDEO: How to use this page](#)
[Create snapshot of instruments](#)
 Last snapshot: never [?](#)

The Online Designer will allow you to make project modifications to fields and data collection instruments very easily using only your web browser. NOTE: While in development status, all field changes will take effect immediately in real time.

Data Collection Instruments

[+ Create](#) a new instrument from scratch
[Import](#) a new instrument from the official [REDCap Instrument Library](#)
[Upload](#) instrument ZIP file from another project/user or [external libraries](#)

Form options: [Form Display Logic](#)
Survey options: [Survey Queue](#) [Auto Invitation options](#)

[Upload Automated Survey Invitations settings \(CSV\)](#)
[Download all Automated Survey Invitations settings \(CSV\)](#)
[Re-evaluate Automated Survey Invitations](#)

Instrument name	Fields	View PDF	Enabled as survey	Instrument actions	Survey related options
Demographics	7		Enable	Choose action	
Medications	2		Enable	Choose action	
Family Members	3		Enable	Choose action	
Visits	3		Enable	Choose action	
Adverse Events	23		Enable	Choose action	
Daily Survey	2			Choose action	Survey settings Automated Invitations
Weekly Survey	2			Choose action	Survey settings Automated Invitations

Pick the right survey to update. You can update all, but you might not want to. Any changes in other surveys will be re-evaluated.

- If you change the survey text or conditions, it is a good idea to re-evaluate the surveys.

Check your scheduled and past invitations in the "Survey Distributions Tool"

Data Collection

[Survey Distribution Tools](#)
 - Get a public survey link or build a participant list for inviting respondents

Click the tab "Survey Invitation Log" to see future and past notifications sent out. If you click the wrong email recipient, it may appear to have been sent, but without a correct recipient, SureSMS cannot convert it to SMS.

Survey Distribution Tools

[Public Survey Link](#)
[Participant List](#)
[Survey Invitation Log](#)

Listed below are the survey invitations that have already been sent or have been scheduled to be sent to survey participants in this project. For each invitation it displays the participant email, participant identifier (if exists), survey name, and the date/time in which the invitation was (or will be) sent. You may even view the invitation email itself by clicking the icon in the 'View Email' column. Please note that all times below correspond to the time zone "Europe/Berlin", in which the current time is 01.08.2023 15:03.

Survey Invitation Log
(in ascending order by time sent)

[View past invitations](#)
[View future invitations](#)

Displaying 1 - 82 of 82

Begin time: End time: 01.08.2023 15:0 (D.M.Y H:M)
 Display All invitation types (excluding deleted invitations) and All response statuses
 Display All surveys
 Display All records
 Display invitation reminders?

[Apply filters](#)
[Reset](#)
[Download log \(as seen below\)](#)
[Delete all selected](#)

Invitation send time	View Invite	Participant Email	Record	Participant Identifier	Survey	Survey Link	Responded?	Errors (if any)
18.07.2023 08:51		+4529930785,+4529930785.Cuu2N6Lq@zsms.nu	1 (#1)		Daily Survey Daily Survey			EMAIL ADDRESS NOT FOUND
18.07.2023 17:24		+4529930785,+4529930785.Cuu2N6Lq@zsms.nu	1 (#7)		Daily Survey Daily Survey	-		
01.08.2023 15:03		+4529930785,+4529930785	1 (#...)		Daily Survey	-		

Thorough testing in development mode, will let you set up a robust survey with the correct email2sms recipient, able to be distributed correctly.

SMS setup with "Alerts & Notifications"

Go to Alerts & Notifications in the REDCap Application menu.



Click **+ Add New Alert** to begin setup. To send the Alert as a text message, you must pick the email2sms field as the recipient in "STEP 3: Message Settings".

✉ STEP 3: Message Settings

Email From:
** must provide value*

Email To:
** must provide value*

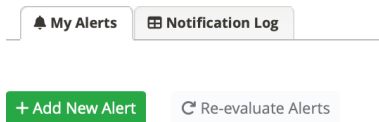
test@data-set-go.dk

-- and/or Email Field Variables --

[email2sms] "email2sms" [Any Event]

[patient_info_arm_1][email2sms] "email2sms" (Patient Info)

× [patient_info_arm_1][email2sms] "email2sms" (Patient Info) |



For the SMS to be sent correctly, choose the email2sms field where the [event] is written before the email2sms field itself. That means you should pick the field indicated in blue highlight. This field has the event attached like so: `[redcap_event_name_where_email2sms_field_is][fieldname_of_email2sms]`, the name of the field is arbitrary. Here it is called "email2sms".

Click save and you get re-directed back to the tab "My Alerts", where all alerts will be shown.

The screenshot shows the 'My Alerts' tab selected. Below the navigation bar, there are buttons for '+ Add New Alert' and 'Re-evaluate Alerts'. A search bar and 'Upload or download Alerts' button are also visible. The main content area displays 'Alert #1: Test Alert' with a unique ID of A-2804. The alert configuration includes a trigger condition: 'When the instrument "Daily Survey (Daily Survey)" is saved and has any form status.' It is set to 'Send immediately' and 'Send one time'. An activity summary at the bottom indicates '20 records were alerted' and 'Last sent: 01.08.2023 14:36'. An email preview on the right shows the following details:

- From:** Test <test@data-set-go.dk>
- To:** [patient_info_arm_1][email2sms]
- Subject:** Test
- Body:** Hi [patient_info_arm_1][first_name] This is an alert fro...

At the bottom of the alert you can see the number of alerts that have been sent out and will be sent out. In this example project, 20 alerts were sent to three patient records.

Alert #1: Test Alert Edit Options Unique Alert ID: A-2804

When the instrument "Weekly Survey (Weekly Survey)" is saved and has any form status.

Schedule to send later: 1 minutes after the exact time that the alert was triggered

Send one time (only once per event in a record and also on every instance of a repeating instrument/event)

Activity: 29 records were alerted [\(view list\)](#)

29 alerts sent for Alert #1 ×

View sent alerts in Notification Log

Record names: 1, 2, 3

Email Preview

From: Test <test@data-set-go.dk>

To: [patient_info_arm_1][email2sms]

Subject: Test

Hi [patient_info_arm_1][first_name] This is an alert fro...

In the Notification Log you can see past and future notifications. If you picked the wrong email2sms field during alert setup, it may look like the alert is being sent out, but it might not be. Remember to do a complete and thorough testing before going to production, or use a test recipient.

Once you edit an alert, you can get REDCap to re-evaluate the alert conditions. If the email2sms field was correctly assigned and all other conditions are OK, you will see the number of scheduled alerts in a pop-up window.

✓ SUCCESS!

7 notifications were scheduled (and 0 already-scheduled notifications were unscheduled) across a total of 2 records.

OK

Go ahead and view scheduled and sent alerts and notifications in the notifications log tab within the application:

My Alerts **Notification Log**

Export (CSV): [All Log](#) [All pages using current filters](#)

Notification Log (in ascending order by time sent)

View past notifications

View future notifications

Displaying 1 - 2 of 2

Begin time: 01.08.2023 14:1 End time: (D.M.Y H:M)

Display All alerts

Display All records

Apply filters Reset

Notification send time	Alert	View Notification	Record	Recipient	Subject
01.08.2023 14:10	#1 (A-2804)		1 (#9) - Daily Survey	+4529930785.+4529930785.Cuu2f	Test
01.08.2023 14:10	#1 (A-2804)		2 (#1) - Daily Survey	+4540818824.ILIT.sQtePrvN@2sm	Test

If you selected the wrong email2sms field, it may appear to have been sent, but without a correct recipient field, SureSMS cannot convert it to SMS.

Tips and Tricks

Repeated Survey Invitations

If you want to send out repeated surveys you must define the instrument as repeatable in the Project Setup and modify "STEP 4: How many times to send it (repeating surveys only)" in the Automated invitations setup described earlier.

Schedule SMS at a specific date and time in the future

To get text messages sent at different timepoints to different patients, write the following in the mail subject line:

```
REQUIREDDELIVERYDATETIME=[event-label][instrument_name]  
[field_name_with_specific_time_to_send]
```

When any field in a record's data is updated, REDCap re-evaluates the conditions for each survey for that record (patient). It is important to send the email2sms to SureSMS before the required delivery date and time for that particular patient. At SureSMS, we keep your text message and send it to your recipient when it is the correct "sms_send_time".

With this option you can for example: send patient A a survey at 10:00 and patient B that same survey at 12:00. With this option you must send the email2sms to SureSMS before the patient A has to receive the survey, for example at 8:00. In that case, you write 08:00 for the particular date in "STEP 3: When to send invitations AFTER conditions are met" in the Conditions for that survey. The survey is sent from REDCap as an email to SureSMS at 8:00. The subject line contains the REQUIREDDELIVERYDATETIME that retains the SMS until the time specified in [field_name_with_specific_time_to_send].

HTML tags in the SMS

Like other SMS-sending services SureSMS strips away HTML tags before sending text messages. Any line breaks or rich text has to be customized in cooperation with SureSMS.

If you are having problems with line breaks, try to put a [br] in the text, where you want the line break. If you want a double line break, use the code [br2].