REDCap Survey Development and Features

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Objectives

• Review how to set up a survey
• Learn about the options that are available for survey distribution
• Understand how to set up survey scheduling
• Learn how to track survey responses
• Demonstrate how to set your user rights
In REDCap, a survey is a version of a data form that is completed by a study participant without logging into the REDCap system.

- REDCap offers two survey options:
  1. Public
  2. Private
Public Survey

- A public survey must be the first form in your project.
- A new record is created each time a survey is submitted.
- You will generate **one survey link** for all participants.
- Responses can be anonymous *(if no identifying information is collected)*

Common use cases:
- Opinion survey
- Polling survey
Private Survey

• A private survey does **not** need to be the first form of your project.
• Responses are **linked to a participant record** where they can be tracked and identified.
• You will generate a **unique survey link for each participant**.
• The record can be created before a participant fills out the survey.
• You can designate an email field or use a participant list to send a survey invitation.

Common use cases:
• Follow up survey
• Health History survey
Survey Setup
Enable a Survey

1. In *Main Project Settings*, **Enable** the setting *Use surveys in this project?*

   ![Main project settings](image)

2. In the *Online Designer*, you can now enable specific instruments as surveys

   ![Data Collection Instruments](image)
3. Clicking ‘Enable’ on the Online Designer page will bring you to the survey setup page for that specific instrument.
Survey Customization Options*

Examples include:

- **Pagination**
  - Single page / one section per page

- **Allow save and return option**
  - Allow respondents to leave the survey and return later

- **Auto-continue to the next survey**
  - Automatically start the next survey instrument after finishing this survey

- **Options related to survey stop actions**
  - Save or discard survey responses when stop action is triggered

*Refer to slides 47 - 50 for a complete list of survey customization options*
Set Up Stop Action from Online Designer

• ‘Stop Actions’ will end a survey if a participant selects the stop trigger condition
Questions?
Survey Distribution
Survey Distribution Options

1. Automatic Survey Invitation (ASI)
2. Survey Queue
3. Participant list -> Compose Survey Invitation
4. Alert and Notification
5. Compose survey invitation option on the data entry form
Option 1: Automatic Survey Invitations (ASI)

• Survey invitations can be scheduled to be sent automatically (i.e. without a person sending the invitation) based upon specific conditions such as
  o If the participant completes another survey in your project
  o If certain data values for a record are fulfilled.

• This option requires that you designate an email field for sending the survey invitation.
Option 1: Automatic Survey Invitations (ASI) Set Up

- You can enable ASI as an optional module and customization in the Project Setup.
Designate an email field for sending survey invitations

Choose an email field to use for invitations to survey participants:
-- select a field --

You can capture email addresses for sending invitations to your survey participants by designating a field in your project. 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 email address in the Participant List (unless an email address has already been entered for that participant in the Participant List directly).

Using the designated email address field can be especially valuable when your first data collection instrument is not enabled as a survey while one or more other instruments have been enabled as surveys. Since email addresses can only be entered into the Participant List directly for the first data collection instrument, the designated email field provides another opportunity to capture the email address of survey participants.

Please be aware that designating an email field means that survey responses can NEVER BE ANONYMOUS because of the fact that the participant’s email address can be viewed on a data entry form, which means it is easy to identify the record/response to which the email address belongs.

NOTE: If the participant's email address has already been captured directly in the Participant List, then that email address will supersede the value of the email field here when survey invitations are sent to the participant. Also, if the email invitation field exists on multiple longitudinal events, on a repeating instrument, or on a repeating event, the field's value will be synchronized across all instances/events so that changing it in one location will change the value across all events/instances where the field appears.

Survey-specific email invitation field: While the email invitation field discussed here is a project-level setting, it is helpful to know that there also exists a survey-level email invitation field option that can be utilized for particular surveys in the project (whereas the project-level field would be applied to ALL surveys). A survey-specific email invitation field can be enabled for any given survey, in which you can designate any email field in your project to use for sending survey invitations for that particular survey. Thus, you can collect several email addresses (e.g., for a student, a parent, and a teacher) and utilize each email for a different survey in the project. Then you can send each person an invitation to their own survey, after which all the survey responses get stored as one single record in the project. See the 'Survey Settings' page in the Online Designer for this survey-level setting.
Option 1: Automatic Survey Invitation

**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:** Screening Form
- **Event:** Screening/In-Hosp

*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:** Display name (optional) janet.truebig@yale.edu
- **To:** [All participants who meet the conditions defined]
- **Subject:**

Send test email

**Paragraph**

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:

**STEP 2: Conditions**

Specify conditions for sending invitations:

- When the following survey is completed:

  --- select a survey ---

  AND

- When the following logic becomes true:

  (e.g., [enrollment_arm_1][age] > 30 and (enrollment_arm_1][sex] = "M")

  [How do I use special functions?]

  Test logic with a record: --- select a record ---

  [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]
  [How to target participants with a specific condition?]
- **Send at exact date/time:** [M/D/Y H:M]

**Survey settings**

[ + Automated Invitations ]

Save Save & Copy... Cancel
1. Use piping to personalize the invitation message

2. If you are using a study email address to send the invitation, add the email address as a secondary email in your profile (link on top right of ‘My Project’ page). The email address will be available in the ‘From’ dropdown box on the ASI set up page.

3. If you delete the default text in the compose box, make sure to include the smart variables, [survey-link] or [survey-url], in the message that you compose.

4. You can format using HTML code or the rich text editor
5. If applicable, add a condition for stop logic
   • For example, if you would like the project to stop sending a scheduled invitation if the patient withdraws from the study, you can include in the condition [withdraw] <>1 and check the box ‘Ensure logic is still true before sending invitation’.

6. How to test if the ASI logic is set up correctly
   • You can test the ASI logic in the ‘Data Quality’ module. Add a custom quality rule with your ASI logic and check how many records do not fulfill the condition.
Questions?
Option 2: Survey Queue

• Displays a list of your surveys to a participant all on a single page.
• Lists all surveys that are to be completed (like a 'to-do' list) as well as the surveys that the participant has already completed.
• Surveys can be set to appear in the Survey Queue based upon
  1) if the participant has completed a particular survey
  2) if certain conditions are met (based upon data values)
• One link for all surveys in the survey queue.
Option 2: Survey Queue Setup

- Ensure desired instruments are enabled as surveys, then click ‘Survey Queue’, then ‘Edit Survey Queue’ in the pull down.

![Data Collection Instruments Table]

- Caregiver Demographics: 38 fields, PDF enabled as survey
- Caregiver Health: 41 fields, PDF enabled as survey
- PANAS: 24 fields, PDF enabled as survey

Survey options: Form Display Logic, Survey Queue, Auto Invitation options, Survey Login

Survey Notifications:
Option 2: Survey Queue
Setup

- The survey queue can be customized, including adding text at the top of the survey queue page.
- **Note:** the *Survey Auto-continue* and the *Survey Queue* conflict.
Option 2: Survey Queue Setup

- Click ‘Activate’ to add a survey to the survey queue. You can then add conditional logic for when the survey will appear.
Option 2: Survey Queue

Participants with access to their survey queue will be able to view the list of surveys they have left to do, based on the conditional logic you created.
Questions?
Option 3: Participant List

• If you do not designate an email field for sending a survey, you can add participant emails directly to the participant list.

• To use this option, the first instrument of your project must be a survey.

• This is useful for a project that involves a one-time survey from a list of participants.

• There is also the option to enable a participant identifier.
The Participant List option allows you to send a customized email to anyone in your list and track who responds to your survey. It is also possible to identify an individual’s survey answers, if desired, by providing an Identifier for each participant (this feature must first be enabled by clicking the ‘Enable’ button in the table below). Note: All survey responses collected are considered anonymous unless you 1) are using Participant Identifiers or 2) have enabled the designated email field for invitations. More details

Add Emails to Participant List

Copy and paste your list of participant email addresses, one per line.

Example #1: john.williams@hotmail.com
Example #2: jmtaylor@yahoo.com
Example #3: putnamtr@gmail.com

Each participant starting on a new line

Add participants Cancel

Participant identifier not enabled

Participant identifier enabled
Option 4: Alert and Notification

- Can be used to send survey link to participants.
- Participant email should be collected in a project field.
- Can set up trigger condition.
- To send a survey link or survey queue link, include the relevant survey smart variable in the message.
- Refer to [REDCap Training 201](#) slides and [FAQ](#) for instructions on how to set up alerts and notifications.
### Survey Smart Variables

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>[is-survey]</td>
<td>Detects if the current instrument is being administered as a survey (returns 1 for True, 0 for False), as opposed to a form.</td>
<td>[is-survey] 0</td>
</tr>
<tr>
<td>[survey-url:instrument]</td>
<td>The web address (URL) of the specified survey for the current record/event/instance. The format must be [survey-url] or [survey-url:instrument], in which 'instrument' is the unique form name of the desired instrument. This can be used simply as [survey-url] inside the content of a survey invitation, in which 'instrument' is assumed to be the current survey instrument.</td>
<td>[survey-url:followup_survey] <a href="https://soap-research.med.yale.edu/survey/sf/false">https://soap-research.med.yale.edu/survey/sf/false</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td>[previous-event-name][survey-url:followup_survey]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[survey-url:followup_survey]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Follow-up Survey</td>
</tr>
<tr>
<td>[survey-link:instrument:Custom Text]</td>
<td>The HTML web link that, when clicked, will navigate to the specified survey for the current record/event/instance. The format must be [survey-link], [survey-link:instrument], or [survey-link:instrument:Custom Text], in which 'instrument' is the unique form name of the desired instrument. 'Custom Text' is an optional parameter whereby you can specify the visible link text, and if it is not provided, it defaults to the survey title of the survey. The format [survey-link:Custom Text] can also be used if the instrument is assumed, such as when viewing a form or in a survey invitation. Also, it can be used simply as [survey-link] inside the content of a survey invitation, in which 'instrument' is assumed to be the current survey instrument.</td>
<td>[survey-link:followup_survey]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[next-event-name][survey-link:followup_survey]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[survey-link:pre-screening] Take the pre-screening survey</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Follow-up Survey</td>
</tr>
<tr>
<td>[survey-access-code:instrument]</td>
<td>The Survey Access Code of the specified survey for a given record/event/instance. The format must be [survey-access-code] or [survey-access-code:instrument], in which 'instrument' is the unique form name of the desired instrument. This can be used simply as [survey-access-code] inside the content of a survey invitation, in which 'instrument' is assumed to be the current survey instrument.</td>
<td>[survey-access-code:followup_survey] LDNP3EW7W</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[previous-event-name][survey-access-code:followup_survey]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DDQRLCTCR</td>
</tr>
<tr>
<td>[survey-return-code:instrument]</td>
<td>The Survey Return Code of the specified survey for a given record/event/instance in order to allow a participant to return to a completed or partially completed survey response when using the 'Save &amp; Return Later' survey feature. The format must be [survey-return-code] or [survey-return-code:instrument], in which 'instrument' is the unique form name of the desired instrument. This can be used simply as [survey-return-code] inside the content of a survey invitation, in which 'instrument' is assumed to be the current survey instrument.</td>
<td>[survey-return-code:followup_survey] TRX4EYN</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[previous-event-name][survey-return-code:followup_survey]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HEJNF3D4</td>
</tr>
</tbody>
</table>
Option 5: Compose survey invitation option on the data entry form

A survey invite can be sent for a particular record and instrument. Open the instrument for the record and the ‘survey options’ pull down bar is in the upper right corner.
Option 5: Compose survey invitation option on the data entry form

Send Survey Invitation to Participant "672"

**Info**
- **Survey title:** Your Health
- **Event:** Visit 1

**When should this email be sent?**
- Immediately
- At specified time: [ ]

The time must be for the time zone America/New_York, in which the current time is 04/01/2024 15:52.

**Enable reminders**
- [ ] Re-send invitation as a reminder if participant has not responded by a specified time?

**Compose message**

- **From:** [Display name (optional) ]
  - [janet.truebig@yale.edu]

- **To:** [ ]
  - [ ]
  - [ ]

- **Subject:** [ ]

**(NOTE: Any email address manually entered above will be used only this one time when sending an survey invitation. Any other invitations sent out at other times will instead go to the email address found in the Participant List for this participant.)**

Send test email

Send Invitation  Cancel
Questions?
How do I track survey responses?
Survey Distribution Tools

- **Participant List**
  - Choose the survey from the drop-down box
  - List of participants for the selected survey will be shown
  - You can track who responded to your survey
  - You can send customized email to anyone on the list
  - You can click the links in the record and responded column to access the record

The Participant List option allows you to **send a customized email** to anyone in your list and **track who responds to your survey**. It is also possible to identify an individual's survey answers, if desired, by providing an Identifier for each participant (this feature must first be enabled by clicking the 'Enable' button in the table below). Note: All survey responses collected are considered anonymous unless you 1) are using Participant Identifiers or 2) have enabled the designated email field for invitations. [More details]
Survey Distribution Tools

• **Survey Invitation Log**
  - View past or future invitations (Default view is future invitations)
  - Log can be filtered by invitation types, surveys, records or response status
  - You can view the invitation email itself by clicking the icon in the 'View Email' column
  - Option to delete scheduled invitations

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 "America/New_York", in which the current time is 04/28/2022 8:23pm.

<table>
<thead>
<tr>
<th>Invitation send time</th>
<th>View Invite</th>
<th>Participant Email</th>
<th>Record</th>
<th>Participant Identifier</th>
<th>Survey</th>
<th>Survey Link</th>
<th>Responded?</th>
<th>Errors (if any)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/02/2019 3:58pm</td>
<td></td>
<td><a href="mailto:sui.tsang@yale.edu">sui.tsang@yale.edu</a></td>
<td>1</td>
<td></td>
<td>Demographic</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12/02/2019 4:13pm</td>
<td></td>
<td><a href="mailto:sui.tsang@yale.edu">sui.tsang@yale.edu</a></td>
<td>2</td>
<td></td>
<td>Demographic</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12/03/2019 3:43pm</td>
<td></td>
<td><a href="mailto:sui.tsang@yale.edu">sui.tsang@yale.edu</a></td>
<td>4</td>
<td></td>
<td>Demographic</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
User Rights
Survey Distribution Tools must be enabled in the user rights page in order to access participant log and survey invitation log.
Enable the ‘Edit survey response’ right if you need to edit data on completed survey.

<table>
<thead>
<tr>
<th>Survey/Questionnaire</th>
<th>No Access (Hidden)</th>
<th>Read Only</th>
<th>View &amp; Edit</th>
<th>Edit survey responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caregiver Demographics</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Caregiver Health</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>PANAS</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Caregiver CESD10</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>NPI</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Caregiver ECR-RS</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Project Testing
Project Testing

1. Always test your project before collecting study data.
2. Add yourself as study participant.
3. Enter data to trigger any automatic survey invitations.
4. Confirm the survey invitation text and survey link are correct.
5. Enter survey data as study participant and confirm survey works as expected.
6. Have other study team members to test the surveys.
QUESTIONS?
Thank You!

Contact us at REDCap@yale.edu
Additional Reference Material
Other Survey Features
Survey Login

- Select field(s) that you wish to serve as the login fields for the respondent to enter.
Survey Notifications

Email notifications for survey responses

If you or other users wish to be notified via email every time a participant completes a survey, select the users to be notified under each survey listed below by selecting their email address in the user’s drop-down list, which may contain each user’s primary, secondary, or tertiary email address for their REDCap account. To remove a user as a recipient for the survey notifications, change their email drop-down option to ‘not selected’, after which they will no longer receive notification emails for that survey.

<table>
<thead>
<tr>
<th>Recruitment</th>
<th>Recipient email address</th>
<th>Notifications Enabled</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Sui Tsang)</td>
<td>-- not selected --</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Recipient email address</th>
<th>Notifications Enabled</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Sui Tsang)</td>
<td>-- not selected --</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Female Survey</th>
<th>Recipient email address</th>
<th>Notifications Enabled</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Sui Tsang)</td>
<td>-- not selected --</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Male Survey</th>
<th>Recipient email address</th>
<th>Notifications Enabled</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Sui Tsang)</td>
<td>-- not selected --</td>
<td></td>
</tr>
</tbody>
</table>
# Survey Settings

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey Title</td>
<td>Title to be displayed at the top of the survey page</td>
</tr>
<tr>
<td>Survey Instructions</td>
<td>Text displayed at top of survey after title. Can use the rich text editor to format the text</td>
</tr>
<tr>
<td>Logo</td>
<td>Optional, display an image above the survey title. If using logo, you can choose to hide survey title on survey page</td>
</tr>
<tr>
<td>Enhanced radio buttons and checkboxes</td>
<td>Larger buttons and checkboxes. Color will change when selected</td>
</tr>
<tr>
<td>Size of survey text</td>
<td>Normal, large, very large</td>
</tr>
<tr>
<td>Font of survey text</td>
<td>18 choices of fonts to choose from</td>
</tr>
<tr>
<td>Survey theme</td>
<td>11 themes to choose from. You can also create your own custom theme</td>
</tr>
<tr>
<td>Survey design preview</td>
<td>Preview your survey in the preview box. If using enhanced button, try clicking the buttons to see the color change</td>
</tr>
</tbody>
</table>
## Survey Settings

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Question Numbering**                                      | • **Auto numbered** – Question number automatically added to each question. Cannot be used if there is branching logic.  
• **Custom numbered** – REDCap will not add any question number but you can include the question number in the question label. |
| **Question Display Format**                                 | All on one page or one section per page                                       |
| **Allow participants to download a PDF of their responses at end of survey** | This option will not be available if the auto-continue or survey queue auto-start option is enabled |
| **Save a PDF of completed survey response to a File Upload field** | A PDF copy of the survey response will be immediately stored in the field specified in this setting whenever a participant completes this survey. |
| **Survey-specific email invitation field**                  | If using different email fields for sending different surveys, this setting can be used to specify which email field to use for each survey |
## Survey Settings

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>For 'Required' fields, display the red 'must provide value' text on the survey page</td>
<td>Default is yes, option to suppress the display by choosing no</td>
</tr>
<tr>
<td>Allow survey respondents to view aggregate survey results after completing the survey</td>
<td>After completing the survey, participants can view ALL responses in aggregate graphical format and/or as descriptive statistics. Also, the individual respondent's answers will be highlighted in the results.</td>
</tr>
<tr>
<td>Text-To-Speech functionality</td>
<td>Allows text on survey page to be read audibly to participants.</td>
</tr>
<tr>
<td>Response Limit (optional)</td>
<td>Maximum number of responses to collect. Prevents respondents from starting the survey after a set number of responses have been collected.</td>
</tr>
<tr>
<td>Time Limit for Survey Completion (optional)</td>
<td>The amount of time that each respondent has to complete the survey based on when they were initially sent the survey invitation. Note: This feature excludes public survey links</td>
</tr>
<tr>
<td>Setting</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Survey Expiration (optional)</td>
<td>Time after which the survey will become inactive.</td>
</tr>
<tr>
<td>Allow 'Save &amp; Return Later' option for respondents?</td>
<td>Allow respondents to leave the survey and return later.</td>
</tr>
<tr>
<td>Auto-continue to next survey (Optional)</td>
<td>Automatically start the next survey instrument after finishing this survey</td>
</tr>
<tr>
<td>Redirect to a URL</td>
<td>Redirect to a webpage when survey is completed</td>
</tr>
<tr>
<td>Survey Completion Text</td>
<td>Displayed after survey is completed as 'thank you' text</td>
</tr>
<tr>
<td>Prevent survey responses from being saved if the survey ends via Stop Action?</td>
<td>If a Stop Action triggers the end of the survey, you may choose to keep the submitted responses or to prevent them from being saved as data in the project.</td>
</tr>
<tr>
<td>e-Consent Framework</td>
<td>For use with eConsent</td>
</tr>
<tr>
<td>Send confirmation email (optional)</td>
<td>Email the respondent when they complete the survey</td>
</tr>
</tbody>
</table>