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[**Instrument Design**](https://dev-redcap.uchc.edu/redcap/index.php?action=help) **/ Online Designer / Data Dictionary FAQs**

**General Instrument Design**

**Are there any restrictions to what you can name a variable/field?**

Variable names cannot be duplicated and should always start with a letter. They must be lowercase and may contain only letters, numbers, and underscores. Although a maximum length of 26 characters is allowed, by convention, variable names should be as short in length as possible while maintaining meaning. Note: the terms "variable names" and "field names" are used interchangeably in REDCap.

**Are there any restrictions to what you can name a data collection instrument?**

Naming instruments using the Online Designer do not have restrictions. Naming instruments using the Data Dictionary is restricted to lowercase and may contain only letters, numbers, and underscores.

**Are there restrictions to the number of data collection instruments you can have in one project?**

Currently, there are no restrictions on the number of data collection instruments per project.

**Are there restrictions to the number of fields you can have in one instrument?**

No. There are no restrictions on the length or number of fields per instrument. The best practice is to keep instruments fairly short for easier data entry, and to ensure that you're saving data to the server more frequently.

For long surveys, you can use section headers and enable the feature "Display Questions" = One Section Per Page. This will allow participants to save each section when they click "next page".

**Can multiple users build/edit a project at the same time/simultaneously?**

Multiple users can build or edit a project simultaneously, but it is not a best practice, especially if they are working on the same part of the project. It is very easy to make changes the other person isn't aware of, to make changes the contradict the changes the other person is making, or to make changes that will affect the data in ways you don't expect--especially when paired with the other person's changes. If multiple people are making changes at the same time, they need to communicate very closely, and the changes need to be tested very carefully.

**What is the difference between a data entry form and a survey?**

REDCap defines Data Collection Instruments as "data entry forms" and "surveys".

With "surveys" you can collect data directly from participants. Participants will access your questions via a secure webpage. No authentication is required; however, you can enable the Survey Login feature if needed.

With "data entry forms", data is entered by authorized REDCap project users. REDCap log-in access and project rights are required to view and edit the data entry forms.

**Can I insert a smiley face or emoticon or an image into a field choice label?**

You can hardcode emoticons into the label--you can find a list of the codes here: <http://character-code.com/emoticons-html-codes.php>

If you use this option, make sure to test using the data dictionary and test it in different browses to make sure they all recognize the codes you're using.

The other option is to create a descriptive field with images in the proper places and put it above the radio buttons of LH alignment.

**How to set/unset that changes to a record require providing a reason for the change?**

Project Setup tab -> Enable optional modules and customizations section -> click on "Additional customizations" button -> check/uncheck "Require a 'reason' when making changes to existing records?"

* Require a 'reason' when making changes to existing records?
Require users to enter a reason (200 character max) in a text box when making any data changes to an already existing record on a data collection instrument. The prompt is triggered when clicking the Save button on the page. Any 'reasons' entered can then be viewed anytime afterward on the Logging page.

**Is it possible to change the format (colors, text) of the form, field, or text display?**

The general data entry templates are static and cannot be changed. Survey Themes in the Survey Settings page allows you to customize the font and background colors for many sections of a survey.

REDCap does allow the use of some HTML and CSS in the Field Label and Field Notes. Please note that HTML tags print as text on the pdf exports/forms and do not print the formats created with the HTML tags.

Check out this example survey for formatting ideas: <https://redcap.vanderbilt.edu/surveys/?s=JA3AXMHYC7>

**How can I improve the layout of my form/survey for data entry? What is field embedding?**

The best way to improve the layout of your form or survey is with field embedding. Field embedding is a way to customize data entry forms and surveys to make them look exactly how you want. Field Embedding allows you to reposition field elements on a survey page or data entry form so that they get embedded in a new location on that same page. For example, you may place fields in a grid/table for a more compact user-friendly page, or you can position some fields close together in a group if they are related. You do this by including the variable name in { } brackets where you want it to display on a form. For example: {var1}

You can see examples and read a longer explanation of field embedding inside any REDCap project. Look for the yellow “Field embedding” button on the Project Setup page in the “Design your data collection instruments & enable your surveys” box, at the top of the page when you edit a form in the Online Designer, or under the Variable Name box when you are editing a specific field. You can also see a more detailed explanation here: <https://redcap.vanderbilt.edu/redcap_v10.3.2/DataEntry/field_embedding_explanation.php>

Note: When you download a .pdf file of an instrument with Field Embedding, you will see the instrument as it appears in Online Designer, not as a survey respondent or data entry person will see the instrument when creating a record.

**How can I put the “other” text box by my answer choice in a multiple-choice question?**

You can do this with field embedding. Create both your multiple-choice question with all of your answer choices, and create a separate text field where people can enter the “Other” answer clarification.

In your multiple-choice question, go down to the list of answers. You want to add the variable name for your “other” text box in { } next to the “Other” answer choice. For example:

99, Other {other\_answer}

**Online Designer / Data Dictionary**

**What is the Field Annotation?**

This metadata field was added in v6.5. An annotation can be added to any field via the Online Designer or Data Dictionary (column R). It can be used for several purposes, such as for the bookkeeping of a project's field structure (as metadata about the given field) for reference purposes regarding what the field represents or how it should be used (during data entry, analysis, etc.). Field annotations are not displayed on any page but are merely for reference. Field annotations can also be used to map the field to various standards (e.g., CDISC, SNOMED, LOINC) using whatever notation the user sees fit (e.g., using a simple ID code for the standard or a complex XML structure containing information about how to transform the data to the standard). Since it is an annotation for reference purposes, REDCap will not do anything with the field annotation text on its own, but the annotation can be obtained by users at any time for any purpose (typically accessed via the Data Dictionary download or via the API metadata export).

**I get an error message when I attempt to upload a really large data dictionary. Does REDCap set a limit on the file size of an imported data dictionary?**

REDCap can be configured to allow large files to be uploaded. You'll need to contact your local REDCap Administrator about your institution's file upload limits.

**What is the Data Dictionary?**

The Data Dictionary is a specifically formatted spreadsheet in CSV (comma-separated values format) containing the metadata used to construct data collection instruments and fields. The changes you make with the data dictionary are not made in real-time to the project (off-line method). The modified file must first be uploaded successfully before changes are committed to the project.

**What is the Online Designer?**

The Online Designer will allow you to make create/modify/delete data collection instruments and fields (questions) very easily using your web browser. Changes are made in real-time and available immediately for review and testing.

**How do I make edits to a data dictionary for a project in development or already in production?**

1. If the project is still in development, then download the current data dictionary and save as Version 0. This step is not necessary for a project already in production since REDCap stores all previous versions of the data dictionary (since moving to production) in "Project Revision History".

Note: If study records already exist in the database, then it is good practice to export the raw data before proceeding. It is important to have a backup of your project as it currently exists should you need to go back to the original version.

2. Make a copy of the Version 0 database and save as Version 1 in CSV format.

3. Make edits/additions/deletions to Version 1 and save.

4. Upload the entire revised Version 1 data dictionary to your project.

**Warning**: Uploading the new data dictionary will overwrite, not update, the original data dictionary (Version 0), so it is necessary to upload the revised file in its entirety. If you have multiple developers on a project, it is also important to communicate and coordinate revisions. You do not want to be working on an outdated "local" version of your data dictionary if others have been updating the project in REDCap. Always download a new current version prior to making changes.

**How do I define a biomedical ontology lookup in the data dictionary?**

Setting up a biomedical ontology in the data dictionary is done by first defining a variable with the text field type without any other validations attached. You will also have to define which ontology you want for this variable. You do this by inserting the text "BIOPORTAL:" plus the correct shorthand code into the "choices, Calculations, OR Slider Labels" column in the data dictionary (typically column F).

E.g. A lookup for the ICD-10 ontology would need to be coded as "BIOPORTAL:ICD10".

Be careful to make sure that the entire code is in all caps and does not contain the quotation marks.

The ontology lookup short hand codes can be found in two ways:

1) In the online designer, look for the biomedical ontology dropdown (only visible in text variables). Each ontology will have the shorthand code displayed before the dash.

e.g. Entry: "ICD10 - International Classification of Diseases, version 10". The "ICD10" part is the shorthand code.

2) Go to the [bioportal website](https://bioportal.bioontology.org/) and look for your ontology of choice. In the description of any ontology, there will be a field for "acronym". That acronym is what REDCap uses as a shorthand code.