Chapter 4

Data Dictionary - eFORMS
EFORMS

An electronic form (eForm) is a grouping/collection of various questions and related Common and Unique Data Elements (CDEs and UDEs) used to gather information for a study. An electronic form is analogous to a case report form (CRF) (electronic or paper) where data elements are linked together for collection and display.

4.1.1 eForm Standardization (Standard vs. Non-Standard)

Below are the eForm Standardizations found in BRICS:

- Standard eForms are available for users with Dictionary eForm privilege.
- Non-standard eForms will be available only to users with permissions to the eForm.
- These users would have to be assigned permissions to the eForm under the eForm permissions tab by the operations team.
- EForms can be used to collect data in a protocol within the ProFoRMS module. The availability of an eForm in the protocol is dependent upon the eForm standardization status.
4.1.1 Search eForms

To Search eForms: Perform the following actions:

1. Login to the system.
2. Navigate to the Workspace landing page
3. Click the Data Dictionary module. The Search Form Structures page appears.
4. Select **eForms** on the left-side tool bar.

5. Select the **Search** under **eForms** from the expanded drop-down.
6. You can now see the available eForms. Use the search box to narrow down the results.

7. Click on the eForm's title to open it.
4.1.2 Create eForms

To Create eForms: Perform the following actions:

1. Under the Data Dictionary Tool, Select Create under eForms.
2. Click on the **No Form Structure Linked (Click here to link)**

3. Use the **Search** box to narrow the results for the Form Structure you're looking for and click the radio button to the left of the SHORT NAME to select it.

4. After selecting a Form Structure, click **SELECT** at the bottom right to continue.
5. The **Edit Form Details** panel will display.

See description of each tab below

![Edit Form Details panel](image)

**eForm Basics**: The basic settings of the eForm: Form Structure, eForm Name, eForm Short Name (MUST BE UNIQUE), eForm Description

Advanced Settings:

- **Allow Multiple Instances**: Allows the form to be used multiple times when it is the same visit type and same user. When unchecked you will not be able to use this form if it is the same visit type with the same patient.

- **eForm Category for Proforms**: This will indicate the category in Proforms. We recommend leaving it as Normal.

**eForm Formatting**: Change the Font, Font Size, Font Color, Padding, etc. Add a Header/Footer.

**Section Formatting**: Similar to eForm Formatting but specifically for the sections.

**Permissions**: See and modify the permissions for this eForm. You give a user the following permissions:

- **Owner**: Has full access to Read/Write/Admin and can modify the Owner Permission. **Note:** Each eForm can ONLY have ONE Owner.

- **Admin**: Has full access to Read/Write. and can also add additional admins.

- **Write**: Has full access to Read and can also edit the eForm. Cannot edit the Permissions.

- **Read**: Cannot make any edits to the eForm. Read access will only allow the user to view the eForm.
6. Fill out the required fields: **eForm Name** and **eForm Short Name**.
**NOTE:** eForm Short Name must be unique.

7. **Advanced Settings:** Leave as default values unless needed for your use case.
   - **Allow Multiple Instances:** Recommended to leave this field unchecked.
   - **eForm Category for Proforms:** Recommended to leave this field as Normal.

8. **eForm Formatting & Section Formatting:** Change to meet your formatting needs here.
9. **Permissions**: To modify your eForms permissions:

Select a username from the Drop Down list. Click **GRANT PERMISSION**. Then **select the permission access for the user in the list**. The different permissions are **Read**, **Write**, and **Admin**. Click on the **Grant Permission button**.

To remove a user from the permission group, click **Remove**.

- **Read** - Allows user to view this eForm.
- **Write** - Allows user to view this eForm, edit eForm details, manage documentation, manage data, and specify keywords and labels.
- **Admin / Owner** - Allows user to view this eForm, edit eForm details, manage documentation, manage data, specify keywords and labels, and grant permissions. There can only be one Owner.

10. After completing all your desired changes click **Save and Continue**.
4.1.3 Modifying an eForm Page

After either creating an eForm or edit an eForm you will be taken to this page:

Their are various changes you are able to make to your eForm from this page. If you do not wish to make any changes then click the Save Icon at the top to save your eForm and exit back to the eForm module.
When on the **modifying an eForm** page, you will see a row of icons at the top of the page like in the photo below. Each icon is described below the image.

![Image of eForm icons]

- **Preview:** Click to show a preview of what the eForm will look like with the current edits. (See next page for screenshot of the preview page)

- **Save:** Click to save the changes and exit the Modify eForm Page.

- **Add Data Element:** Click to add any data elements you have removed.
  
  **NOTE:** You can remove optional fields from the eForm. Once removed, they will show up in this list. This list will only contain fields you have removed.

- **Add Text:** Click here to add additional text to your eForm.

- **Add Section:** Add a section to your eForm.
  
  **NOTE:** Additional sections can only contain text. You cannot add questions to a newly created section.

- **Edit Form Details:** Opens the Edit Form Details Panel.

- **Edit Layout:** Move Text/Questions/Sections or Create a Table (Putting questions/text side by side)
  
  **NOTE:** You cannot rearrange the order of questions. You can only move them to be side by side.

- **Cancel:** Cancel Creating or Editing the eForm.
An eForm is made up of different Sections and each section is made up of Questions. You are able to change various settings of those sections and questions as well as easily view what attributes each question has from the Question Indicators (Check guide below image).

Question Indicator Guide

- This question is linked to a Data Element.
- This question is Required.
- This question has Validation Requirements. (e.g. Answer must be a number)
- This question has a Calculation Rule.
- This question has a Conversion Factor. This question has a Skip Rule.
- This question has an Email notification.
- This question is a Count.
- This question is collapsible.
- This question is repeatable.
- This section has a grid layout.
- This question is prepopulated.
- This question is FHIR.
Modifying a Question

1. Click on a question then a settings and delete icon will appear at the top right. Click on the settings icon.

2. The following menu will appear:

**NOTE:** The following tabs are only available for numerical questions: Calculation Rule, Conversion Factor, and Count.

**Question Settings tabs:**

**Basic Settings:** You can select the type of question field for the user and the question text that is displayed.

**Additional Text:** Add any additional text before/after the question.

**Default Value:** Set a default value.

**Formatting:** Set a formatting (font, font size, etc) details for the question.

**File / Graphic:** Upload an Image or File to the eForm.
Validation: Set any validation for the question and if the question is required or not. e.g. (must be a number between 1-500)

Answer Types: Numeric, String, Date, Date-Time, Esignature, and Password.
NOTE: If the question is required in the Form Structure, you CANNOT set it otherwise. Only fields that are optional in the form structure can you set as required in the eForm.

Skip Rule: Set a rule that if this question meets a certain condition then it will have an affect on another question. Do not be confused by the name, Skip Rule, the original use case was to skip questions. (e.g. If the user chooses their country as outside the USA, then skip the question asking what state they live in). Since then we have built out to include many different rules and functions.

Skip Rule Operators - Think of this as: "If this question's answer is ______ the VALUE"
- Greater than equal to: If this question's answer is Greater than equal to the value.
- Greater than: If this question's answer is Greater than the value.
- Less than equal to: If this question's answer is Less than equal to the value.
- Less than: If this question's answer is Less than the value.
- Contains: If this question's answer Contains the value(s) (e.g. If this question's answer Contains Hello and you have Hello World as the answer it will evaluate as true)
- Has any value: If this question's answer has any value. (If the question is answered then it will evaluate as true)
- Is blank: If this question's answer is blank. (If unanswered it will evaluate as true).
- Equal: If this question's answer is Equal to the value.

NOTE: Some operators will allow you to put multiple values separated by an "|".

Skip Rule - Think of this as the second part of the question: "If this question's answer is SKIP RULE OPERATOR the VALUE then _____ the SELECTED QUESTIONS."
- Hide and Disable: If the condition is met then we want to Hide and Disable the selected questions.
- Hide and Save: If the condition is met then we want to Hide and Save the selected questions. This will hide the question but will save the default value.
- Disable: If the condition is met then we will Disable the selected questions.
- Require: If the condition is met we will Require the selected questions.
How to create a skip rule

1. **Select the Skip Rule Operator.** (e.g. Greater than)
2. **Input the value in the text box** to the right of it. (e.g. 13)
3. **Set the skip rule.** (e.g. Disable - this will allow us to disable a future question should the condition above be met)
4. **Select Add Questions to Skip** (Select the questions we want the skip rule to affect).
5. **Click Save**

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**Skip Rule Example:** See the created skip rule in the photo below: If this question's answer is greater than 13, it will hide & save (It will save the default value as the answer and hide the question from the user) the question asking education level. Please reach out to an ops member for additional help/questions.
**Calculation Rule:** Set the answer to this question based off of a calculation from other question(s). On the left it will display numeric based questions that you can do calculations with. Select the fields and it will add it to your logic in the right text box.

Use the keypad to handle inputting your calculation.

**For example:** In the photo below, we are calculating this individual's age in months from the age in years and age remainder months. So we have: age in years * 12 + age remainder months to get the total number of months this person has been alive.

**NOTE:** The checkbox below the right text field, "Do not calculate if any preceding component data elements are left blank...", if checked, the calculation will only run if those previous fields have been answered. Please reach out to an ops member for additional help/questions.

**Conversion Factor:** Convert the answer through a function. The data that is submitted will be ran through your conversion and will be what is recorded.

**For example:** The image below will take this question's answer and divide it by 12. Possible use cases could be converting years to months or converting feet to inches.
**Email Notification:** If a specific condition is met then send an email notification to a specified email address.

**For example:** The image below will check if this person's inputted age is less than 21 and will send an email to the inputted email address(es) if it is true.

**Count:** You can select multiple questions and it will give you the count of answered questions you selected and will set the answer to this question to be equal to that count. If you select 10 questions and the user only answers 3 out of those 10. Then this question's answer will evaluate to 3.
After you are done modifying your eForm. Click the **Save** icon.

Upon saving the eForm, the status is now “**Draft**”. To publish it click **Request Publication**.