Trainers Guide: Data Entry

Getting data into DHIS2

# Introduction to this guide

This guide is part of a support package for trainers who are teaching participants to use the Sudan FMOH DHIS2 platform. The main objective of this session is to familiarise all participants with the Data Entry functions of DHIS2.

This guide will help the trainer prepare and deliver a demonstration of different Data Entry forms, with an emphasis on submission and validation. The purpose of this session is to outline these functions, and provide an opportunity for participants to become comfortable with accessing various types of forms and using them to enter data.

It also provides an outline and tips for delivering a number of data entry exercises to paricipants.

The ‘demonstration’ is outlined as a Quick Guide (a list of steps or ‘cheat sheet’) while the exercises are also described in some detail. The participants can either download the exercises from DHIS2 once they have logged in or the trainer can hand them out separately.

Trainers can use the Quick Guide to help them plan the session.

Note that this is an extended session that may last up to half a day or more depending on the goals of the trainer.

# Learning objectives for this session

1. Understand the different types of forms
2. Understand how to select the correct form for a given period
3. Understand how to fill-in a form
4. Understand how data validation works
5. Understand how offline data entry mode works

Time needed

Introductory demonstration: 50 minutes (broken up)

Hands-on exercises: 60 minutes or more

# Quick Guide - overview of steps for the demonstration

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| 1. Provide a brief overview of how data entry currently works in Sudan (submission of paper reports to the next level in the hierarchy, with manual aggregation at each level until the data reaches national level). |  |
| 1. Remind participants that with DHIS2, facility level reports are entered directly into DHIS2, with aggregation at each level being automated. The key points being:    1. The disaggregated facility level data is not ‘lost’, but available for analysis at any time.    2. Elimination of transcription error at intermediate levels and freeing up of resources to focus more on the use and analysis of data. |  |
| 1. Remind participants that there are different types of forms – those that are exclusive to hospitals, those that are exclusive to health centres, and those that are identical to all facilities. Also remind participants that forms are either submitted on a monthly (e.g. EPI) or annual (e.g. HR) basis. |  |
| 1. Highlight that in DHIS2 there are THREE things needed for every Data Entry (or Analysis) task: an Organizational Unit; a Period; and the specific type of data (form) being worked on. |  |
| 1. Log into DHIS2 as a Data Entry user type, and navigate to the area. |  |
| 1. Demonstrate how that the selection of a different facility type provides a different list of forms. |  |
| 1. Highlight how different types of form selection from the drop down list changes the ‘period’ choice (i.e. an annual form will show years, a monthly form will show months). Also highlight how one can navigate to different years using the  buttons. |  |
| 1. Demonstrate how various forms ‘appear’ on the screen when a valid organization, form type, and period are selected. Use the HR Form to show the difference between facility types (e.g. the hospital HR form has many more data elements on it than the centre HR form). |  |
| 1. Explain that while the forms may NOT look exactly like their paper counterparts, the data elements that make up the form are the same. However it is important to note that:    1. In come cases ‘totals’ are calculated in DHIS2, rather than transcribed from the paper (e.g. immunisation doses by sex).    2. In some cases ‘targets’ that may appear on the paper form, have already been entered into DHIS2, and there is therefore no need to transcribe this from the form into DHIS2 (e.g. number of children targeted for growth follow-up) |  |
| 1. **Do Exercise 3.1** - a short exercise of 10 minutes that allows participants to become familiar with selecting different forms. Optionally, you may want to leave this until later if you feel it is not necessary or you think it will be too disruptive.   **Then carry on with the session**. |  |
| 1. Explain the Data Entry process as:    1. Selecting an org unit/form/period    2. Entering data    3. Running validation    4. Marking the form as complete |  |
| 1. Entering Data: Using an Immunisation Form as an example (select a period of Dec 2014):    1. Show the form and the fact it **does not** include a ‘Totals’ column, just gender disaggregation fields.    2. Enter some example data into the fields.    3. Show that when the field turns green – any data you have in it is saved to the server database.    4. Show that when the field turns yellow you have entered invalid data into a field (e.g. text rather than a number) with a warning message. |  |
| 1. Entering Data: Change to the Nutrition and Growth Follow-up form (period Dec 2014):    1. Show the form and the fact it **does** include a total column. .    2. Enter some disaggregated data items and show that the Total is automatically calculated.    3. Explain that it is not necessary to capture the totals IF the disaggregated data is available.    4. Discuss whether the forms submitted from facilities normally includes just the total or the disaggregated values. |  |
| 1. Entering Data: Explain that DHIS2 has the ability to locally store data in the browser session, if connectivity has been temporarily lost, provided the form has previously been opened. In other words, once a form is open, you can keep doing data entry for facilities for that form. |  |
| 1. Entering Data: Demonstrate the loss of connectivity signal by turning off the computer wireless or unplugging the network cable and then plugging it back in.    1. Note that when first opening a form for the first time (after doing something else), the signal will indicate briefly if you are online. |  |
| 1. Entering Data: Demonstrate the ability to carry on working off line by opening a form, disconnecting the network or wireless connection, and continuing to enter some data. Turn on the connectivity again and demonstrate the ‘signal’ now asks whether the values that have been entered should be save to the server. |  |
| 1. **Do Exercise 3.2** - 15 to 20 minute that allows participants to become familiar with entering values on the forms. Optionally, you may want to leave this until later.   **Then carry on with the session**. |  |
| 1. Data Validation: Explain that it is possible in DHIS2 to set up data validation rules. Validation rules may check that a value is within a certain boundary (not too high or low), or it may be more complex and compare certain data elements with other data elements and flag apparent issues with values. It is important to note that:    1. *Immediate validation* checks that notify you of an invalid entry as soon as you enter a value via a pop-up (we’ve already met one of those in the previous demonstration by entering a character into a numeric field); and    2. *Validation rules* that are run in the background as a quality check (by running a report or clicking on the validation link on the form). |  |
| 1. Data Validation: Explain that the intent of data entry in DHIS2 is to ENCOURAGE data capture, so validation rules will normally **not stop** the data capture, just spot issues |  |
| 1. Data Validation: Demonstrate data validation by opening the MNCH (RH) form for a given organizational unit, and select for December 2012. Enter data for:    1. *“MNCH\_Births\_at health facility”* and *“MNCH\_Births\_at home” (e.g. 35 and 15 respectively)*    2. *“MNCH\_Delivery Type\_Forceps/Ventouse”* and “*MNCH\_Delivery Type\_Natural”* and “*MNCH\_Delivery Type\_Caesarean” (e.g. 10, 38, and 4 respectively)*    3. Note: These are the left-hand and right-hand parts of a validation rule that tests whether the total number of births for the 2 disaggregation’s are equal    4. Click the validation button and show the message. Discuss this with the participants and the implications. Highlight that:       1. More than one validation rule can be set up for a given form.       2. At a higher level (e.g. the level of a Locality or State) it is possible to run a validation report on multiple facilities. |  |
| 1. Data Validation: Demonstrate the ability to add a comment to a number on the form (an option for the data entry staff to explain for example a data issue). Do this by ‘double-clicking’ on a specific value from the previous example, and entering a comment. Highlight:    1. That the comment area is in the top-left of the pop-up box.    2. That a separate report (in a later session) can be used at a higher lever to review all data with comments against them.    3. That this same pop-up box can also show a history of changes to a specific value, and set data ranges. |  |
| 1. Data Validation: Demonstrate the Min-Max validation option. For the following organizational unit:     Select the MNCH (RH) form, and December 2014.   * 1. Enter the value 1000 in the field 30 (The number of live birth defects). This field has (for training purposes) been set for this form and organization unit to have minimum and maximum limits of 0 and 100 respectively.   2. Highlight the message box that.   3. Highlight that the field turns red once you click OK on the message.   4. Highlight that is function is setup on an organizational unit basis, and in most cases will not be used. |  |
| 1. **Do Exercise 3.3.1 and 3.3.2**: These familiarise the participants to working with the validation function and commenting. Note that:    1. Min-Max rules have not been applied to the Training system, except for the demonstration.    2. Participants can however, work with the Comments function, and Exercise 3.3.2 encourages this.   **Then carry on with the session**. |  |
| 1. Form Completion: Demonstrate the concept. Note in particular that:    1. Completion is not a ‘save’ function (values are saved as soon as they are entered on a form.)    2. The completion button is a ‘time-stamp’ to indicate that the Data Entry person has finished working for a give period and organisation.    3. It is still possible to change or add missing values after a completion time-stamp. There are functions in DHIS that allow for the ‘locking’ of data after it has been reviewed, but this is normally quite some time after submission, if it is used at all.    4. The Completion timestamp is used to help generate reports on how many forms have been submitted within the specified reporting window (e.g. 15 days after the end of month).    5. This report for institutional submission will be explored in a later session. |  |
| 1. **Do Exercise 3.4:** This provides participants with the opportunity to work with the ‘Complete’ functionality. |  |
| 1. **Do Optional Exercise 3.5:** This length of this exercise depends on the amount of time available and the completeness by which the trainer wants to focus on data entry. It entails giving each group of locality participant’s examples of data for all of the forms for some of the facilities in their locality. It is useful in training Data Entry staff in the different types of forms, and to become familiar with entering data for each of them. |  |

# Exercises

## Exercise 3.1 – Selecting Forms for Data Entry

**The goal of this exercise is for each user to become familiar with selecting a form for data entry.**

*Note: three items are necessary to be known before data can be entered; the Organisation Unit, the Form, and the Period.*

## Exercise 3.2 – Basic Data Entry

**The goal of this exercise is for users to successfully to enter data on a form and understand the different things that can happen.**

## Exercise 3.3.1 – Data Validation

**The goal of this exercise is for users to enter some data, run validation, detect what the problem is, and correct it.**.

## ￼ Exercise 3.3.2 – Commenting on a value

**The goal of this exercise is for users to be able to leave comment on certain values (e.g. outliers) that may have been flagged by a validation rule, but is left as it is rather than correcting.**

Note: It may not be possible to update an inconsistent value because there is no further information available during data entry.

## Exercise 3.4 – Completing a Form

**The goal of this exercise is for users to apply the completion functionality to a form.**

## Optional Exercise 3.5 – Data Entry full run-through

**The goal of this exercise is for users to extend their familiarity with data entry across as many forms as there is time available.**

Note: It would be better if ‘dummy’ data is made available for multiple forms as a means of speeding up the process of working with the different forms.