Impact Malaria Data Hub Specifications

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Welcome

This is a technical guide for the IM Data Hub, **a work currently in progress by BAO systems intended for official release in production by _____**

IM Data Hub is a warehouse for Impact Malaria indicator data. It houses all the IM indicator data for project performance monitoring and use. It is primarily designed with data users in mind, and it comes with several tools specifically designed to promote the use of IM data.

To date, IM Data Hub is active in 11 countries in Africa, and it collects a tremendous amount of data in the following tracks;

1. case management
2. Malaria in Pregnancy
3. Seasonal Malaria Chemoprevention
4. Global Technical Leadership.

It is used by multiple partners at different levels, from donors (PMI), Implementers (PSI, Jhpiego, UCSF, e.t.c), and government ministries of health in tracking country performance.

Preface

0.1 What is this guide?

This guide provides information about the technical specifications of the Impact Malaria (IM) Data Hub. It's meant to guide the development, testing & customization of the database for IM indicator data.

0.2 Who should read this guide?

This guide is aimed at two main audiences.

- System Administrators who are involved in the administration or the daily operation of IM Data Hub.
- Project teams & M&E staff interested to learn more about the IM Data Hub. You will find this helpful in understanding the overall system set up and how different components work together in the system.

0.3 What is covered.

The guide is divided into seven chapters.

1. Introduction - offers some background information and how to quickly get started on IM Data Hub.
2. Components - describes the IM Data Hub main components and how they are set up.
3. Data Specification - 'builds on the main components description and talks about the IM indicators and data reporting.
4. Metadata Specifications - dives into the data specification and the system components and talks about what lies at the bottom, the metadata.
5. Customization & Troubleshooting - Provides guidance on customization, testing and troubleshooting the IM Data Hub.
6. Security and Access Model - Explains the security mechanisms and access model.

7. Appendix - Lists down worksheets and some other the materials used in the IM Data Hub.

0.4 Conventions

This guide follows the following document conventions.

Abbreviation	In Full
CR	Case Reporting
IM	Impact Malaria
SS	Supportive Supervision
TR	Training
TL	Technical Leadership
SMC	Seasonal Malaria Chemoprophylaxis
DX	Diagnosis
TX	Treatment
MIP	Malaria In Pregnancy
CS	Country Specific
RE	Reporting
PMP	Performance Management Plan

0.4.1 Data Sets

Data set: [`country ISO code`] [`program`]:

Examples;

- GH Supportive Supervision
- CD Case Reporting |Data set: [country ISO code] [Data entry form name]

0.4.2 Data Elements

DEs: [`country ISO code`] [`program abbreviation`] - [`section abbreviation`] [`DE Form name`]:

Examples;

- GH CR - DX Cases confirmed
- CD TL - DX Does this province have national malaria diagnostic supervision tools that adhere to global standards?

0.4.3 Indicators

Indicators: [`country ISO code`] [`PMP`] - [`section abbreviation`] [`Indicator name`]:

Example;

CD PMP - DX Percentage of health workers demonstrating competence in malaria microscopy

0.5 Acknowledgement

Chapter 1

Introduction

1.1 Background

Impact Maria (IM) Data Hub is a web-based project monitoring system used to collect, analyze, and report indicator data for Impact Malaria Project. IM is a five-year project by the US President's Malaria Initiative (PMI) global service to reduce malaria mortality and morbidity.

The BAO system implements it in an ST-3 plan that began on Nov 27th, 2018.

The system hosts all the IM data. Multiple partners use it at different levels from donors (PMI), implementers (PSI, Jhpiego, UCSF,.e.tc), and government ministries of health (MOH) to track project progress and country performance.

It's active in 11 countries, and collects a tremendous amount of data on;

1. Case Management
2. Malaria in pregnancy
3. Seasonal Malaria Chemoprevention
4. Global Technical Leadership.

IM Data Hub is compatible with HNQIS version 4.

1.1.1 Purpose

IM Data Hub was developed;

1. To monitor IM indicator data.
2. Provide access to IM indicator data at the country and global level.
3. Enable central/global level data management
4. Track project progress and country performance
5. Promote data use for decision making.

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1.1.2   Servers

IM Data Hub is available at the following instances;

1. Development instance: Where all the developments and testing takes place. It's accessible at https://im-dev.psi-mis.org/ (version 2.30 as of Jan 9, 2019): Analytics run at midnight and 12:00 UTC (EAT -3h)
2. Production instance: Ready for use. Accessible at impactmalaria-mis.org (Version 2.30, not ready as of Aug 30, 2019):

1.2   Getting Started

The easiest way to get started to IM Data Hub is to log in at the test server at https://im-dev.psi-mis.org/ with the following credentials.

`Username :`**`demoUser`**` and Password : `**`Temp1234!`**

The landing page!
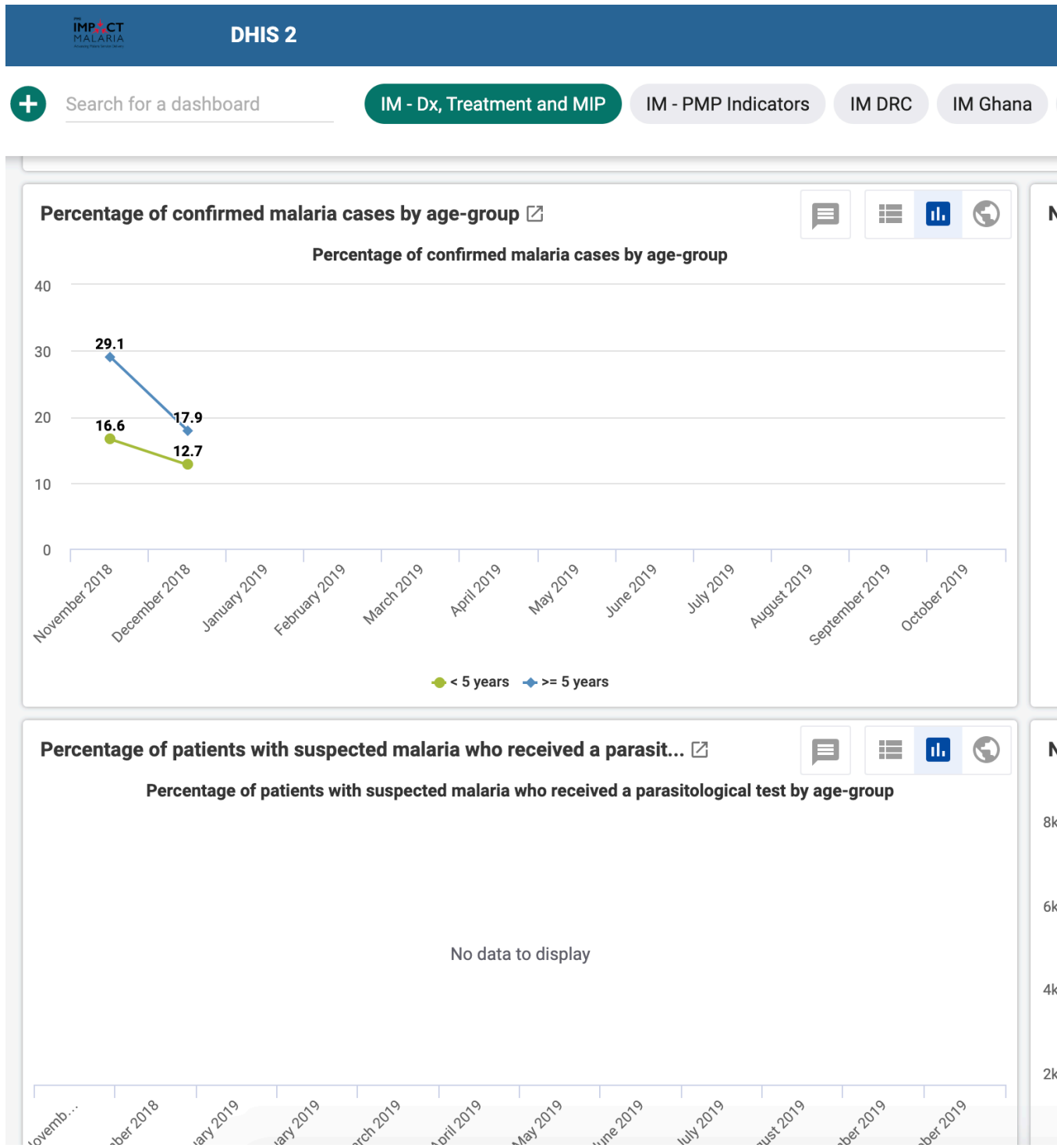
Countries doing data entry or testings can log in with the following credentials based on their country ISO codes.

Country	username ; password
Congo	`CDdemo;Temp1234!`
Cameroon	`CMdemo;Temp1234!`
Ghana	`GHdemo;Temp1234!`
Kenya	`KEdemo;Temp1234!`
Mali	`MLdemo;Temp1234!`
Niger	`NEdemo;Temp1234!`

Chapter 2

Understanding IM Data Hub

2.1 Introduction

Now that you're already started and you've got some essential background about IM Data Hub, we are going to explore the details/components that form IM Data Hub.

As we saw in the previous chapter, IM Data Hub is not just a database; it's a project monitoring system. It's divided into components; whose primary goal is to monitor IM indicator data for action.

We'll dive deeper into the components and understand how they are set up in the Hub.

Understanding IM Data Hub components will allow you to report, analyse, and monitor IM indicators more effectively.

I'll start by showing the you reporting component, IM Data Hub uses data sets to collect indicator data. We will discuss them briefly in the next section. We will then walk through the data mining piece, and how the different outputs are pulled together on a dashboard for the project use. We'll wind up by exploring the data quality component and how the IM indicator data pass through the quality checks.

2.2 Reporting Component

Reporting is organized through the use of data sets. A data set is simply a list of data elements that are grouped for data collection. We'll talk more about data elements in the next chapter.

A data set has a reporting period and an organization unit. The reporting period specifies how the data is reported, i.e., monthly, or quarterly, while the organization unit determines the location "where" the information is collected.

IM Data Hub has two main types of data sets;

1. Global data sets for reporting IM indicators. You will learn more about this in section 2.3
2. Country specific data set for reporting PMP indicators. You will learn more about this in section 2.4

The data sets are accessible through the data entry app, and they appear as forms. They are designed to mimic the paper forms to allow ease of data entry/reporting process.
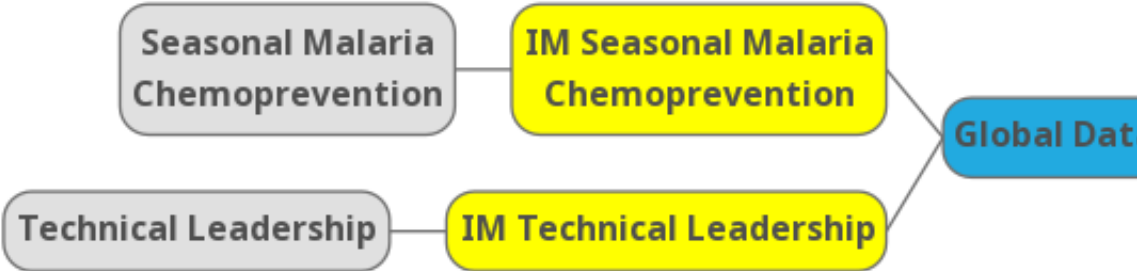

Data Entry

2.2.1 Global datasets

Global datasets are accessible at a global level and are used to report IM indicators on a monthly and quarterly basis.

They consist of five data sets, which all begin with the [project code] followed by the [data set name] as shown below in yellow. (Fig 2)

Global datasets are divided into sections (in grey) that groups IM data elements into multiple subheadings for ease of data collection.

There are five main sections:

1. Diagnosis
2. Treatment
3. MIP
4. Technical leadership
5. Seasonal Malaria Chemoprevention
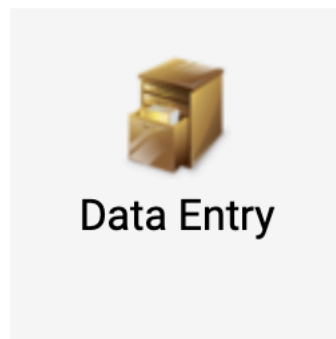
We will talk about them in chapter 4.

2.2.1.1   Accessing Global Datasets.

1. If you haven't already logged in yet, please log in now at:

IM Data Hub demo

`Username :`**`demoUser`** `and` `Password :` **`Temp1234!`**

2. Search for the Data Entry App from Apps

3. Click on the test world on top left if not already selected

4. Select `IM Case Reporting` data set and the period to report; this case October 2019.

5. Wait for the data entry form to load, and check that you can see the same screen as in Fig. 5 below. Congratulations! You can now start reporting..

Before completing the records, please notice the `Run validation` button at the top right. We will talk about this in section 6.

The complete button submits the records into the data hub.

2.2.2 Country Specific Datasets

Chapter 3

Impact Malaria Data Specification

3.1 Introduction

IM data is specified through the use indicators. Indicators consist of a numerator, denominator, and a count. The numerator and denominator are data elements, and the count specifies the applied operation. Counts can be a percentage, a number, or a ratio.

In this chapter, we are going to explore the IM indicators and how they are constructed in the Data Hub.

We'll start by a short introduction to data elements and how they form the base/source of the IM indicators. We'll then explore the different counts and wind up by showing you all the IM indicators.

Chapter 4

Metadata Specification

4.1 Introduction

In the previous chapters, we learned about the IM & PMP indicators and how they are stored and constructed in the Data Hub. That is essential knowledge for you to start monitoring IM indicator data from the source to how they are presented in the IM Data Hub.

In this chapter, we'll dive deep to the bottom and explore what lies underneath beneath the IM Data Hub, the metadata. Metadata is data about data. Interesting?

Let's get started!

Chapter 5

Customization & Troubleshooting IM Data Hub