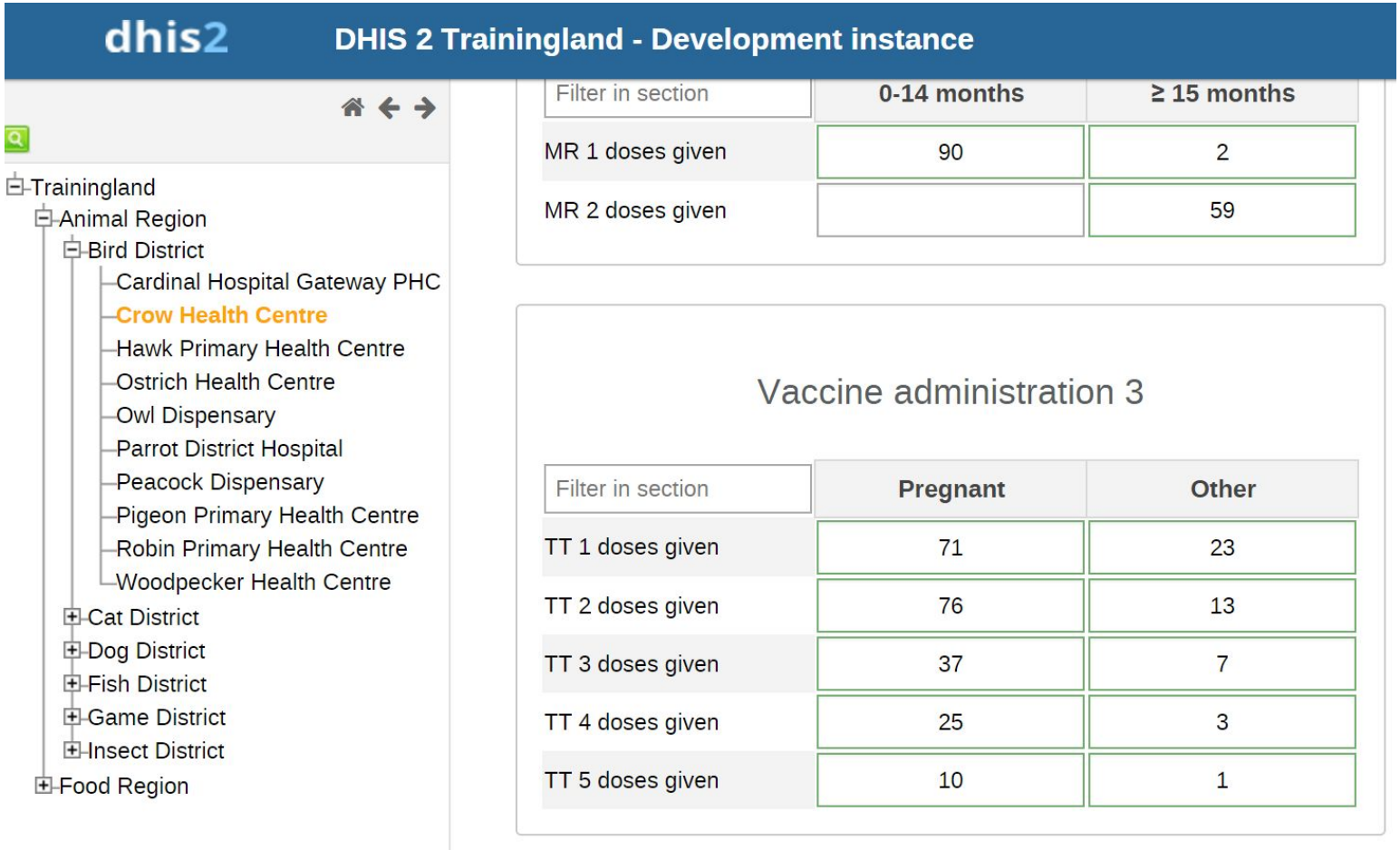
DHIS2 Data Collection Tools

Apps and Tools for DHIS2 Data Entry

- Web app for data entry
- Android app for data entry
- SMS data entry
- Import files (manual import)
- Web API and automated imports / interoperability
- Tracker data collection (Android and Web)

Data Entry Web App

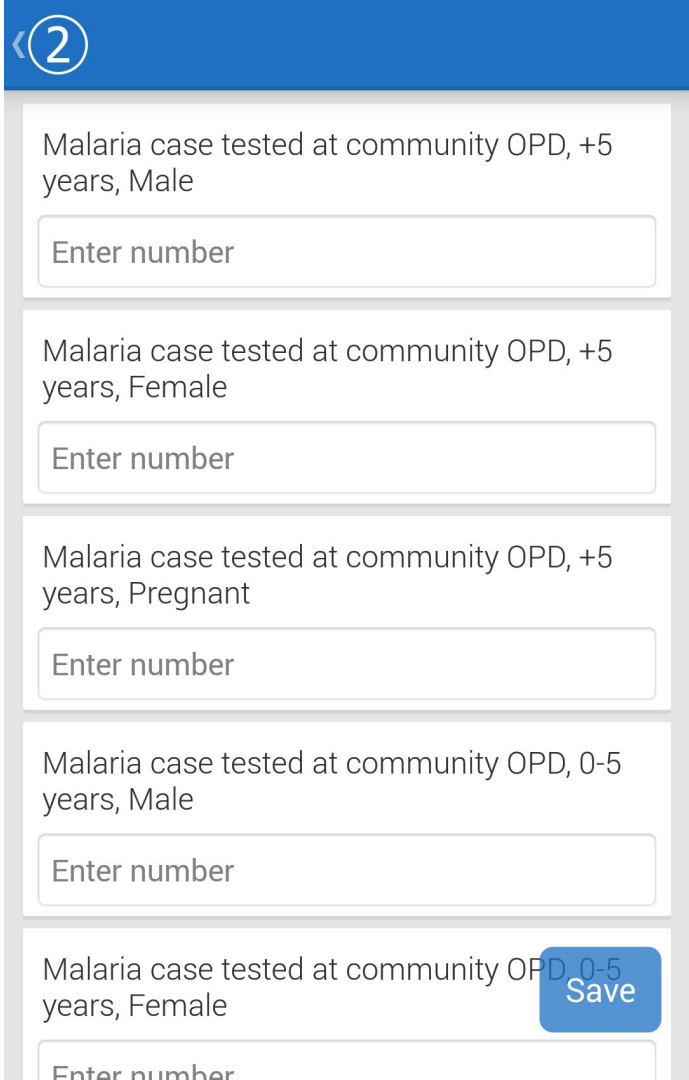


Data Entry Web App

- Well tested method of entering data into DHIS2
- Allows for the most flexibility in terms of presenting data sets and forms through custom data sets
- Can be created quickly and more easily maintained by using default or section based forms
- Additions such as validation rules and on-the-fly indicators can be added
- Can work in “offline mode” when connectivity is challenging

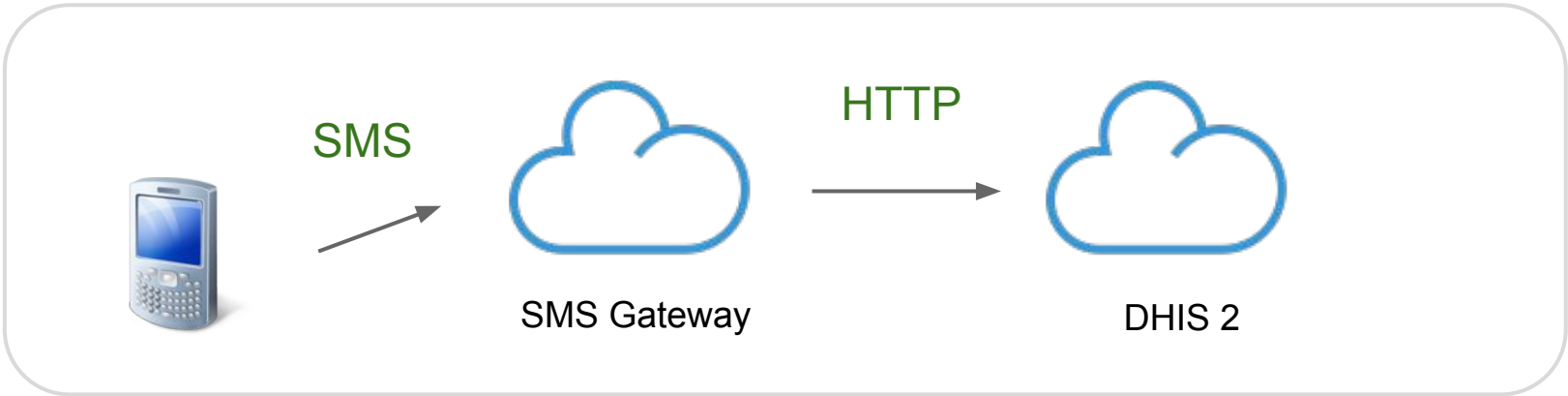
Android Data Capture App

- Easily configurable if data sets/forms are set up already
- Downloads instances of forms which are required to enter data from the server, and stores them on the device
- Data can be captured while being offline and uploaded to the server when connectivity is present
- Supports field validation



SMS Data Entry

- Runs on gateway service provider
  - BulkSMS, Clickatell, etc.
  - Can be configured in DHIS 2
- Uses configurable commands / keywords
  - One keyword per data element
  - Example: **Mortality a.12.b.23.c.19.d.47**



SMS / Legacy phones

✓ Pros

- Coverage “everywhere”
- No Internet required
- Supported by all mobile phones (hardware independent)
- Long battery life

✓ Cons

- Error prone
- Hard to change
- Limited functionality
- Suitable only for minimal data sets

PDF Data Upload

- PDF documents generated by data set
- PDF allows for data entry
- Can be updated (imported like other file types)

Primary Health Care Monthly

Organization unit identifier

Period January 2015

Measles doses given < 1 year	
Measles doses given 1 year	
HEI tested by 2 months age	
ANC 1st visit total	
DPT1/Penta1 doses given < 1 year	
DPT1/Penta1 doses given 1 year	

PDF / Upload

- ✓ Pros
  - Suited for large forms
  - Data can be entered completely offline
  - Can be sent on USB and email

- ✓ Cons
  - No data validation
  - Hard to maintain and modify data after submission

Manual Data Import

- Manual import allows different instances of DHIS 2 to receive standardised sets of data in the absence of a networked system
- The functionality can also be used to import data produced by another system (perhaps on a regular basis) or to import legacy data which has been transformed into a format which DHIS2 can understand
- As an example, a data set can be routinely exported from one DHIS2 instance (e.g. the HIV system) to another system (e.g. the HMIS data warehouse)
- Alternatively, legacy data transfers are usually a one-time occurrence, with some initial effort required to transform the data into a form acceptable by DHIS2

Web API

- Data can also be sent through the Web API
- The API uses the ADX format to import and export data
- ADX is an international standard developed and maintained by the Quality Research and Public Health committee of the IHE (Integrating the HealthCare Enterprise)
- This can be done using CSV, XML or JSON files manually, but can also be automated

Web API - Automated Data Exchange

- Automated data exchange requires that meta-data objects (data elements, org. units, etc.) are matched correctly between different systems
- While not trivial to maintain, this allows for data warehouses at various levels to be built by automatically synchronizing data across various systems
- Usually codes are used to match rather than names

System 1

uid	name
iH7LSuDKBxU	Crow Health Centre
pNGTNKtkhu7	Terrier Dispensary
cAnB5u0rXgA	Spider Dispensary
pdBUBU6bCcS	Worm Dispensary

System 2

uid	name
iH7LSuDKBxU	Crow Health Center
pNGTNKtkhu7	Terrier Disp.
cAnB5u0rXgA	Spider Disp.
pdBUBU6bCcS	Worm Disp.

Tracker

Tracker data, which is individual in nature vs. the aggregate data we have been discussing, can come in two forms in DHIS2:

- Event Data, which is typically anonymous in nature (ie. no name or other identifiers are attached to this data)
    - A simple example could be a malaria program that registers each individual positive case without collecting any identifying information
- Tracker data, which requires the registration of an individual, item etc.
- Tracker data, therefore, does contain identifiers attached to the data
    - An example of this could be tracking a pregnant mother through from pregnancy, ANC visits, delivery and post-natal care
- Android and Web apps exist for both Tracker and Event Capture
- More detail on Tracker will be provided in later sessions

Data Collection Methods Demo

Session separated into 4 sections:

- Web Data Entry App
- Android Data Entry App
- SMS Data Entry
- PDF and Manual Upload