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Introduction

"Guide: to show or indicate the way"

The preamble

This admin guide is designed to inform DHIS2 Administrators who want to import and utilise Spectrum derived HIV/AIDS estimates in DHIS2, how to use the HIV-Spectrum Bootstrap Application (App) to initialise a set of standard pre-packaged DHIS2 data, indicator and analytical elements.

A support package, available as part of the App, also provides:

Figure 1: Screen capture of the DHIS2 HIV-Spectrum Bootstrap App Icon

1. Further guidance on the configuration of the pre-packaged elements once they have been initialised; [1] and

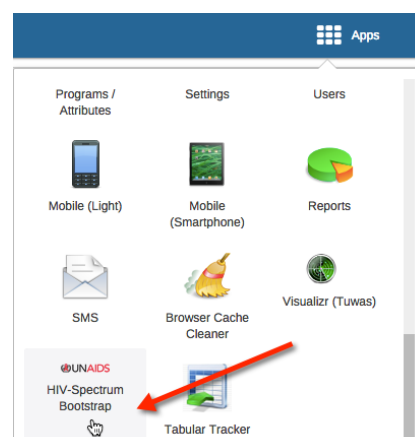2. Guidance on how to prepare and import Spectrum extracts.[2]

Who this guide is for

The configuration and administration of DHIS2 is a specialist topic that involves significant prior knowledge. This admin guide is not intended for use by those unfamiliar with DHIS2 nor is it intended for the potential end-users of the Spectrum derived HIV/AIDS estimates.

It is intended for DHIS2 administrators who are already familiar with:

- Setting up permissions and using DHIS2 Apps.
- The configuration and use of DHIS2 Data Elements, Indicators and Dashboards; and
- The loading and use of DHIS2 Documentation.

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[1] The guideline "UNAIDS_DHIS2_Spectrum_Bootstrap_PostInitiation_Guide_V0x_EN.pdf"

[2] The guideline "UNAIDS_SPECTRUM_DHIS2_RawData_Preparation_Guide_V0x_EN.pdf"

What this guide is intended to achieve

This admin guide provides the reader with a context for the App and further details on how to run and use the App. It achieves this by using screenshots to outline the typical 'pathway' that the App will guide the user to fulfill. A small instructional admin video has also been produced and is available at … .

Setting the context

UNAIDS wanted to make its Spectrum[3] derived HIV/AIDS estimates more easily available in DHIS2,[4] an open source analytics platform used widely by Ministries of Health in LIMCs.[5] Access to these estimates would enable Ministries of Health and other interested parties to combine them with local data already collected in DHIS2 to generate useful HIV/AIDS indicators, and leverage the visual analytics capabilities of DHIS2.

While the creation of indicators is a uniquely localised process in DHIS2, the fact that Spectrum derived HIV/AIDS estimates are standardised provides an opportunity to partially automate the setup these estimates as objects in DHIS2.

The App provides a relatively easy way to take advantage of Spectrum derived HIV/AIDS estimates by:

- Instantiating standard Spectrum HIV/AIDS data elements;
- Instantiating a set of placeholder Indicators that use the Spectrum HIV/AIDS data elements;
- Providing access to relevant support documentation from within the DHIS2 platform to guide the DHIS2 Administrator in further customisation of the data elements and indicators.

It should be noted that the UIDs of the data elements and indicators instantiated by the Bootstrapping App will be common to all DHIS2 instances where it has been run. This provides opportunities in the future to leverage these indicators due to them being standardised and identifiable objects within any DHIS2 instance.

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[3] See http://www.unaids.org/en/dataanalysis/datatools/spectrumepp2013

[4] See https://www.dhis2.org/

[5] Low and Middle Income Countries

The resulting data elements and indicators

The Spectrum HIV/AIDS Estimates consist of a number of 'data elements' that are disaggregated by standardised age-brackets, gender, and sub-national geographic breakdowns. To support the widest possible import potential, the 'data elements' initialised as a result of running the App are handled as separate objects rather than as a single equivalent data element.

Examples of the DHIS2 instantiated data elements include:

- UNAIDS: Estimated number of HIV+ pregnant women
- UNAIDS: Estimated number of people (15+) eligible for ART according to national guidelines
- UNAIDS: Estimated number of people (15-49) eligible for ART according to national guidelines
- UNAIDS: Estimated number of people (<15) eligible for ART according to national guidelines
- UNAIDS: Estimated number of people (15+) living with HIV
- UNAIDS: Estimated number of people (15-49) living with HIV
- UNAIDS: Estimated number of people (<15) living with HIV

The indicators that are also initialised as a result of running the App utilise these data elements as part of their definition along with local data elements specific to a country DHIS2 instance. Examples include:

- UNAIDS: Percentage of all people (15+) living with HIV who are receiving ART
- UNAIDS: Percentage of all people (15-49) living with HIV who are receiving ART
- UNAIDS: Percentage of all people (<15) living with HIV who are receiving ART
- UNAIDS: Percentage of HIV+ pregnant women who receive antiretrovirals to reduce the risk of MTCT
- UNAIDS: Percentage of HIV-exposed infants who received an HIV test
- UNAIDS: Percentage of people (15+) eligible for HIV treatment according to national criteria that are receiving ART
- UNAIDS: Percentage of people (15+) living with HIV who are enrolled in HIV care
- UNAIDS: Percentage of people (15-49) eligible for HIV treatment according to national criteria that are receiving ART
- UNAIDS: Percentage of people (15-49) living with HIV who are enrolled in HIV care
- UNAIDS: Percentage of people (<15) eligible for HIV treatment according to national criteria that are receiving ART
- UNAIDS: Percentage of people (<15) living with HIV who are enrolled in HIV care

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The Admin Guide

Scenario 1: First Time use of the App

Launching the App

Once the App has been installed on an existing instance of DHIS2,[6] it will found in the DHIS2 Apps area. Launching the App is the same as launching any of the Apps that come with DHIS2 – simply click on the relevant icon.
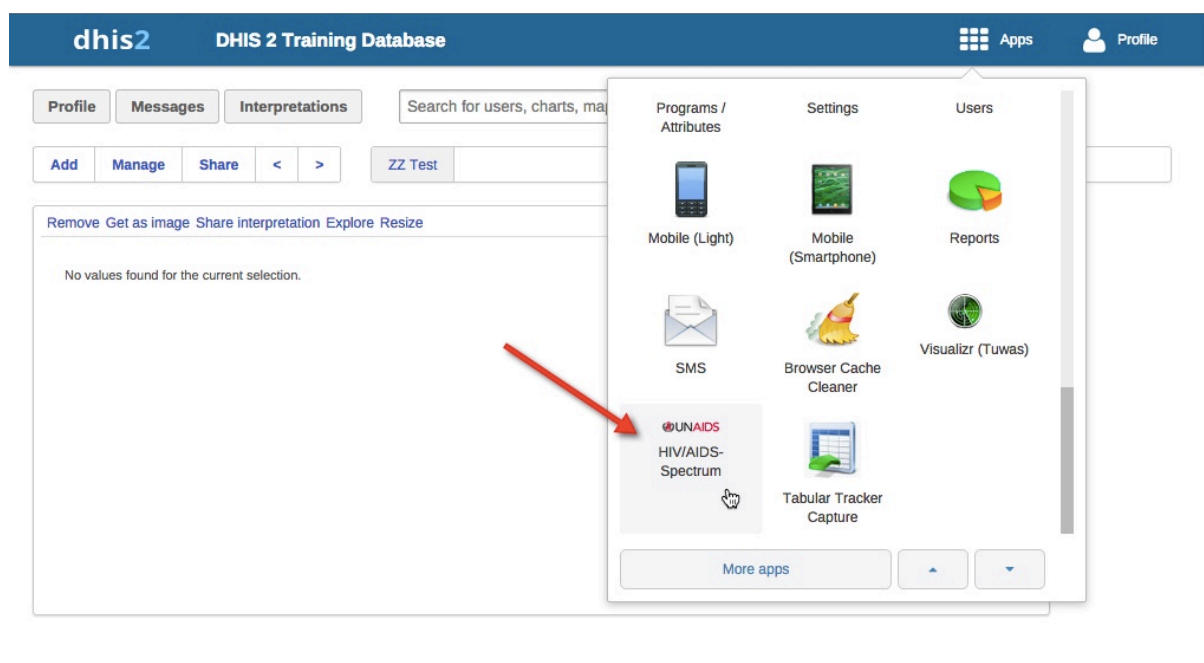

Figure 2 – Launching the DHIS2 UNAIDS HIV/AIDS Spectrum App

[6] Blah blah

The Welcome Screen

The welcome screen is what the Administrator will first see after launching the App. It introduces the purpose of the App and highlights the fact that further configuration will be required once the App has finished with its intended purpose.
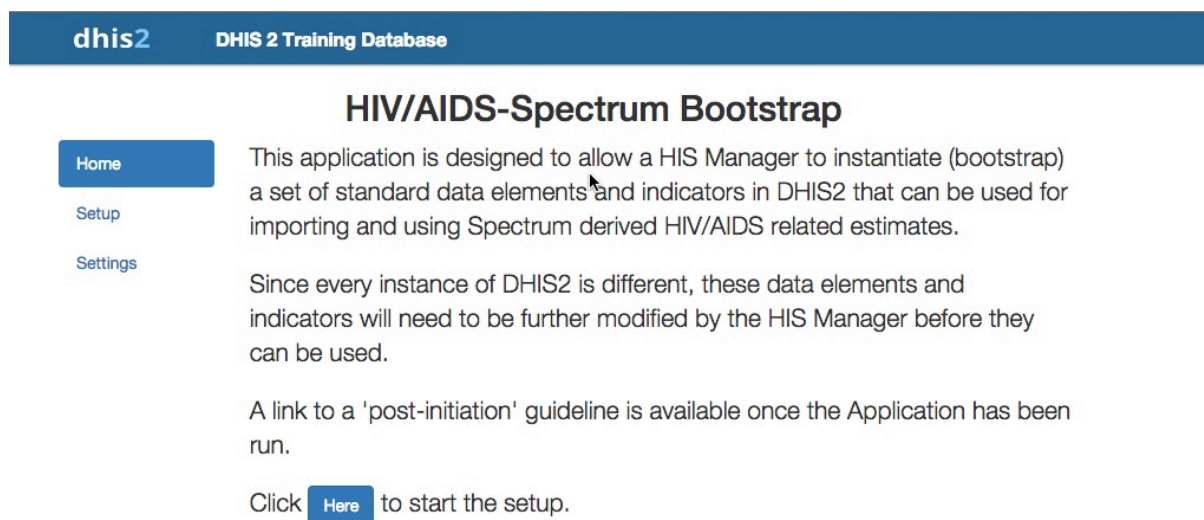
Figure 3 – The DHIS2 HIV/AIDS Spectrum App Welcome Screen

Kicking off a 'standard' setup scenario

Click on the 'Setup' option (side menu or bottom of welcome screen).
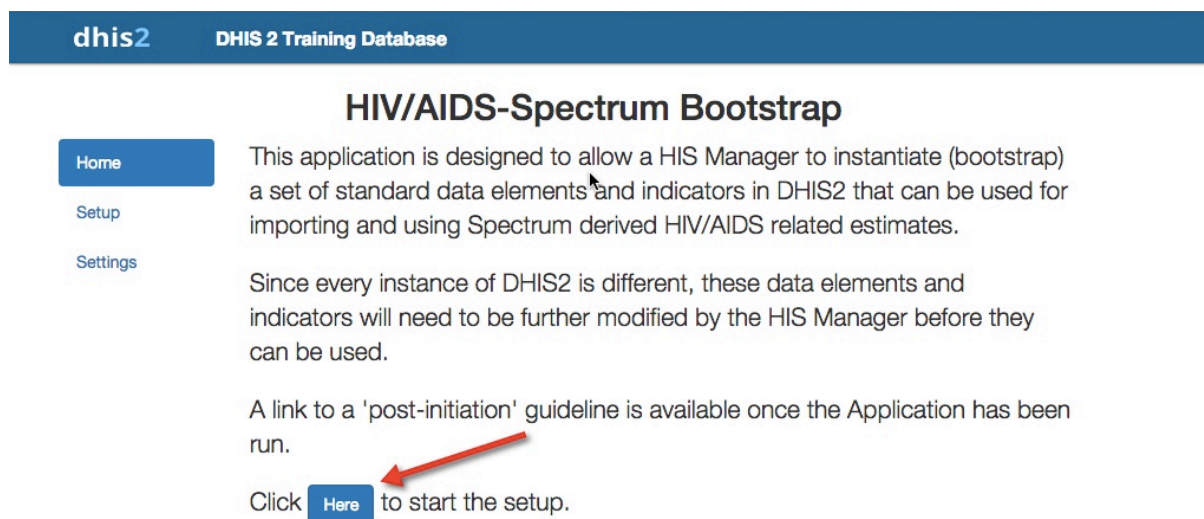
Figure 4 – Launching the Setup Process

The Setup Sequence: a 3-step process.

While it was certainly possible to design an App that would 'setup' all of the necessary DHIS2 HIV/AIDS components as a single 'step', the separation of the process into three steps provides greater scope for the DHIS2 administrator to control which common HIV/AIDS components they wish to instantiate, while also providing UNAIDS with the potential to roll-out enhancements (e.g. new dashboard items or documentation) without requiring a full re-initialization of App.
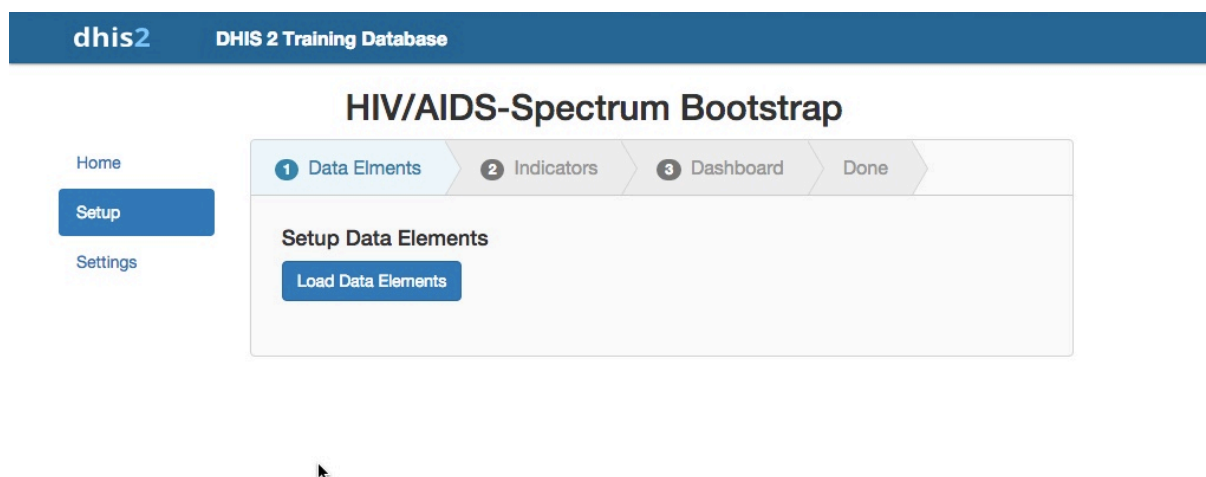
Figure 5 – The Setup Process – 3 Steps: 1. Data Elements; 2. Indicators; and 3. The Dashboard

Note: The Apps restricts access to later steps since components such as dashboards or indicators require the core data elements in order to function. Skipping steps would generate DHIS2 system errors.
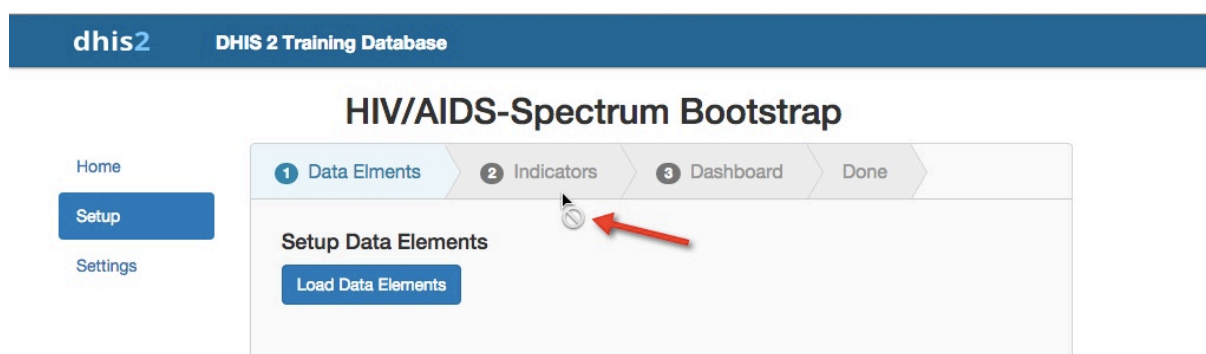
Figure 6 – You can't skip a step! But you can stop at any point and leverage what has been installed up to that point in the process (e.g. after completing Step 1, the DHIS2 administrator could use the data elements that were installed).

Step 1 – Loading the Data Elements

The Spectrum Estimate Data Elements installed during Step 1 act as the containers for the data that will be imported from the Spectrum extract files. The definitions for the data elements are stored in an XML file (see the settings file for the location of the files used to hold the definitions).

To initiate the process, click on the Load Data Elements button:
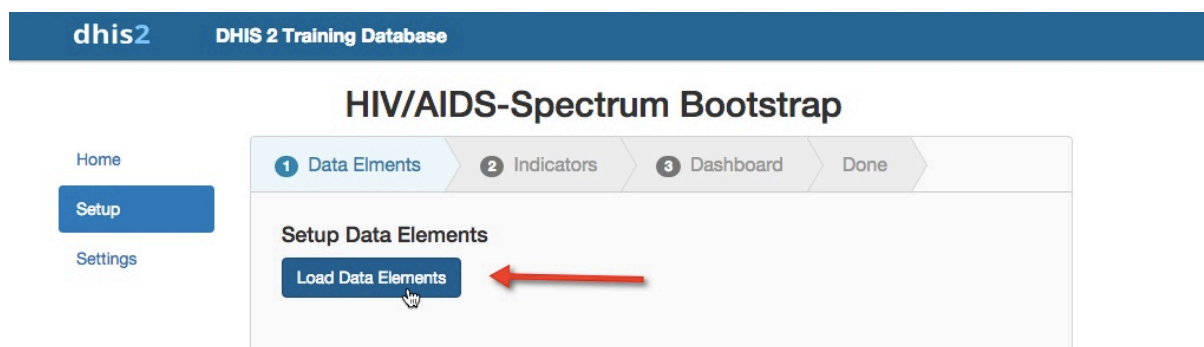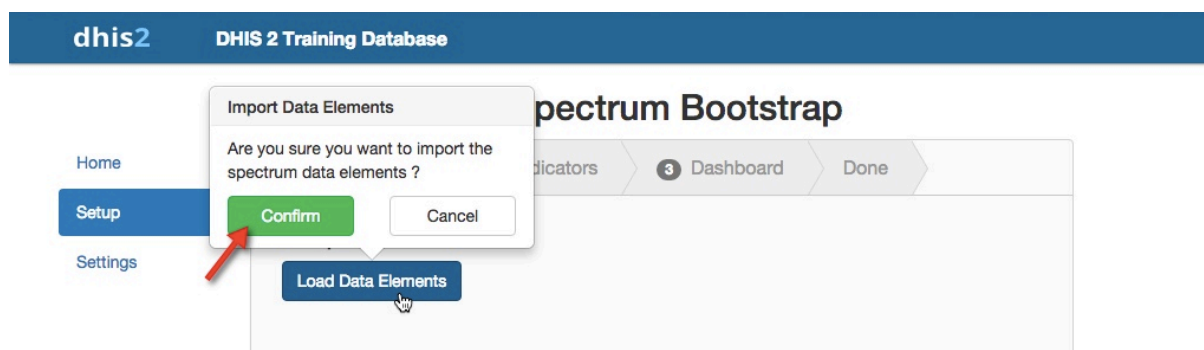

Figure 7 – Step 1: Loading Data Elements

And confirm the action:

Figure 8 – Confirming import of the Data Elements

Note: After import, the App will 'move' to the next Step. At the bottom of the screen, the results of the previous import are displayed (these results are identical to those displayed if the XML data element definition file were to be imported manually by the Administrator).

Figure 9 – Data Elements import summary is displayed at the bottom of the 'Indicators' Step.

Step 2 – Loading the Indicators

A set of suggested indicators that use the Spectrum Estimate Data Elements as denominators will be installed during this Step. The definitions for the data elements are stored in a separate XML file.

To initiate the process, click on the 'Load Indicators' button and 'Confirm' the import.
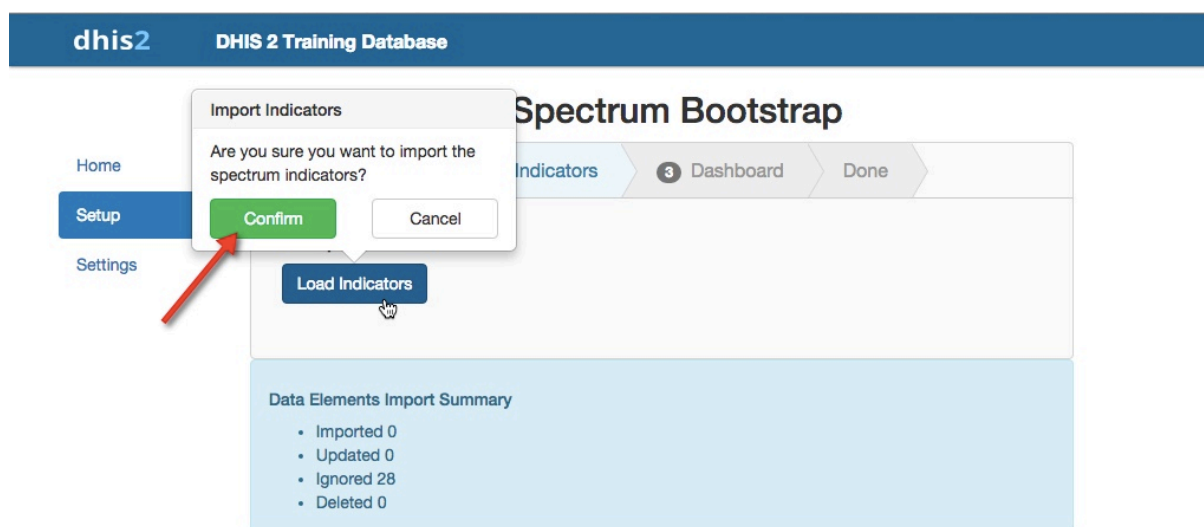
Figure 10 –Step 2: Loading the Indicators and confirming import

Note: After import, the App will 'move' to the next Step. At the bottom of the screen, the results of the previous import are displayed.
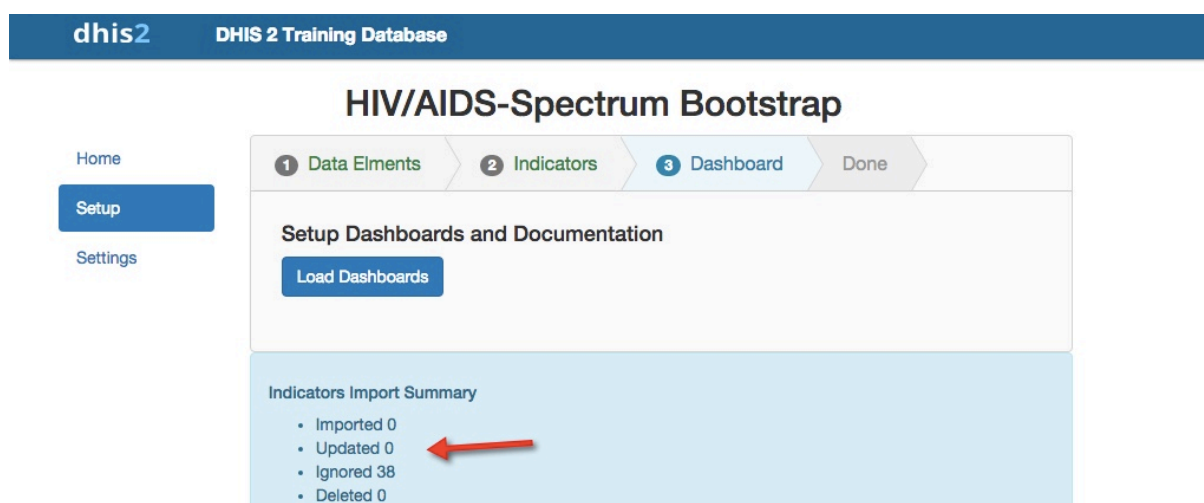
Figure 11 – Indicators import summary is displayed at the bottom of the 'Dashboards' Step

Step 3 – Load Dashboards and Document Links

In the current release, there is a placeholder dashboard for UNAIDS Spectrum derived Indicators. This step installs the default dashboard while also installing DHIS2 links to further guidelines and help files.

The location of the supporting documentation can be adjusted by the Administrator in the 'Settings' area of the App. By default, the App points DHIS2 documents to an internet address of centrally maintained Guidelines.

To initiate the process, click on the 'Load Dashboards' button and 'Confirm' the import.
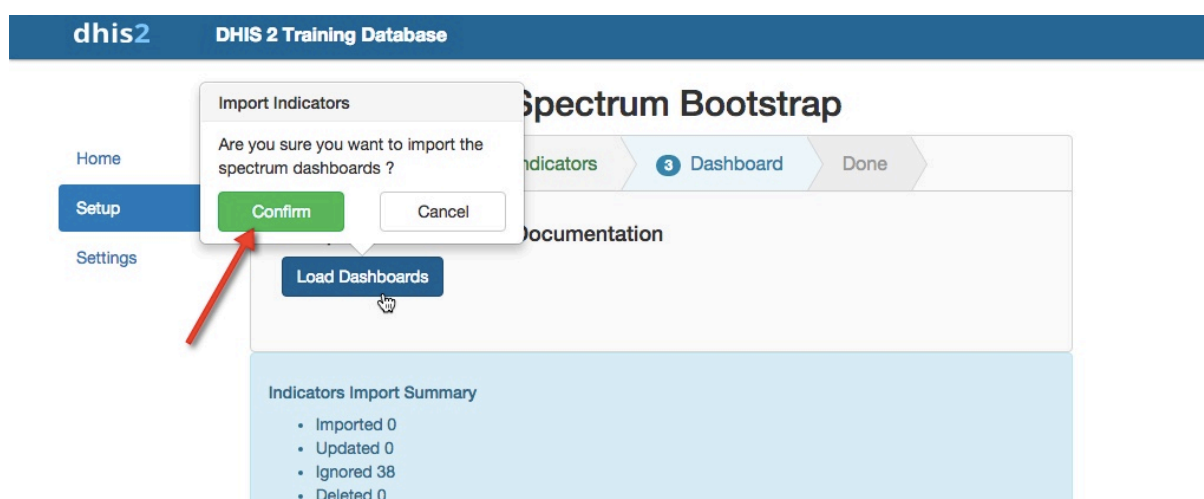
Figure 12 – Step 3: Loading Dashboards and confirming Dashboard import

Note: After import, the App will 'move' to 'Done'. At the bottom of the screen, the results of the previous import are displayed.
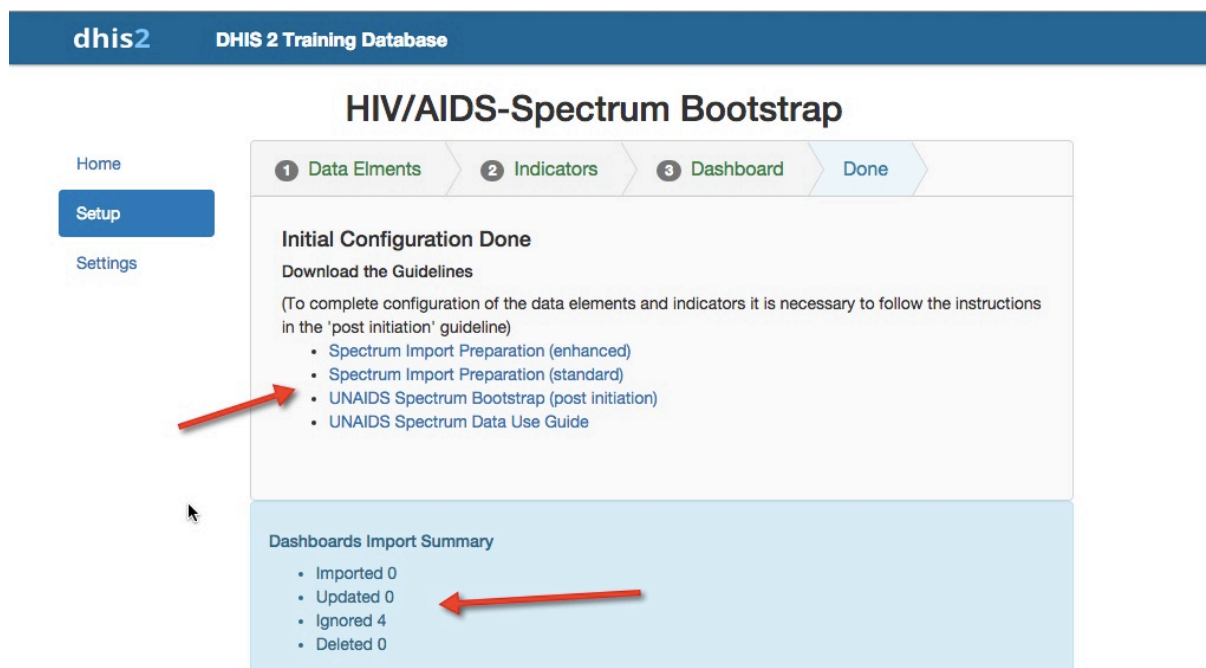
Figure 13 – Done: The Dashboard import summary plus documentation

The Completed Condition

Assuming the full process (Steps 1 through 3) has completed successfully, the final screen will include links to relevant guidelines.

The process initiated with the App provides the 'bootstrapping' function of instantiating placeholder data elements, indicators and dashboards. Further customization is necessary however before the data elements can be utilized for importing data from Spectrum extracts, and before the indicators can be utilized.

Two key Guidelines are provided:

1. The Post Initiation Guideline (that guides the DHIS2 administrator through the above mentioned post-initiation customization steps); and

2. The Spectrum Data Import Guideline (that guides the DHIS2 administrator through the process of preparing a Spectrum estimates extract for import into the DHIS2 Spectrum Data Elements initialized by this App.

Scenario 2: Reinitializing or Updating

The Settings Area

An Administrator can reset the status of the initialization process, change the locations of the XML definition files, or change the 'import strategy' for a given 'process run'. These settings are accessible via the 'Settings' menu option of the App.

Figure 14 – Configuration Settings

The settings screen consists of 4 distinct elements:

1. The location of the definition files for each of the import steps;

2. The Import Strategy (defaults to new-only);

3. The ability to reset the import state (back to the beginning); and

4. The ability to reset all settings to the defaults when the App was first installed (which will differ between versions as the App evolves)
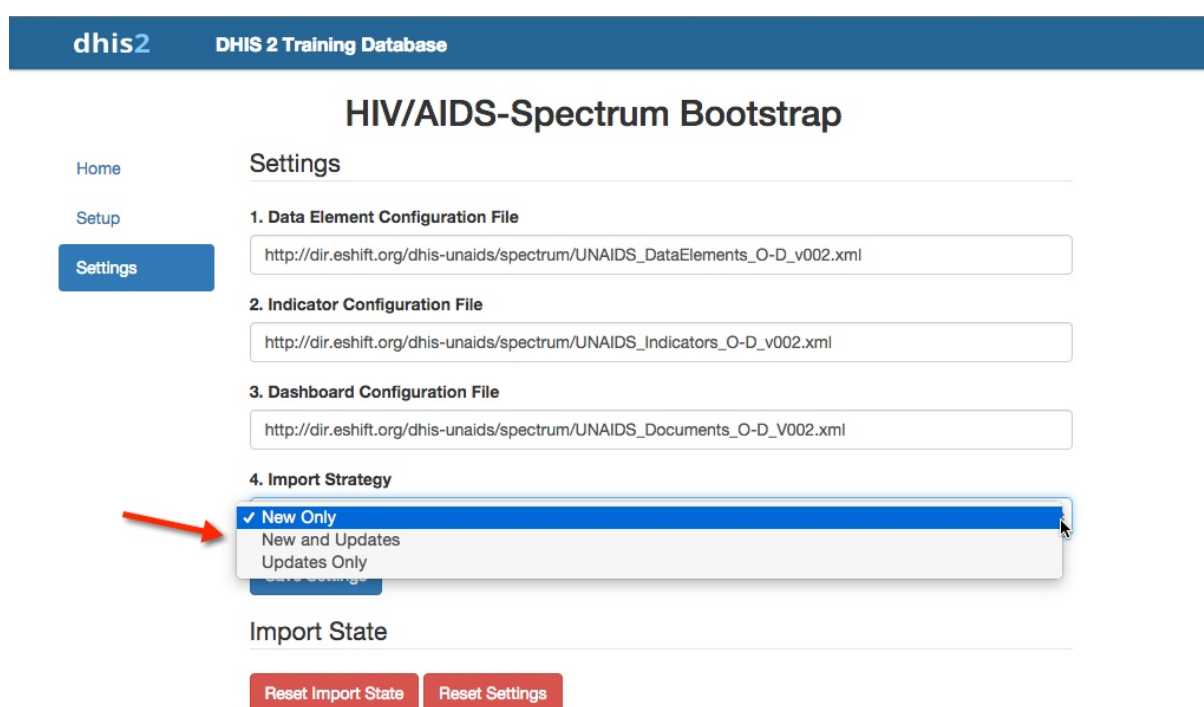
The following provides further details of settings and specifically highlights the implication of changing the 'Import Strategy' (note the WARNING).

The Import Strategy

It is assumed that the DHIS2 Administrator is familiar with the various import strategies available when doing metadata imports with DHIS2. This App takes advantage of these very same strategies.

There are three import strategies available:

1. New Only;

2. New and Updates; and

3. Updates Only

Figure 15 – Setting the Import Strategy
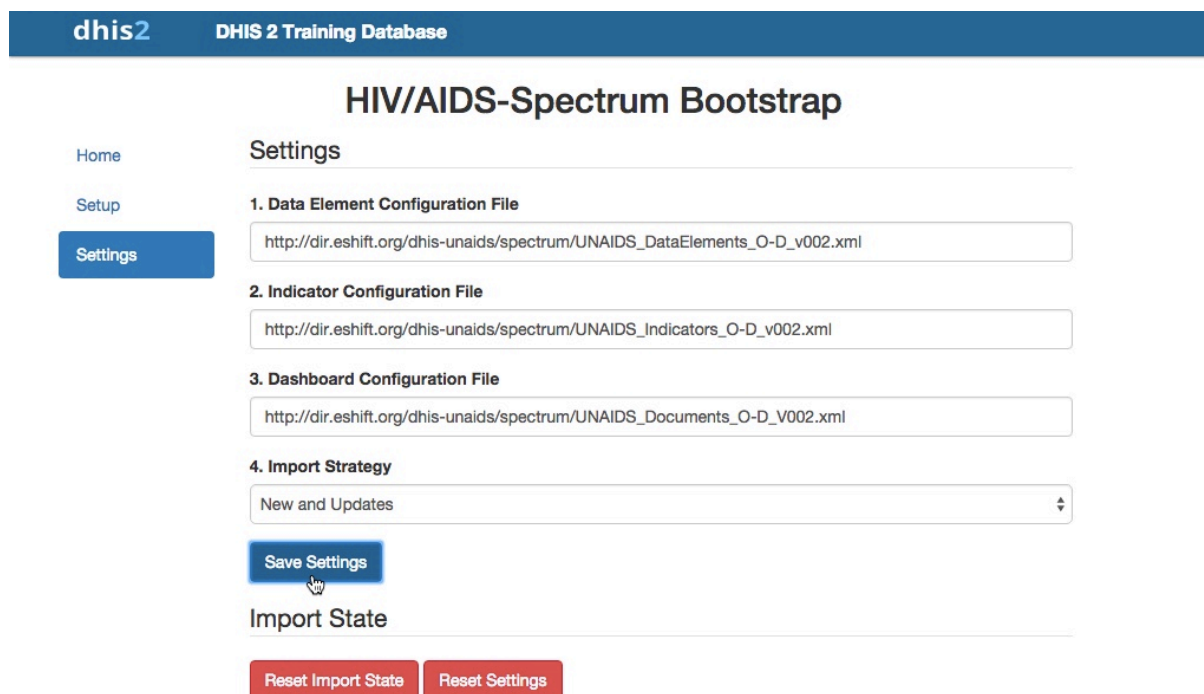
The default setting for the App is 'New Only' and this is the state is will be reset to if the 'Reset Settings' button is pressed. 'New Only' does exactly what it says: if an XML definition file includes items that have already been initiated in DHIS2, they will be ignored, however, any new items in the file, will be initiated.

If the 'New and Updates' or 'Updates Only' Import Strategy is selected, any customisations carried out on previously initiated Spectrum data elements or indicators (i.e. as per the post-initiation guideline) WILL BE LOST! It may also impact any data that was previously imported, resulting in 'de-linking' or 'orphaning' of the data.

Care should therefore be taken in using these strategies.

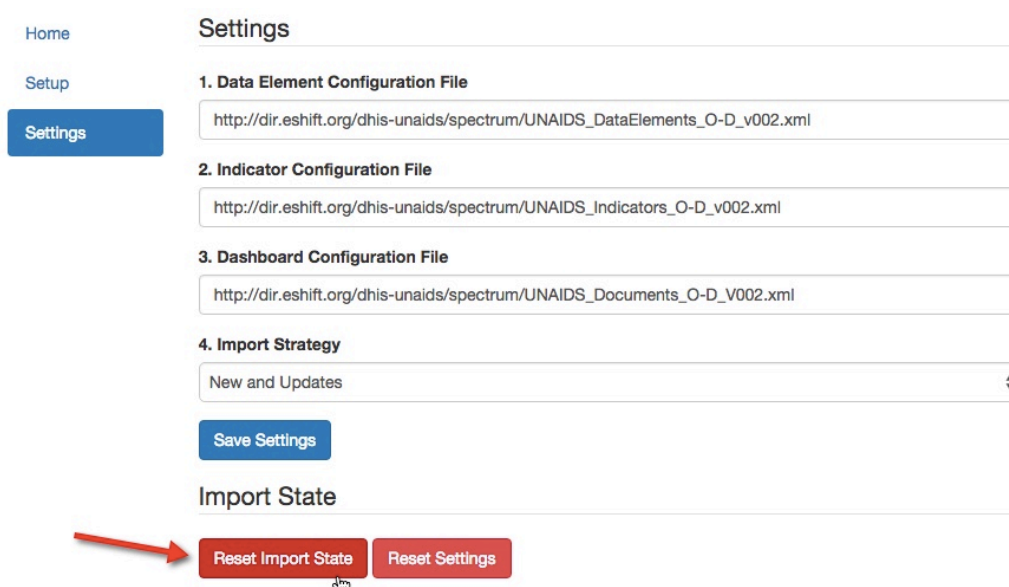### Running an Alternative Import Strategy

After selecting an alternative import strategy, save the new settings:

Figure 16 – Saving the changes

It may also be necessary to reset the import state back to Step 1.

Figure 17 – Resetting the Import State

Note: The change of Import Strategy to anything other than 'New Only' will generate a 'warning message' at each step of the Setup.
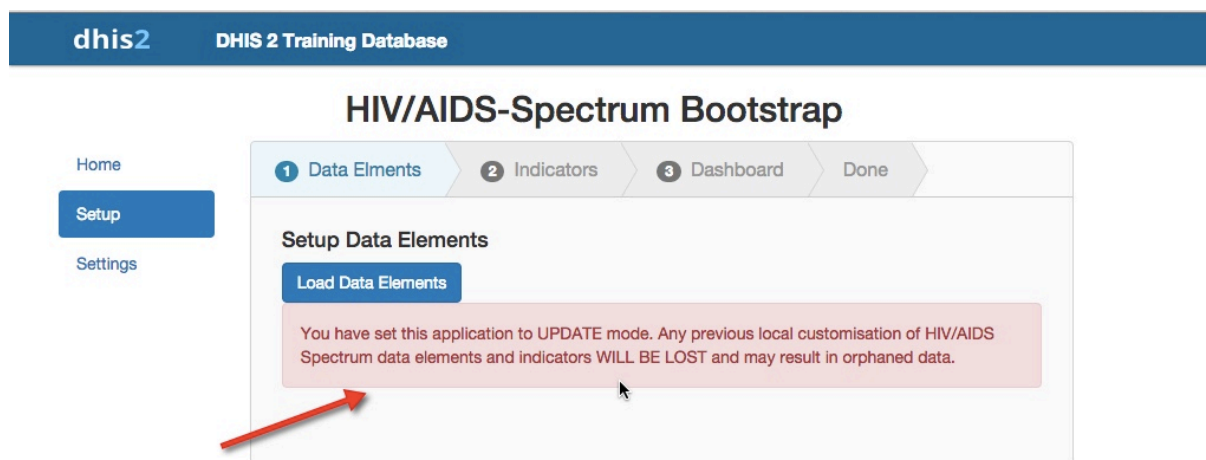

Figure 18 – An Import Strategy of 'New and Updates' or 'Updates Only' causes a warming to display for each step of the Setup process.

Appendices

Appendix A – List of Data Elements used in DHIS2 for handling Spectrum estimates.

- UNAIDS (replace): Number of people (15+) enrolled in HIV care
- UNAIDS (replace): Number of people (15+) receiving ART
- UNAIDS (replace): Number of people (15-49) enrolled in HIV care
- UNAIDS (replace): Number of people (15-49) receiving ART
- UNAIDS (replace): Number of people (<15) enrolled in HIV care
- UNAIDS (replace): Number of people (<15) receiving ART
- UNAIDS (replace): Number of women receiving antiretrovirals to reduce the risk of MTCT
- UNAIDS (replace): Total HIV-exposed infants testing by 12 months
- UNAIDS: Estimated number of HIV+ pregnant women
- UNAIDS: Estimated number of people (15+) eligible for ART according to national guidelines
- UNAIDS: Estimated number of people (15+) living with HIV
- UNAIDS: Estimated number of people (15-49) eligible for ART according to national guidelines
- UNAIDS: Estimated number of people (15-49) living with HIV
- UNAIDS: Estimated number of people (<15) eligible for ART according to national guidelines
- UNAIDS: Estimated number of people (<15) living with HIV