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<table>
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<th>Description</th>
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<td>CU</td>
<td>Country User</td>
</tr>
<tr>
<td>DIS</td>
<td>disease</td>
</tr>
<tr>
<td>FA</td>
<td>financing agent</td>
</tr>
<tr>
<td>HA</td>
<td>Health Accounts</td>
</tr>
<tr>
<td>HAPT</td>
<td>Health Accounts Production Tool</td>
</tr>
<tr>
<td>HC</td>
<td>healthcare function</td>
</tr>
<tr>
<td>HF</td>
<td>financing schemes</td>
</tr>
<tr>
<td>HP</td>
<td>healthcare provider</td>
</tr>
<tr>
<td>ICD</td>
<td>International Classification of Diseases</td>
</tr>
<tr>
<td>ICHA</td>
<td>International Classifications for Health Accounts</td>
</tr>
<tr>
<td>ISIC</td>
<td>International Standard Industry Classification of All Economic Activities</td>
</tr>
<tr>
<td>NGO</td>
<td>nongovernmental organization</td>
</tr>
<tr>
<td>PO</td>
<td>program owner</td>
</tr>
<tr>
<td>QR code</td>
<td>quality response code</td>
</tr>
<tr>
<td>SHA</td>
<td>System of Health Accounts</td>
</tr>
<tr>
<td>TL</td>
<td>Team Leader</td>
</tr>
<tr>
<td>TM</td>
<td>Team Member</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
</tbody>
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About this document

This document gives an overview of the Health Accounts Production Tool (HAPT). The document explains functionality, key concepts and application of the tool. It is designed to help country teams produce health accounts using HAPT, walking users through each of the tool’s steps.

All screenshots and examples given in this document are for demonstration purposes only. They do not have any relation to actual data.
1 Introduction

1.1 About HAPT

In response to growing demands for internationally comparable information on health spending, the Organisation for Economic Co-operation and Development, the World Health Organization (WHO) and Eurostat developed the manual, *A System of Health Accounts 2011* (SHA 2011), which was released in October 2011. SHA 2011 sets out an integrated system of comprehensive and internationally comparable accounts, a uniform framework of basic accounting rules and a set of standard tables for reporting health expenditure data. Its methodology tracks public and private expenditures on health in a given country, illustrating the flow of funds from financing sources to agents, providers and ultimate services on which they are spent. The manual sets out in detail the boundaries, definitions and concepts of health accounts – responding to healthcare systems around the globe with very different organizational and financing arrangements.

Health accounts (HA) are designed to provide health expenditure information to policy-makers and stakeholders in ways that can be clearly and directly linked to a country’s health financing challenges and health system performance. HA has therefore has been accepted as a critical policy tool in many countries. Implementation of SHA 2011 requires political commitment, clear institutional responsibility, and cooperation at the national level between institutions with relevant data sources.

In many countries, the complexity of the methodology has been an important deterrent to routine, consistent and low-cost production of HA estimates. Many low-income countries have come to rely heavily on foreign technical assistance to implement HA. Documentation of the methods used is often inadequate, and estimation techniques vary from year to year, compromising the comparability of HA data. Together, these challenges have prevented countries from successfully institutionalizing HA – that is, routinely producing and using high-quality HA data.

The Health Accounts Production Tool (HAPT) provides a global platform for health expenditure management based on SHA 2011 methodology. HAPT provides global features to streamline and simplify the HA estimation process. It aims to increase the quality and applicability of the data produced, as a regular part of a country’s efforts to monitor and improve health system performance.

HAPT is now more flexible and has useful features for HA in a country, as described below.

**Advanced technology**

- HAPT is a tool to manage large datasets, reducing the burden of editing, sharing and keeping track of multiple disparate files of expenditure data.
- It uses user-engaging web forms to capture data instead of traditional Excel files (eliminating the need for version control).
- Its offline capability enables users to complete surveys without depending on continuous internet connectivity.
• Storage of past HA studies allows countries to update the numbers while maintaining country-specific classifications and assumptions.

**Complete analysis with reporting capabilities**

• HAPT provides step-by-step directions to guide country teams through the HA production process and analysis.
• Automatic generation of standard HA output tables after analysis is completed eliminates this time-consuming step from the estimation process.
• Interactive flow diagrams help HA teams visualize and analyse funding flows.
• HAPT has extensive reporting capabilities, with more than 200 preconfigured reports.
• It helps with cross-year analysis of health expenditures tracked under different dimensions of the SHA 2011 framework for a country. It eliminates the need for other tools.

**Accommodation of updates to SHA 2011 framework**

• HAPT customizes studies with updates in methodology without affecting previous data.
• Customization and storage of HA codes allow easy reference during the analysis and mapping stage.

**Improved data collection**

• The survey function streamlines data collection and data analysis. It eliminates the need for version control by using web forms to capture data instead of traditional Excel files.
• The option to apply weighting to survey data from nongovernmental organizations (NGOs), employers and insurance companies improves precision of expenditure estimates.

**Engaging different stakeholders**

• HAPT defines different user roles and permissions to perform HA studies in a structured manner.
• Its multi-user functionality allows several HA team members to work simultaneously on the same study.
• There is a common forum to facilitate communication between different team members.

**Mapping**

• HAPT provides a user-friendly graphical interface that makes mapping easier without any additional skills.
• A built-in auditing function facilitates review and correction for double-counting.
• HAPT allows automatic mapping of International Classification of Diseases (ICD) codes with the SHA 2011 framework disease classification (DIS). Thus, it eliminates the need for manual conversion of ICD to SHA codes before importing data into the tool.
1.2  HAPT versions

HAPT has two types of logins: online and offline. The tools, features and user interface are the same in both types.

1.2.1  Online

End users connect to an online version hosted in the WHO cloud, which is authenticated by WHO Azure. WHO recommends that countries use the online version to avoid having to install HAPT and to enable studies to be shared with international organizations. It also helps with management of application updates. Only studies in the online version can be viewed and worked on with WHO and other users online.

It is also important to precise that the program owner (PO; WHO health accounts team) has access to all studies produced using the online version.

1.2.2  Offline

Another version of HAPT creates HA studies offline for internal use. This requires downloading of the offline version of HAPT and installation on the user’s computer, where it can be accessed like any other program (see Download and install HAPT offline version).
2  Getting started

Access to the online version of HAPT can be given only by the WHO health accounts team (PO).

2.1  Logging in to HAPT

Users can log in to HAPT through a web browser. The recommended browsers are Microsoft Edge and Mozilla Firefox. Microsoft Azure is used for login to the online version of HAPT. To log in to HAPT, follow the steps below.

1. Click the HAPT URL received in the email to the registered email address.

2. Enter username and password.

3. Click LOGIN.

2.2  Two-factor authentication

In today’s digital world, users are verified to prevent unauthenticated users from accessing systems. In HAPT, users are verified before logging in by two-factor authentication.

Note: In HAPT, two-factor authentication is used for logging into the system.
The procedure for logging in to HAPT is as follows.

1. User receives activation link at registered email address.

2. User uses authenticator app for two-factor authentication.

3. User logs in to HAPT. See 2.1 Logging in to HAPT.

Users can use two methods for authentication:

- authenticator code
- recovery code.

For a detailed explanation about the login procedure, see User login by authenticator code and User login by recovery code.

**Note:**

- Users must download an authenticator app – for example, Google Authenticator, Microsoft Authenticator, LastPass Authenticator or Authy. Authy can be downloaded for Windows desktop.
- The authenticator app is used in two-factor authentication.

### 2.2.1 User login by authenticator code

When users log in to HAPT for the first time, they receive a verification code on the authenticator app installed on their mobile phone or desktop. For every subsequent login, the Two-factor authentication (2FA) screen is displayed. An authenticator code must be entered to log in to HAPT. There are two methods to register the user account:

- scanning a QR code
- entering authentication key manually.

#### 2.2.1.1 User registration by scanning QR code

Scanning a QR code is one way to verify a user account during the login by authenticator code process. In this method, users scan the QR code with a mobile camera to verify the user and then log in to HAPT using the authenticator code.

To log in by scanning a QR code, follow the steps below.

1. Click the activation link received at the registered email address.
The **Review permissions** screen is displayed.

2. Click **Accept**.

![Review permissions screen]

**Figure 2. “Review permissions” screen**

The **Two-factor authentication (2FA)** screen is displayed. It shows the QR code to scan.

---

**Note:** The registered email address is the user ID to log in to HAPT.
The **Set up your first account** screen is displayed on the authenticator app.

3. To open the code scanner, click **Scan a QR code.**
4. Scan the QR code with the authenticator app installed on the mobile phone.
A unique verification code is received on the authenticator app installed on the mobile phone.

5. Enter the verification code in the **Verification code** field, and then click **Verify**.
The recovery codes are displayed.

These recovery codes are used in future to log in to HAPT. Users need to copy the recovery codes for future reference as they are displayed only once. For more information, see User login by recovery code.

- The QR code displays only when users log in to HAPT for the first time.

- The verification code refreshes after every 30 seconds. If the user does not enter the verification code within 30 seconds, it expires, and another verification code is received on the mobile or desktop app.

6. Click BACK TO LOGIN.
The **Two-factor authentication (2FA)** screen is displayed.

7. Enter the authenticator code received on the authenticator app, and then click **SIGN IN**.
The user is logged in to HAPT.

Note: The authenticator code refreshes after every 30 seconds. If the user does not enter the verification code within 30 seconds, it expires, and another verification code is received on the mobile phone or computer.

### 2.2.1.2 User registration by entering authentication key

Using an authentication key is another method to verify a user account. In this method, the user enters the authentication key in their mobile phone to verify the user and then log in to HAPT with the authenticator code. To log in by entering an authentication key, follow the steps below.

It is assumed that the new user has been added and an invitation link with the HAPT URL has been sent to the registered email address.

1. Click the activation link received at the registered email address.

The **Review permissions** screen is displayed.

2. Click **Accept**.

![Figure 9. “Review permissions” screen](image)

The **Two-factor authentication (2FA)** screen is displayed. It also displays the authentication key.
The **Set up your first account** screen is displayed on the authenticator app.

3. To log in with the authentication key, click *Enter a setup key*. 

![Figure 10. Displaying authentication key](image.png)
The **Enter account details** screen is displayed.

4. Enter the authentication key displayed on the screen in the authenticator app installed on the mobile phone, and then click **Add**.

A unique verification code is received on the authenticator app installed on the mobile phone.

- The authentication key displays only when users log in to HAPT for the first time.
- Once the authentication key is entered, the account is automatically added in the authenticator app.

5. To proceed further with the user authentication process, see steps 5–7 of **User registration by scanning QR code**.
2.2.2 User login by recovery code

The recovery codes are the unique codes that are displayed on the screen after users enter the verification code for the first time. Users may not always have the authenticator app installed on their mobile phone or computer, and they can then use recovery codes to log in to HAPT. To log in with a recovery code, follow the steps below.

It is assumed that the new user has been added and an invitation link with the HAPT URL has been sent to the registered email address.

Note: Users can register the account either by scanning the QR code or by entering the authentication key manually.

1. To open the Two-factor authentication (2FA) screen by scanning a QR code, see steps 1–6 of User registration by scanning QR code.

2. To open the Two-factor authentication (2FA) screen by entering an authentication key, see steps 1–5 of User registration by entering authentication key.

3. Click LOG IN WITH A RECOVERY CODE.

![Health Accounts Production Tool](image)

Figure 13. Logging in with recovery code

The Recovery code verification screen is displayed.
4. Enter the recovery code in the **Recovery code** field, and then click **SIGN IN**.

- The 10 recovery codes are unique and displayed only once. Therefore, users must save the recovery codes.

  - A recovery code used once for login cannot be used again.
  - Once all 10 recovery codes are used, the user needs to reset the recovery codes. To reset the recovery codes, see  [Resetting recovery codes](#).

---

**2.2.3  Resetting codes**

Users can reset both the authenticator code and the recovery code. They need to log in to HAPT to reset either of the codes. To log in to HAPT with the authenticator code, see  [User login by authenticator code](#). To log in to HAPT with the recovery code, see  [User login by recovery code](#).

- Recovery code is one of the methods for verifying users. The recovery codes are used in the user authentication process to log in to HAPT.

  - Resetting recovery codes reconfigures the recovery codes. Recovery codes can be reset when all 10 recovery codes have been used.

---

**2.2.3.1  Resetting authenticator code**

This feature resets the authenticator code. Users can use this feature when they have lost or changed the device on which the authenticator app was installed.
To reset the authenticator code, follow the steps below.

1. On the navigation panel of the dashboard, click the User ( ) icon.

2. Click SETTING.

![Figure 15. Resetting authenticator code](image)

The Settings screen is displayed. The default tab selected is RESET AUTHENTICATOR.

3. Under the RESET AUTHENTICATOR tab, click RESET AUTHENTICATOR KEYS.

![Figure 16. “Reset authenticator keys” screen](image)

The authenticator key is reset successfully, and the user is prompted to scan the QR code displayed on screen.

To log in with a QR code, see steps 3 and 4 of User registration by entering authentication key.

- When the authenticator code is reset, the current two-factor authentication configuration is disabled, and users need to log in with the new configuration.

- Users need to complete the new two-factor authentication configuration to keep their account active.

Note:
2.2.3.2 Resetting recovery codes

This feature resets the recovery codes. Once all 10 recovery codes have been used, users need to reset them. They need to log in to HAPT to reset the recovery codes. To log in to HAPT with the authenticator code, see User login by authenticator code. To log in to HAPT with the recovery code, see User login by recovery code. To reset the recovery codes, follow the steps below.

1. Open the Settings screen. Refer to steps 1 and 2 of Resetting authenticator code.

2. Click the GENERATE RECOVERY CODES tab.

![Settings with GENERATE RECOVERY CODES tab highlighted]

Figure 17. Generating recovery codes

The Generate new recovery codes screen is displayed.

3. Click GENERATE RECOVERY CODES.
Figure 18. “Generate new recovery codes” screen

Recovery codes are reset successfully, and 10 recovery codes are displayed.

Note: The recovery codes need to be saved for use in the next login or for future reference.

2.2.4 Difference between authenticator code, recovery code and authentication key

This section explains types of codes used during the two-factor authentication process.

Note: Authenticator codes and recovery codes can be reset in case users lose their device or run out of recovery codes. To reset the codes, see Resetting codes.

Table 1 shows the difference between the authenticator code, recovery codes and authentication key.

<table>
<thead>
<tr>
<th>Description</th>
<th>Authenticator code</th>
<th>Recovery codes</th>
<th>Authentication key</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>The code displayed on the authenticator app on the mobile phone while logging in to HAPT. Users receive the first authenticator code after scanning a QR code. See User login by authenticator code.</td>
<td>The codes displayed on the screen when a user logs in to HAPT for the first time. These codes are to be used if users do not have the authenticator app installed.</td>
<td>A 32-digit key displayed on the Two-factor authentication (2FA) screen when users login to HAPT for the first time. It can be used to log in instead of using a QR code. See User registration by entering authentication key.</td>
</tr>
</tbody>
</table>
### Authenticator code
- **Display**: Sent to the user on the authenticator app every time they log in to HAPT.
- **Resetting**: Refreshes after every 30 seconds, and the user then gets a new code on the authenticator app.

### Recovery codes
- Displayed only once when the user scans the QR code during login. They need to be saved for future use.
- There are 10 recovery codes. Each code can be used only once. After using all 10 recovery codes, users need to reset them. For more information, see Resetting recovery codes.

### Authentication key
- Only displayed once when users register for HAPT.
- Can be reset if the user loses it. See Resetting authenticator code.

### 2.3 Selecting language
HAPT is available in seven languages:
- English
- French
- Spanish
- Russian
- Portuguese
- Chinese
- Arabic.

The language can be selected for HAPT at the time of login from the drop-down list or later after logging in to HAPT from the navigation panel on the left.

**Note:** This feature is available only for the offline version of HAPT before login.
Changing the language after logging in has no effect on the existing study. To change the language, follow the steps below.

1. On the navigation panel on the dashboard, click the 🇺🇸 icon.

2. Select the preferred language from the drop-down list.

The application can now be viewed in the language of the user’s choice.

Note: The language can be changed at any time.
2.4 HAPT user interface

HAPT welcomes the user with a home screen, as shown in Figure 21. The buttons on the navigation panel on the dashboard enable quick navigation between various functionalities within the application. The application is best viewed on browsers and other devices having resolution greater than 1024 pixels (except mobile phone).

![Figure 21. HAPT home screen](image)

Table 2 shows the main tool sections on the HAPT navigation panel.

<table>
<thead>
<tr>
<th>Button</th>
<th>Button name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Study" /></td>
<td>Study</td>
<td>Elaborates the list of studies for countries assigned to the user.</td>
</tr>
<tr>
<td><img src="image" alt="Analyse" /></td>
<td>Analyse</td>
<td>Elaborates cross-year analysis of health expenditures tracked under different SHA dimensions for a country.</td>
</tr>
<tr>
<td><img src="image" alt="Setup" /></td>
<td>Setup</td>
<td>Depending on the user's role, the setup tab shown. The Team Leader (TL) can access the setup tab, which contains a master list of entities such as user management and rules. Team Members (TMs) and Country Users (CUs) cannot access the setup tab.</td>
</tr>
<tr>
<td><img src="image" alt="Notification" /></td>
<td>Notification</td>
<td>Displays notification results for actions carried out in HAPT.</td>
</tr>
<tr>
<td><img src="image" alt="Language" /></td>
<td>Language</td>
<td>Changes the language of the application.</td>
</tr>
</tbody>
</table>
2.5 Logging out of HAPT

Users can log out of HAPT from the User section. To log out, follow the steps below.

1. On the navigation panel, click the User icon ( ).
2. Click LOGOUT.

The Logout screen is displayed.

Figure 22. Logging out of HAPT
2.6 Resetting password

In HAPT, users can reset their password with the Forgot Password option available on the Login screen. To reset the password, follow the steps below.

1. On the Login screen, click Forgot Password?
2. Enter the registered email address in the Email address field, and then click RESET PASSWORD.

An account activation link will be sent to the provided email address. A message confirming the action is displayed on the Reset Password screen.
3. Click the account activation link in the received email.

The **Rest Password** screen is displayed.

4. Enter the new password, and then click **SET PASSWORD**.

The password is successfully changed. Users can use the new password for login to HAPT.
2.7 Notifications

Notifications provide users with information about updates of all activities that run in the background (using processing time) in HAPT, as follows:

- Repeat mapping
- Import mapping
- Replace all
- Import secondary data
- Import data source
- Import old study
- Duplicate study
- Create study
- Delete study
- Delete data sources
- Delete data rows
- Import split rule
- Import split pattern
- Export cross-table
- Export mapping
- Validation graph sync
- Cross-table sync.

To check notifications, follow the steps below.

1. In the navigation panel of the dashboard, click ( ).

The Import status details screen is displayed.
2. Click the notification to view the details. The notification details are displayed in the right-hand pane of the screen.

- Once the notification is read, the counter of unread notifications will be updated.
- Only one notification can be viewed at a time.

Note:
- The copy message button can be used to copy the notification.
- To delete the notification, click the trash icon next to the notification.
2.8 Help

The Help section is created for all user roles. It contains various documents and tutorials, including how-to videos, for all functionalities in HAPT. Any user can access these documents and videos for guidance to complete an HA study. There are two subsections under Help.

To access the Help section, follow the steps below.

1. Click HELP in the left navigation pane.

2. By default, the videos section is shown.

3. Click on any video.

The video opens and plays on the right-hand side of the screen.
4. To download the video, click **Download**.

The video is downloaded in the default location for the browser.

5. Click **Document** to view all attached documents.
6. Click on any document to download it.

The document is downloaded in the default location.

2.8.1 Contact us

Users can contact the WHO HA team by clicking on the Contact Us button.
2.9 Download files

The Download Files section allows users to access and download all required files for the offline HAPT.

To access the Download Files section, follow the steps below.

1. Click **DOWNLOAD FILES** in the left navigation pane.

![Download Files option](image)

**Figure 35. “DOWNLOAD FILES” option**

The **Download Files** screen is shown.

![Download Files screen](image)

**Figure 36. “Download Files” screen**

See [Downloading and installing HAPT offline version](#) for downloading and installation of the offline HAPT application.

The first section of the “Download Files” screen refers to the files required for downloading and installing the offline HAPT application.

The second section refers to the tools required for converting old .ptstudy to new .zip file for importing old studies in the new HAPT application.
3 Setup section

HAPT setup features, managed in the Setup section in the left navigation panel, can be used to configure and manage data at a country level. Changes made in the Setup section affect all new studies. The Setup section comprises two modules: User Management and Rules. Only TL can access these modules. To open the modules, follow the steps below.

Log in to HAPT (see Logging in to HAPT).

1. In the navigation panel, click the SETUP icon.

Note: Changes made at country level affect only new studies.

3.1 User Management module

User Management allows TL to edit information about existing users, change user roles and deactivate users. The User Management module displays the list of users created in the application and their respective status for the country.

Note: The User Management module can be used by TL only.

TL can edit and deactivate users for assigned countries. TL can take action only for TM and CU roles for assigned countries.
3.1.1 User roles

There are three user roles in HAPT. Each role has predefined permissions.

**Team Leader (TL)**

- A TL can access information related to only those countries that are associated with the specific TL role.
- For any country in the list of countries, there can be multiple TLs.
- TL users can edit and deactivate TM and CU users for countries assigned by the PO.
- TL can add, edit, delete and duplicate the studies of their assigned countries.
- The TL user role may be assigned to multiple countries. This means that a TL can view the list of studies, and open and work on multiple studies at the same time for the countries they have been assigned to.
- TL can assign permissions to TM to edit data of different data source types. Before assigning permissions, the TL needs to ensure that the TM is assigned to the study.
- TL can view, delete and replace files created by TL and TM from the document library.

**Team Member (TM)**

- A TM may be assigned to multiple countries, if needed. A TM can access information related to only those countries to which they are assigned.
- Access to data source types is given by the TL to the TM.
- TM can view the list of studies, and open and work on multiple studies at the same time, for the countries they have been assigned to.
- TM can view, delete and replace files created by TM from the document library by clicking on the icon next to the pencil icon for edit study.

**Figure 39. Study Library**

- TM is a subordinate role to TL. This means that TL can perform the same actions as TM for a selected country.

**Country User (CU)**

- A CU has read-only access to the data and studies of the countries that are assigned to them. CU cannot add, edit or delete data in HAPT.
- CU cannot modify any feature, information or data.
Note: A person can have different user roles for different countries.

3.1.2 Editing a user

This function allows a TL to modify and update user information details. To edit the information, follow the steps below.

1. In the User Management module user list, click the ellipsis ( ) corresponding to the user to be edited.

![Figure 40. Editing a user](image)

The Edit User form is displayed.

2. Enter the user details in the respective fields, and then click SAVE.

![Figure 41. “Edit User” form](image)

The user details are edited successfully.
3.1.3 Deactivating a user

This feature allows a TL to deactivate users who should no longer have access to HAPT. Deactivated users cannot access the application unless they are activated again. To deactivate a user, follow the steps below.

1. In the User Management module user list, click the ellipsis ( ) corresponding to the user to be deactivated.

![Figure 42. Deactivating a user](image)

A message to confirm the action is displayed.

2. To confirm, click YES.

The user is deactivated, and a confirmation message is displayed.

- Deactivated users will receive an email notification at their registered email address.
- TL can activate and deactivate users for their assigned countries.

3.1.4 Resending the activation link

When a new user is added, an activation link is sent to the registered email address. If the user does not respond to the email, the account will not be activated. This feature allows resending of the account activation link to the user. To resend an activation link, follow the steps below.

1. In the User Management module user list, click the ellipsis ( ) corresponding to the user that the activation link will be resent to.
Resending an activation link

A message to confirm the action is displayed.

2. To confirm, click **YES**.

The activation link is resent to the registered email, and a confirmation message is displayed.

Note: TL can resend an activation link only to users with a status of **Not Responded**.

### 3.1.5 Viewing user details

Viewing user details allows TL to see and edit the details of existing users. To view a user’s details, follow the steps below.

1. In the User Management module user list, click the user whose details are to be displayed.

The **User details** screen is displayed.
3.2 Rules module

The Rules module allows TL to add and delete split rules and split patterns. Split library is a collection of split rules and split patterns. It allows TL to keep track of the split rules and split patterns created under a country’s previous and current studies in HAPT. It also allows TL to delete any split rules and split patterns that should not be added in studies created in future. All split rules and split patterns created in a study and marked to be added in a country library are displayed in the split library of that country in the Rules module.

The split rules and split patterns from the Split Library sub-module can be used while creating a new study for the country. For more information about split rules and split patterns, see Split rule and Split pattern.

3.2.1 Split rules

This feature allows TL to view the details of the selected split rule from the list of split rules that is created for a country. It includes the name of the split rule, a description and the classification items used in the split rule. To view split rules, follow the steps below.

1. Under SETUP ( ), click Rules.
2. Click Split Library.
3. Under the **Split Rules** tab, select the desired country from the **Select country** drop-down list.

4. Click the ellipsis (…) corresponding to the split rule to be viewed.

5. Click **View Rule**.

The list of split rules for the selected country is displayed.

The **View Rule** screen is displayed.
3.2.1.1 Deleting split rules

This feature deletes a selected split rule from HAPT for the country. If a rule is deleted, no previous or current studies are affected. The deleted split rule is deleted only for new studies. This means that the deletion does not create any discrepancies in a study if the rule is being used in that study.

To delete a split rule, follow the steps below.

1. Click the ellipsis ( ) next to the split rule.
2. Click Delete.

A message to confirm the action is displayed.
3. To confirm, click **YES**.

The split rule is deleted, and a confirmation message is displayed.

| Note: | Split rules can be added to a country’s library from a study. See [Adding a split rule](#) for further details. |

### 3.2.2 Split patterns

A split pattern is a group of rules that are often used together, and so it is a good idea to combine them for ease of use. TL can create split patterns while performing mapping, allowing users to apply a group of split rules at once. This pattern can be applied for data rows, data sources and other years’ studies of the country.

This feature displays details of the selected split pattern from the list of split patterns that are created for the selected country. It includes name of the split pattern, a description and the split rules used in the split pattern. To view split patterns, follow the steps below.

1. Under **SETUP** ( ), click **Rules**.

2. Click **Split Library**.

![Figure 51. Opening split library](image)

3. Under the **Split Patterns** tab, select the country from the **Select country** drop-down list.
Figure 52. Selecting country to view split pattern

The list of split patterns for the selected country is displayed.

4. Click the ellipsis (⋮) corresponding to the split pattern to be viewed.

5. Click View Pattern.

Figure 53. Viewing split pattern

The View Pattern screen is displayed.
3.2.2.1 Deleting split patterns

This feature deletes the selected split pattern from HAPT for the selected country. Deleting a split pattern makes it unavailable for studies created in future for the country.

To delete a split pattern, follow the steps below.

1. Click the ellipsis (⋮) corresponding to the split pattern to be deleted.

2. Click Delete.

A message to confirm the action is displayed.

3. To confirm, click YES.

The split pattern is deleted, and a confirmation message is displayed.

Note: Split patterns can be added to a country’s library from a study. See Adding a split pattern for further details.
4 Study section

A study is the mapped data relating to the health expenditure for a country for one year. When users click on STUDY in the navigation panel, they will be directed to the study page. HAPT can be used for multiple exercises at once – users can decide to start a new HA study or revisit previous studies.

4.1 Adding a study

To start working on the studies, click STUDY in the navigation panel.

Figure 56. Opening studies listing page

A new page will open from which a TL can create a new study. Both TL and TM can choose previous studies to be opened, edited or deleted from the list that appears. TL also can import a converted study from the old HAPT (version 4.0.0.6). Search filters can be used to search for studies on the page.

To start a new study, follow the steps below.

1. On the navigation panel, click the STUDY icon.

2. In the new page, click Add New Study.
The Add New Study form is displayed.

3. Enter the required details in the respective fields, and then click ADD.

A message in the Notification section will show that study creation has started. Once the study creation process is completed, another notification will show successful creation of the study.
Figure 59. Confirmation of completion of new study creation

Users need to confirm the action by clicking **YES** to reload the page. Once the page has reloaded, a newly created study appears in the study list. Table 3 shows the fields to be filled in the **Add New Study** form when creating a new study.

**Table 3. Fields in “Add New Study” form**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Used to enter the name of the study.</td>
</tr>
<tr>
<td>Description</td>
<td>Used to add a description of the study (e.g. HA team member names, what is special about this particular study)</td>
</tr>
<tr>
<td>Country</td>
<td>Used to enter the country name for which the study is prepared.</td>
</tr>
<tr>
<td>ICD Version</td>
<td>Mandatory field. One of the three versions of ICD – ICD-9, ICD-10 or ICD-11 – used in the country should be chosen. Be careful when selecting the version of ICD, as it cannot be changed later. This function is useful if the data contain ICD codes, because the tool provides an automatic translation to the disease (DIS) classification. The crosswalk table can be found in the Help section of the tool. If users do not want to use this crosswalk function, they must still select the ICD version to start a study, but not further bind data to diseases when importing data. A crosswalk can only be changed centrally in the tool.</td>
</tr>
<tr>
<td>Year</td>
<td>Used to enter the year for the study.</td>
</tr>
<tr>
<td>Start Date</td>
<td>Used to enter the start date for the study. All stakeholders will be required to report their expenditure data according to this time boundary. It should be based on either calendar year or government fiscal year.</td>
</tr>
<tr>
<td>End Date</td>
<td>Used to enter the end date for the study. All stakeholders will be required to report their expenditure data according to this time boundary. It should be based on either calendar year or government fiscal year.</td>
</tr>
</tbody>
</table>
It is not possible to create a new study for a country and for a year already existing. However, an existing study can be duplicated (see Duplicating a study). The Notification section shows the status of study creation (started or completed).

4.2 Opening an existing study

To open a study, follow the steps below.

1. On the navigation panel, click the STUDY icon.

2. Select the relevant study from the study list.

3. Click the ellipsis corresponding to the study to be opened.

4. Click Open or Open in new tab.
4.3 Deleting a study

To delete a study, follow the steps below.

1. On the navigation panel, click the STUDY ( ) icon.
2. Select the study to be deleted from the study list.
3. Click the ellipsis ( ) corresponding to the study to be deleted.
4. Click Delete.

A confirmation message is displayed.

5. Click YES.

If deletion of the study is successful, a message in a dialog box will ask for the page to be reloaded. If the user clicks YES, the page will reload, and the deleted study will be removed from the study list.
page. If the user clicks **NO**, the study will not be removed until the page is manually refreshed. The ellipsis menu option will be hidden for the deleted study.

**Figure 64. Confirmation of completion of study deletion**

The Notification section shows the status of study deletion (started or completed).

**Figure 65. Notification that study deletion has started**

**Figure 66. Notification that study deletion is completed**
4.4 Duplicating a study

Duplicating a study creates a copy of the selected study for the same country for the same or different years. When duplicating a study, all data, data sources, mapping, split rules and so on are copied to the newly created study. The duplicated study is an exact replica of the original study.

To duplicate a study, follow the steps below.

1. On the navigation panel, click the STUDY icon.
2. Select the relevant study from the study list.
3. Click the ellipsis ( ) corresponding to the study to be opened.
4. Click Duplicate.

![Figure 67. Duplicating study](image)

The Duplicate study form is displayed.

5. Enter the required details in the respective fields, and then click DUPLICATE.
When the study is duplicated, a confirmation is displayed. The newly created study will be added to the list of studies on the studies listing page.

Table 4 shows the fields presented in the **Duplicate study** form.

**Table 4. Fields in “Duplicate study” form**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Used to enter the name for the study to be duplicated.</td>
</tr>
<tr>
<td>Description</td>
<td>Used to add a description of the study to be duplicated.</td>
</tr>
<tr>
<td>Country</td>
<td>Shows the country name for which the study is prepared. This field is filled automatically using the country name from the original study. The field cannot be updated.</td>
</tr>
<tr>
<td>ICD Version</td>
<td>Mandatory field. Choose one of the three versions of ICD – ICD-9, ICD-10 or ICD-11 – used in the country. The version cannot be changed later.</td>
</tr>
<tr>
<td>Year</td>
<td>Used to enter the year for the study to be duplicated.</td>
</tr>
<tr>
<td>Start Date</td>
<td>Used to enter the start date for the study. All stakeholders will be required to report their expenditure data according to this time boundary. It should be based on either calendar year or government fiscal year.</td>
</tr>
<tr>
<td>End Date</td>
<td>Used to enter the end date for the study. All stakeholders will be required to report their expenditure data according to this time boundary. It should be based on either calendar year or government fiscal year.</td>
</tr>
</tbody>
</table>
If duplication of the study is successful, a message in a dialog box will ask for the page to be reloaded. If the user clicks **YES**, the page will reload, and the duplicated study will be shown in the study list page. If the user clicks **NO**, the study will not be shown until the page is manually refreshed.

![Confirmation of completion of study duplication](image)

**Figure 69. Confirmation of completion of study duplication**

The Notification section shows the status of study duplication (started or completed).

![Notification that study duplication has started](image)

**Figure 70. Notification that study duplication has started**

![Notification that study duplication is completed](image)

**Figure 71. Notification that study duplication is completed**

4.5 **Importing a study**

Users can import studies from the old HAPT. To do this, check that the version in use is the most recent (4.0.0.6). For conversion of old studies, users need to download and install the program HAPT Study Conversion Tool HAPT_DM_1.0.0.4.zip. This can be found in the new HAPT under the Download Files section. See [Download files](#) for further details.
To import a study in the new HAPT application, follow the steps below.

1. Export the study from HAPT 4.0.0.6.

2. Open the conversion tool.

![Figure 72. Conversion tool](image1)

3. Select the .ptstudy file that was exported from the old HAPT (to be converted).

![Figure 73. Selecting .ptstudy](image2)

4. Select the folder where the study will be downloaded once converted (Browse, then Add), and then click Convert. The tool converts the .ptstudy file into a .zip file. The progress and result of the conversion are shown in the Status column of the conversion tool. Do not close the window – this will abort conversion.
5. Click **Import Study** in new HAPT application.

6. Select the converted .ptstudy in .zip format, and then click **NEXT**.

7. Enter **Study status**, **Study year** and **ICD Version**, and then click **IMPORT**.
Once import starts, a notification appears.

If importation of the study is successful, a dialog box will ask for the page to be reloaded. If the user clicks **YES**, the page will reload, and the imported study will be shown in the study list page. If the user clicks **NO**, the study will not be shown until the page is manually refreshed.
The Notification section shows the status of study import (started, completed or failed).

![Notifications](image)

**Figure 80. Notification that study import has started**

![Notifications](image)

**Figure 81. Notification that study import is completed**

If import of the study failed for any reason, a notification will be shown and a support email will also be received.

![Notifications](image)

**Figure 82. Notification that study import failed**

- Users can import only .zip format files of a study.
- Importing a study takes time, depending on the size of the study.
- The study name, created by, creation date and description are pre-filled from the imported study.

---

Note:

- Users can import only .zip format files of a study.
- Importing a study takes time, depending on the size of the study.
- The study name, created by, creation date and description are pre-filled from the imported study.
• The study is not imported if
  – the study name is missing in the .zip file
  – the country name is missing in the .zip file
  – the study start date is missing in the .zip file
  – the study end date is missing in the .zip file
  – the currency code is missing in the .zip file
  – the currency used in the old tool does not exist in HAPT.

• Import may also fail for other unknown reasons. If import fails, the user is shown a message in notifications.

4.6 Working with a study

The Study page consists of two panes.

• Title pane: This pane displays the name of the study, the country for which it was created, the start date, the end date and the date on which it was last updated. It also displays “Edit study”, “Library” and “Decimal point” options. Users can go back to the studies list by clicking All studies.

![Figure 83. Title pane](image)

• Modules: There are four modules to navigate in the tool for producing a HAPT study. Each module contains sub-modules.

4.7 Changing a study status

Because the whole system and studies are online and can be used by different users at once, it is important to understand when a study is finalized and the data can be used. A study can have two statuses: “In Progress”, when the HA team works on the study, and “Final”, when the process is concluded. The study status can be modified and switched from one to the other by the TL at any time.

Setting the status of a study to Final is important because only one study, for the same country and year, can be used for time trend analysis in the Analyse section. If for any reason a study was duplicated, there may be two studies for the same country and year. In this case, only one of these studies can be defined as Final, and that is the study that will be used for analysis purposes.
To change the status of a study to Final, follow the steps below.

1. Open the study to be set as Final.

2. Click **Set as Final**.

![Figure 84. Selecting “Set as Final”](image)

A message to confirm the action is displayed.

3. To confirm, click **YES**.

The **Set as Final** button turns green, indicating a change of status, and a confirmation message is displayed.

A study cannot be updated while it is in the Final status. The TL must set the study status to In Progress to be able to manipulate it. To change the status of a study to In Progress, follow the previous steps and click **Set as Final**.

- Only a TL can change the study status.
- The study status can be switched between Final and In Progress by the TL at any time.
- Only one study for a country for one year can be in Final status.

### 4.8 Editing a study

To edit a study, follow the steps below.

1. On the navigation panel, click the **STUDY** icon.

2. Open the study to be edited from the study list.

3. Click on the edit (-pencil) icon at the top right corner.

The **Edit Study** form is displayed.

4. Edit the required details.

5. Click **SAVE**.
4.9 Library

There are two features in the library of a study: Comments and Library. To manage the library, follow the steps below.

1. In the open study, click the icon ( ) at the top right corner.

The Comments and Library screen is displayed.

Table 5 shows the fields and buttons in the Comments and Library screen.
Table 5. Fields and buttons in “Comments and Library” screen

<table>
<thead>
<tr>
<th>Field/button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments</td>
<td>Used to communicate with TMs and other users. The communication and comments are maintained as long as needed.</td>
</tr>
<tr>
<td>Library</td>
<td>Stores documents and files in HAPT. Reports, methodological documents, validation documents and so on can also be uploaded.</td>
</tr>
<tr>
<td>Search</td>
<td>Used to search for a conversation thread within comments.</td>
</tr>
<tr>
<td>Add New Thread</td>
<td>Used to add a comment.</td>
</tr>
</tbody>
</table>

2. Under the **Comments** tab, click **Add New Thread**.

![Figure 87. “Add New Thread” option](image)

3. Fill in the required details, and then click **Add**.

![Figure 88. Adding a new thread](image)

The thread is added successfully.

Note:
- A thread can be deleted using the delete (DELETE) icon on the added thread.
- A thread can be edited using the edit (TEXT EDIT) icon on the added thread.
4.9.1 Comment status

This feature shows the status of added comments.

Figure 89. Selecting comment status

Table 6 shows the fields and buttons in the Comments tab.

Table 6. Fields and buttons in “Comments” tab

<table>
<thead>
<tr>
<th>Field/button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>Displays all comments available.</td>
</tr>
<tr>
<td>Resolved</td>
<td>Displays resolved comments only.</td>
</tr>
<tr>
<td>Active</td>
<td>Displays the active comments that are yet to be resolved.</td>
</tr>
</tbody>
</table>

To filter the comments according to status, follow the steps below.

1. Click the filter ( ) icon in the Search field.

2. Select the necessary status, and then click Apply.

4.9.2 Tagging comments

With this feature, it is possible to tag other users, data source types or data sources while replying to a particular comment.

Table 7. Comment tags

<table>
<thead>
<tr>
<th>Tags</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>@</td>
<td>Tags a user assigned to the study.</td>
</tr>
<tr>
<td>!</td>
<td>Tags a data source type used in the study.</td>
</tr>
<tr>
<td>#</td>
<td>Tags a data source used in the study.</td>
</tr>
</tbody>
</table>
4.9.3 Managing library

The library feature stores documents and files within HAPT. Reports, methodological documents, validation documents and so on can be uploaded here to keep all documentation in one place.

To import files, follow the steps below.

1. Click the Library tab.

![Figure 90. “Library” tab](image)

2. Click Import.

![Figure 91. Importing document](image)

The Import Document form is displayed.

![Figure 92. “Import Document” form](image)

3. Enter the required details.
4. Click **CHOOSE FILE**.

![Figure 93. Choosing file](image)

5. Click **ADD**.

![Figure 94. Adding document](image)

The document is imported successfully.

- A document can be deleted using the delete (Trash) icon on the added document.
- A document can be edited using the edit (Edit) icon on the added document.

### 4.10 Selecting decimal places for reporting

In HAPT, the decimal points option sets the number of decimal places to which figures are viewed. Expenditure amounts can be entered with up to 10 decimal places, but the amount will be displayed only up to the selected number of places. To select the decimal places to be shown, follow the steps below. It is assumed that the required study has been already opened.

1. Click (0.) at the top right corner of the Study Setup module.
Figure 95. Selecting decimal places

The **Decimal Points** form is displayed.

2. Select the number of decimal places from the **No. of decimal points to view** drop-down list.

![Decimal Points Form](image1)

Figure 96. Selecting number of decimal places

3. Click **SAVE**.

![Decimal Points Form](image2)

Figure 97. Saving number of decimal places

The number of decimal places is updated successfully.

---

**Note:** Although expenditure amounts can be entered with up to 10 decimal places, the maximum number of decimal places displayed is 5.
4.11 Study Setup module

The next step to produce an HA study using HAPT is customization. The Study Setup module establishes general information about the HA, as well as the HA classifications and codes that will be applied during the analysis. This module has three sub-modules: Currency, Classifications and Preparation.

Customization is completed by the TL. The TL is prompted to enter general information, answer policy questions, and set classifications and codes that are then applied to the whole study.

HAPT allows the HA team to develop codes and save them in the system where they can be accessed year to year. This is advantageous for two main reasons. First, it improves quality by ensuring that classifications are consistent and will lead to more accurate time-series analysis. Being able to store the codes in one location also reduces errors that result from transferring code lists electronically or on paper.

Second, having the custom classifications directly within the tool saves time in later steps when HA team members would otherwise have to switch back and forth between documents or track down the latest version of the file to refer to the classifications.

4.11.1 Currency sub-module

Donors and NGOs can report in different currencies. The HA team should add all currencies that will be used in the study. Make sure the list of currencies in the study is comprehensive before beginning data collection, as it is critical.

The currency can be managed only if a study is available in HAPT (see Adding a study and Opening an existing study). TL can add, delete or edit available currencies. TL also can add the exchange rate or invert the rate for the required currency.

4.11.1.1 Adding a new currency

TL can add a new currency to an existing or new study. Open the study in which the currency will be added. By default, the Currency sub-module of the Study Setup module is displayed.

![Currency sub-module](image)

**Figure 98. Currency sub-module**
Table 8. Fields and buttons in Study Setup module

<table>
<thead>
<tr>
<th>Field/button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default Currency</td>
<td>Shows the default currency for the selected country. To change the default</td>
</tr>
<tr>
<td></td>
<td>currency, click on the default currency drop-down list and select the</td>
</tr>
<tr>
<td></td>
<td>required currency.</td>
</tr>
<tr>
<td>Add Currency New</td>
<td>Used to add a new currency to perform exchange rate calculations.</td>
</tr>
<tr>
<td>Other Currency</td>
<td>Shows the new currency that is added.</td>
</tr>
<tr>
<td>Exchange Rate</td>
<td>Shows the exchange rate, which is specified while adding the new currency.</td>
</tr>
</tbody>
</table>

To add other currency, follow the steps below.

1.  Click **Add New Currency**.

![Figure 99. Adding new currency](image)

The **Add Currency** form is displayed.

2.  Select the required currency from the **Choose Currency** drop-down list.

![Figure 100. Choosing currency](image)

3.  Enter the exchange rate for the selected country.

**Note:**  
- The correct exchange rate must be entered for the country selected.
• The exchange rate should be in relation to the exercise’s reported currency.

![Figure 101. Adding exchange rate](image)

- Users can use **Invert Rate** to provide the exchange rate between the default currency and other currency or vice versa.
- Enter the exchange rate and then click **Invert Rate** to see the exchange rate. Users can also click **Invert Rate** before entering the exchange rate.

![Figure 102. “Invert Rate” option](image)

4. Click **ADD**.

![Figure 103. Adding currency](image)

The currency is added successfully.
4.11.1.2 Editing a currency

This option allows users to edit the previous exchange rate to reflect the current exchange rate. While editing currency, if the default currency is changed, it is important to change the exchange rate also; otherwise, it may lead to incorrect currency calculations.

To edit a currency, follow the steps below.

1. Click the ellipsis (⋮) corresponding to the study to be edited.
2. Click Edit.

![Figure 104. Editing currency](image)

**Note:** Make sure to define the exchange rate again when the default currency is changed.

**Warning**

Changing the default currency after importing data may cause a problem. Hence, we recommend adding the default currency and then importing data.

Editing default currency

3. Users can select any currency from the drop-down list to change the default currency for a study.

![Figure 105. Editing default currency](image)

4.11.1.3 Deleting a currency

**Note:** User should ensure that they are in the correct study where a currency is to be deleted.
Warning

- This action cannot be undone.
- The deleting a currency feature deletes all related details and the associated data.

To delete other currency, follow the steps below.

1. Click the ellipsis (•) corresponding to the study for which the currency is to be deleted.

2. Click **Delete**.

![Figure 106. Deleting currency](image)

A message to confirm the action is displayed.

3. To confirm, click **YES**.

   The currency is deleted, and a confirmation message is displayed.

4.11.2 Classifications sub-module

HAPT provides a list of International Classification for Health Accounts (ICHA) codes organized by financing source (FS), financing scheme (HF), healthcare provider (HP), health function (HC) and capital expenditure (HK). These mandatory classifications are the essential minimum for any country to include in its HA study.

TL can also create customized classification categories to ensure that all health expenditures are captured in the estimation.

To manage the classifications, follow the steps below.

1. Open the study for which a classification is to be managed (see **Opening an existing study**).

2. Click **Classifications**.
Figure 107. Managing classifications screen

The **Classifications** screen is displayed.

Figure 108. “Classifications” screen

There are two types of ellipsis in the **Classifications** screen:

- Corresponding to row – allows users to select by filter
- Corresponding to column – allows users to export the classification.

**Note:**
- Under each classification, there are classification categories. Users can map classification categories to up to six levels of disaggregation, depending on the account type.
- The first digit level of a category of classifications cannot be edited.
Table 9. Fields, buttons and icons in Classifications sub-module

<table>
<thead>
<tr>
<th>Icon</th>
<th>Field/button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Add new classification</td>
<td>Used to add a new classification.</td>
</tr>
<tr>
<td></td>
<td>Filters field</td>
<td>Ellipsis corresponding to the column allows a filter to be applied to the classification.</td>
</tr>
<tr>
<td></td>
<td>Select classification</td>
<td>Used to select a classification to export.</td>
</tr>
<tr>
<td></td>
<td>Select classification</td>
<td>Used to select a classification for using and mapping.</td>
</tr>
<tr>
<td></td>
<td>De-select classification</td>
<td>Used to deselect a classification. If users deselect a classification, it will disappear from the mapping tree and the reports.</td>
</tr>
<tr>
<td></td>
<td>Disable button</td>
<td>Indicates that users cannot select or deselect the classification. Usually, a few classifications are by default selected for a study and cannot be deselected – the button is disabled for such classifications.</td>
</tr>
<tr>
<td></td>
<td>SHA Framework</td>
<td>Indicates the ICHA classification under SHA 2011 methodology. The classification name is displayed in blue.</td>
</tr>
<tr>
<td></td>
<td>Programme (not SHA)</td>
<td>Indicates the classification added by WHO for HAPT, but it does not originate from ICHA under SHA 2011 methodology. The classification name is displayed in black.</td>
</tr>
<tr>
<td></td>
<td>User Defined</td>
<td>Indicates the classification added by users for a study. The classification name is displayed in orange.</td>
</tr>
</tbody>
</table>

4.11.2.1 Adding a new classification

To add a new classification that is not defined in the HAPT classification list, follow the steps below:

1. In the Classifications sub-module, click Add New Classification.
The **Add new classification** form is displayed.

2. Enter the classification details in the respective fields, and then click **ADD**.

Table 10. Fields in **“Add new classification” form**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classification Code</td>
<td>Used to add classification code.</td>
</tr>
<tr>
<td>Classification Name</td>
<td>Used to add classification name.</td>
</tr>
<tr>
<td>Description</td>
<td>Used to add details, description and purpose for the classification.</td>
</tr>
</tbody>
</table>

The new classification is added successfully.

### 4.11.2.2 Exporting a classification

A classification can be saved on the user’s system in .xlsx file format by using the export feature. The exported classification can be used again for importing data in HAPT. Users can export multiple classifications in one file. To export a single classification, follow the steps below.

1. Click the ellipsis (···) corresponding to the classification to be exported.

2. Click **Export**.
The Export dialogue box is displayed.

3. Enter the required name for the file in the Export as field, and then click EXPORT.

The classification is downloaded as an .xlsx file in the default download location of the system.

To export multiple classifications, follow the steps below.

1. Select the classifications to be exported by clicking the checkboxes on the left of the grid. Users can manually select each classification or select all by clicking the topmost checkbox in the grid.

2. Click Export.
3. Enter the required name for the file in the Export as field, and then click **EXPORT**.

The classifications are downloaded as an .xlsx file in the default download location of the system.

### 4.11.2.3 Adding a subcategory for current, related or capital expenditure

To reflect the unique health financing landscape of each country, the HA team has the option to adapt the standard ICHA categories list by creating country-specific subcategories. Subcategories can be added only at the lowest level of the standard categories to ensure mutually exclusive and collectively exhaustive criteria of the classifications, so that every health expenditure can be captured by a single code. New categories cannot be added at the same digit level of existing HAPT predefined categories. The maximum level of categories is up to six-digit level. To add a classification category, follow the steps below.

1. Click on the arrow ( ▶️ ) corresponding to the classification under which a new category is to be added.

2. Click the ellipsis ( ⋅ ) corresponding to the classification.

3. Click **Add new classification category.**
The **Add new classification category** form is displayed.

4. Enter the details in the respective fields, and then click **ADD**.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category Code</td>
<td>Used to edit classification category code.</td>
</tr>
<tr>
<td>Category Name</td>
<td>Used to edit category name.</td>
</tr>
<tr>
<td>Description</td>
<td>Used to edit category description.</td>
</tr>
</tbody>
</table>

After a new category is added, HAPT automatically creates a “not elsewhere classified” category at the same digit level.

**4.11.2.4 Adding a new classification for related and capital expenditure**

To add a new classification under related and capital expenditure, follow the steps below.

1. Click the ellipsis (•) corresponding to the related classification.

2. Click **Add new classification**.
3. Select the classifications of schemes-related items, and then click ADD.

![Figure 119. Adding a new classification](image)

The **Add new classification under classification** screen is displayed.

![Figure 120. Classification for related account](image)

The new classification is added successfully.

### 4.11.2.5 Editing a classification category

The HAPT predefined classification categories cannot be edited. For user-added classifications, all categories can be edited. To edit a category, follow the steps below.

1. Click the ellipsis (⋮) corresponding to the category.
2. Click **Edit**.
Figure 121. Editing classification category

The **Edit classification category** form is displayed.

3. Enter the edit classification category details in the respective fields, and then click **SAVE**.

![Figure 122. “Edit classification category” form](image)

Table 12. Fields in “Edit classification category” form

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category Code</td>
<td>Used to edit category code.</td>
</tr>
<tr>
<td>Category Name</td>
<td>Used to edit category label.</td>
</tr>
<tr>
<td>Description</td>
<td>Used to edit category details and information.</td>
</tr>
</tbody>
</table>

4.11.2.6 **Importing a classification from Excel**

Rather than adding and editing a classification manually in HAPT, the classification can be imported from an existing Excel file by the TL. To import a classification, follow the steps below.

1. In the Study Setup module, in the Classifications sub-module, click the **Next** icon at the top right corner of the page.
2. Chose **Import from excel** from the drop-down list.

![Import from excel](image1.png)

*Figure 123. Importing classification from Excel*

The **Import Classification** screen is displayed.

3. To import a file, click **CHOOSE FILE**.

![Import Classification](image2.png)

*Figure 124. Choosing file to import*

4. Select the required Excel file from Windows browser, and then click **Open**.

5. Select the sheet needed from the **Excel sheet** drop-down list.

![Excel sheet](image3.png)

*Figure 125. Selecting sheet*

The data columns are populated.

- If there is more than one sheet in the selected Excel file, select the sheet to import.
- Every classification can be imported separately as well; users need to have one classification per sheet.

Note:
- If there are multiple classifications in one sheet, classification categories will be imported only for the selected classification. If the classification does not match the selected classification, it will not import.

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FS.RI</td>
<td>Institutional units providing revenues...</td>
<td></td>
</tr>
<tr>
<td>FS.RI.1</td>
<td>Government</td>
<td></td>
</tr>
<tr>
<td>FS.RI.2</td>
<td>Corporations</td>
<td></td>
</tr>
<tr>
<td>FS.RI.3</td>
<td>Households</td>
<td></td>
</tr>
<tr>
<td>FS.RI.4</td>
<td>NPISh</td>
<td></td>
</tr>
<tr>
<td>FS.RI.5</td>
<td>Rest of the world</td>
<td></td>
</tr>
<tr>
<td>FS.RI.6</td>
<td>Bilateral donors</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 126. Populated data columns**

6. Select the classification from the **Classification to import** drop-down list. It binds the columns in the tool with the Excel sheet imported.

**Figure 127. Selecting classification to import**

The first row shows the headings provided by HAPT, and the second row the headings used in the Excel sheet.
7. For the tool to understand how data should be interpreted, the Excel file columns should be matched with the correct HAPT column headings. To do that, click on the drop-down arrow against the column and select an appropriate heading. The data will be bound.

8. Repeat step 7 for all columns.

Once columns are bound with respective fields, a tick mark is shown in the right grid in the **Binding** column.
9. Once binding is complete, click **IMPORT**.

![Figure 130. Binding columns with Excel](image)

![Figure 131. Importing classification from Excel](image)

- If the headers in the Excel sheet are exactly the same as those provided in HAPT (as per selected language), the columns will automatically bind. Users can manually bind the columns where headers do not match.

**Note:**
- If data are mapped outside HAPT, the **Code** column should have the correct ICHA code format, which includes dots between classification letters and numbers (e.g. “FS.1.1”).

For the example Excel template used in HAPT, Excel has three columns: Code, Name (mandatory) and Description (optional).
4.11.2.7 Importing a classification from an existing HAPT study

One or several classifications available in an existing study can be imported to another by the TL. This will import to the current study all details such as user-created new categories, codes and names. To import a classification, follow the steps below.

1. In the Study Setup module in the Classifications sub-module, click the import icon ( ) at the top right corner of the page.
2. Click Import from study.

The Import Classifications form is displayed.

3. Select the study from which classifications are to be imported.
4. Select the classifications to be imported, and then click IMPORT.
Selected classifications are imported in the study, and a message is shown indicating success.

4.11.3 Preparation sub-module

The Preparation sub-module allows users to prepare valid and important information about the financing flows in the country, and to better understand the country’s healthcare structure by answering basic policy questions related to the study objectives. The questions are defined in the tool by default. The Preparation sub-module also generates a data flow diagram to depict the financial flows for the HA study. It also helps users to assess and document the plan for the study.

The Preparation sub-module can be managed by the TL only if a study is available in HAPT (see Adding a study and Opening an existing study).

4.11.3.1 Policy questions

The Preparation sub-module allows users to answer questions that are predefined by HAPT for a particular study but can also be saved for use for future studies. To answer the policy questions, follow the steps below.

1. Under the STUDY SETUP tab, click Preparation Module.
The **Preparation Module** screen is displayed.

2. Click **Policy Questions**.

The **Policy Questions** form is displayed.

3. Fill in the answers for the questions in the respective fields, and then click **Save**.
The data are saved successfully.

4.11.3.2 Depicting data graphically

Data can be depicted graphically, as a flow diagram, to give a graphical representation of financial flows, across the various parties that contribute to health expenditure. The graph depicts the financial flow from source to recipient.

The flow diagram can be attached to the tool as a document. The file formats supported are .jpg, .jpeg, .png, .gif, .xlsx, .xls, .csv, .ppt, .pptx, .doc, .docx and .pdf.

Users can also create, edit and delete the graphical flow diagram.

4.11.3.3 Attaching a flow diagram

This feature attaches the financial flow diagram as a document created outside the tool for a particular study. This shows the financial flow of that study from source to recipient, which users can refer to during mapping. To attach a flow diagram, follow the steps below.

1. In the Preparation sub-module, choose **Graphical Flow**.
The **Graphical Flow** form is displayed.

2. **Click View Diagram.**

![Figure 138. “View Diagram” option](image)

The **View Diagram** drop-down is displayed.

3. **Click Attach Diagram.**

![Figure 139. “Attach Diagram” option](image)

The **Attach flow diagram** form is displayed.

4. **Enter the document details in the respective fields, and then click ADD.**
Figure 140. Adding details to “Attach flow diagram” form

The document is added successfully.

Table 13 shows the fields and buttons in the **Attach flow diagram** form.

**Table 13. Fields and buttons in “Attach flow diagram” form**

<table>
<thead>
<tr>
<th>Field/button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document name</td>
<td>Used to add name of the flow diagram document.</td>
</tr>
<tr>
<td>Document description</td>
<td>Used to add description for the flow diagram document.</td>
</tr>
<tr>
<td>CHOOSE FILE</td>
<td>Used to select a file from a location on the user’s computer system. Users can load the file in the application by adding it as an attachment.</td>
</tr>
<tr>
<td>File Name</td>
<td>Displays the name of the chosen file.</td>
</tr>
<tr>
<td>ADD</td>
<td>Used to add the above details of the flow diagram document.</td>
</tr>
</tbody>
</table>

### 4.11.3.4 Editing a flow diagram

To edit a flow diagram, follow the steps below.

1. **Under View Diagram**, click the ( ) icon corresponding to the flow diagram document to be edited.
The **Edit Document** screen is displayed.

2. Enter the details in the respective fields, and then click **SAVE**.

![Edit Document](image)

**Figure 142. Editing document**

The document is edited successfully.

**4.11.3.5 Deleting a flow diagram**

To delete a flow diagram, follow the steps below.

1. Under **View Diagram**, click the (Trash) icon corresponding to the flow diagram document to be deleted.
A message to confirm the action is displayed.

2. To confirm, click **YES**.

The document is deleted, and a confirmation message is displayed.

### 4.11.3.6 Adding a financing flow

There are different sources of financing flow, which are classified in the Classifications sub-module. This feature allows users to add financing flows for the corresponding classification. To add revenue, follow the steps below.

1. In the Preparation sub-module, choose **Graphical Flow**.

   ![Graphical Flow form](image)

The **Graphical Flow** form is displayed.

- A green bar at the top indicates that the data source for the financing flow is available.

  ![Note](image)

- An orange bar at the top indicates that the data source for the financing flow is not available.
2. Click the (+) icon to add the financing flow.

![Figure 145. Adding revenue](image)

The **Add Revenue** form is displayed.

3. Enter the financing flow details in the respective fields, and then click **ADD**.

![Figure 146. “Add Revenue” form](image)

The financing flow is added successfully.

Table 14 shows the fields in the **Add Revenue** form.

**Table 14. Fields in “Add Revenue” form**
<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Used to enter name of the revenue.</td>
</tr>
<tr>
<td>Classification category</td>
<td>Used to select classifications of the financing flow from the drop-down list.</td>
</tr>
<tr>
<td>Data Availability</td>
<td>Used to select the data availability status.</td>
</tr>
<tr>
<td>Data Source 1</td>
<td>Used to enter the primary source of data or information on the financing flow generated for a particular classification type.</td>
</tr>
<tr>
<td>Data Source 2</td>
<td>Used to enter the secondary source of data for the financing flow.</td>
</tr>
<tr>
<td>Data Source 3</td>
<td>Used to enter the third source of data for the financing flow.</td>
</tr>
</tbody>
</table>

### 4.11.3.7 Editing a financing flow

This feature allows users to edit the name and other details of a financing flow (e.g. classification, availability, data source). To edit the financing flow, follow the steps below.

1. **Under Graphical Flow,** click the ellipsis (…) corresponding to the financing flow to be edited.

2. **Click Edit.**

![Figure 147. Selecting revenue to edit](image)

The **Edit Revenue** form is displayed.

3. **Edit the financing flow details, and then click SAVE.**
The financing flow details are updated successfully.

The edited financing flow details are updated on the **Graphical Flow** screen.
4.11.3.8 Deleting a financing flow

This feature allows users to delete a particular financing flow from a study. To delete a financing flow, follow the steps below.

1. Under Graphical Flow, click the ellipsis (…) corresponding to the financing flow to be deleted.

2. Click Delete.

![Figure 150. Deleting revenue](image)

A message to confirm the action is displayed.

3. To confirm, click YES.

The financing flow is deleted successfully, and a confirmation message is displayed.

Note:
- All financing flows can be deleted at once using the Remove All button under Graphical Flow.
- Financing flows that are removed using the above option cannot be restored.

4.11.3.9 Adding a connection for financing flows

Connections in HAPT indicate the direction of data flow. They show how data flow from one classification to another.
Users need to add financing flow blocks before connecting them together. To add financing flow blocks, see Adding a financing flow. To connect different financing flow blocks, follow the steps below.

1. Under **Graphical Flow**, click on the (_people_20) icon from the source financing flow block.

   The outline of the (_people_20) icon turns red, indicating that it is selected.

   ![Figure 151. Selecting connection](image)

2. Click on the destination financing flow block to be connected to.
Figure 152. Selecting destination financing flow block

A blue arrow is displayed, indicating that the connection is successfully established between the two financing flow blocks.

Figure 153. Displaying connection between two financing flow blocks
4.11.3.10 **Deleting a connection between financing flow blocks**

To delete a connection between financing flow blocks, follow the steps below.

1. Under **Graphical Flow**, hover over the connecting arrow of the connection to be deleted.

   The blue arrow turns orange in colour, and the **Remove** option is displayed.

2. Click **Remove**.

   ![Figure 154. Selecting “Remove”](image)

   A message to confirm the action is displayed.

3. To confirm, click **YES**.

4.11.3.11 **Importing Preparation sub-module information from a previous study**

This feature allows users to import the policy questions and the graphical flow from a previously created study when the financing flow is similar for the current year under consideration. Importing from a previous HA study saves time. Users can select the data to import from the previous study. Only a TL can use this feature. To import from a previous HA study, follow the steps below.

To open the study, see [Opening an existing study](#).

1. Under **STUDY SETUP**, click **Preparation Module**.
The Preparation sub-module is displayed.

2. Under **Graphical Flow**, click **Import Previous HA**.

The **Import Previous HA** form is displayed.

3. Enter the details in the respective fields, and then click **RE-USE**.

A message to confirm the action is displayed.
4. To confirm, click **YES**.

The selected data from the existing study are imported, and a confirmation message is displayed.

Table 15 shows the fields in the **Import Previous HA** form.

**Table 15. Fields in “Import Previous HA” form**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy Question</td>
<td>Used to import policy questions from a previous study.</td>
</tr>
<tr>
<td>Graphical flow</td>
<td>Used to import graphical flow from a previous study. To view the graphical flow, see Depicting data graphically.</td>
</tr>
<tr>
<td>Both</td>
<td>Used to import both policy questions and graphical flow from a previous study.</td>
</tr>
<tr>
<td>Year</td>
<td>Used to select the year of the study from which data are to be imported.</td>
</tr>
<tr>
<td>Study</td>
<td>Used to select the previous study for a selected year to import information.</td>
</tr>
</tbody>
</table>

### 4.12 Data Collection module

The next step of study creation in HAPT is data collection. Collecting data refers to gathering information to perform mapping and HA analysis. Data can be collected from different data sources. In HAPT, two types of data can be used: data from survey and secondary data.

**Survey** data are shared by donors, NGOs, employers, insurance companies and providers. HAPT has a predefined survey template, which is circulated to the data sources to collect data.

**Secondary data** are collected for purposes other than HA but can be used for producing HA. In HAPT, secondary data are imported from an Excel file.

Data are also collected from government agencies and households. Household data are collected separately, and row-level information is inserted in HAPT. Row-level information is an actual figure of health expenditure. Users can either import secondary data or insert figures manually.

- 100 data rows can be inserted manually.
- The maximum number of rows of data that can be imported from Excel is 200,000.
- TL can modify details for all data source types. TM can modify details if they are assigned the particular data source type.

### 4.12.1 Data Sources sub-module

Data sources are the entities that hold information related to the study. In HAPT, eight types of entities are available:

- donor
• NGO
• employer
• insurance
• government
• household
• provider
• miscellaneous

TL can modify details for all data source types. TM can modify details if they are assigned the particular data source type.

4.12.1.1 Adding data sources

The first step in collecting HA data is to create an exhaustive list of all organizations within a given data source type. An entity can be added in one of three ways.

• Use the ADD button and enter information into the pop-up window manually.
• Import data from an Excel file.
• Import a list from a previous HA study.

4.12.1.2 Adding data sources manually

1. Choose DATA COLLECTION.

Figure 158. “DATA COLLECTION” option

The Data Collection module is displayed. Users can navigate between different data source types by clicking on the required label. For example, they can click on NGO and then work on this data source type.

Figure 159. Data Collection module
Table 16 shows the fields and buttons in the Data Collection module.

Table 16. Fields and buttons in Data Collection module

<table>
<thead>
<tr>
<th>Field/button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edit Survey Labels</td>
<td>Used to edit the survey labels. Survey is a data collection method that is filled in by the user.</td>
</tr>
<tr>
<td>Double Count</td>
<td>Eliminates double-counted expenditure between donors and NGOs.</td>
</tr>
<tr>
<td>Import Data</td>
<td>Allows import of data using an Excel file for data sources for which data are available.</td>
</tr>
<tr>
<td>Add new data source</td>
<td>Used to add new data collection source.</td>
</tr>
</tbody>
</table>

2. Choose a data source type and click Add new data source.

3. Select data source parameters, and then click ADD.

Table 17 shows the fields and buttons in the Add new data source screen.
Table 17. Fields and buttons in “Add new data source” screen

<table>
<thead>
<tr>
<th>Field/button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Source</td>
<td>Used to enter data source name.</td>
</tr>
<tr>
<td>Contact Name</td>
<td>Used to enter name of the contact person.</td>
</tr>
<tr>
<td>Email Address</td>
<td>Used to enter email address of the person.</td>
</tr>
<tr>
<td>Contact Number</td>
<td>Used to enter contact number for the person.</td>
</tr>
<tr>
<td>Data Type</td>
<td>Used to select data type as <strong>Actual</strong> or <strong>Budget</strong>.</td>
</tr>
<tr>
<td>Data Collection Method</td>
<td>Used to select data collection method: <strong>Survey</strong>, <strong>Secondary</strong> or <strong>No Data</strong>.</td>
</tr>
<tr>
<td>Comments</td>
<td>Used to enter comments.</td>
</tr>
</tbody>
</table>

The data source is added successfully.

**Note:** The data source types government, miscellaneous and household do not have a choice between survey and secondary data.

### 4.12.1.3 Importing a data source list from Excel

A data source list can be imported as an Excel file from a user’s system. The data source is imported in the .xlsx file format.

1. In the Data Collection module, click ( ) at the top right corner.
2. Click **Import from excel**.

![Import from excel](image)

**Figure 162. Importing data source from Excel**

The **Import Data sources** screen is displayed.
Table 18. Fields and buttons in “Import Data sources” screen

<table>
<thead>
<tr>
<th>Field/button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>File name</td>
<td>Used to upload data source file to be imported.</td>
</tr>
<tr>
<td>Excel sheet</td>
<td>Used to select Excel sheet to be imported.</td>
</tr>
<tr>
<td>Data source type</td>
<td>Used to select the data source type from the list.</td>
</tr>
<tr>
<td>Reset Binding</td>
<td>Used to reset the binding.</td>
</tr>
</tbody>
</table>

3. To import a file, click CHOOSE FILE.

4. Select the required Excel file from the Windows browser, and then click Open.

5. Select the Excel sheet from the drop-down list.
6. Select the data source type from the drop-down list.

**Note:**

If a user has more than one sheet in the selected Excel file, this step selects any one sheet that needs to be imported.

If the headers in the Excel file are exactly the same as those in HAPT, the columns will automatically bind. Where headers do not match, users can manually bind the columns.

The following columns are mandatory to import data sources information to the tool from Excel: data source, data type and data collection method (depending on the data source type selected). Others variables are optional.

The data columns are populated and are bound with the tool.
Figure 167. Populated data columns

Once columns are bound with the respective fields, a tick mark is shown in the right grid in the **Binding** column.

Figure 168. Columns with binding

If the data source type has already imported data sources, it will show a confirmation message.

Figure 169. Confirmation for importing data source

7. Click **IMPORT**.
Note: Excel file may have the following columns: “Data source”, “Contact name”, “Email address”, “Contact number”, “Data type” and “Data collection method”.

After successfully importing the data source(s), the screen shows the status of the file, including the total count of data sources that have been successfully imported and data sources that have not been imported because of an error.

Import of data sources may fail for various reasons. The data source may not be imported because of:

- duplicate name
- missing data source name
- missing or incorrect data type (actual or budget)
- missing or incorrect data collection method (survey, secondary or no data).

4.12.1.4 Importing a data source list from a previous HA study

The data sources available in an existing study can be imported. To import data sources from a study, follow the steps below.

1. In the Data Collection module, click ( ) at the top right corner.

2. Click Import from study.

The Import data source form is displayed.

3. Select the study and data source types to import, and then click IMPORT.
4.12.1.5 Editing a data source

To edit a data source, follow the steps below.

1. Click the ellipsis (…) corresponding to the required data source.

2. Click Edit.

3. Edit the data source details in the respective fields, and then click SAVE.
4.12.1.6 **Duplicating a data source**

Data sources available in the study can be duplicated. By duplicating the data source, users can use the same information in another data source. To duplicate a data source, follow the steps below.

1. Click the ellipsis (…) corresponding to the required data source.

2. Click **Duplicate**.

3. Enter the duplicate data source details in the respective fields, and then click **DUPLICATE**.

---

The **Duplicate Data Source** form is displayed.
4.12.1.7 Deleting a data source

Deleting a data source deletes the data source along with the data rows belonging to that source. To delete the data source, follow the steps below.

1. Click the ellipsis (⋮) corresponding to the data source to be deleted.

2. Click Delete Source.
A message to confirm the action is displayed.

3. To confirm, click **YES**.

The data source is deleted, and a confirmation message is displayed.

4. Once deletion is completed, the user will receive a confirmation asking them to reload the screen. Upon reloading, the new data are displayed.

![Confirmation of Data Source Deletion](image1.png)

**Figure 178. Confirmation that data source deletion is complete**

More details are shown in the notification message for deletion of data sources.

![Notification for Data Source Deletion](image2.png)

**Figure 179. Notification that data source deletion has started**
Both start and complete notifications contain the details of the delete operation: data source name, data source type and the study for which the deletion is performed. They also contain the username, and the date and time the operation is performed.

4.12.1.8 Assigning a Team Member to a data source type

TL can assign permissions to TM for editing data of different data source types. To assign a TM to a data source type, follow the steps below.

Pre-conditions are that:

- the TM is assign to the country
- the study has been created.

1. Open the DATA COLLECTION screen.

2. Click on any data source type (e.g. Donor).

3. Click on the drop-down list for the field Assign to. This list shows the TMs who have countries assigned as current studies.

4. Select a user from the list.
Once assigned, a success message is shown on screen. The TM can now work on the assigned data source type.

- Only one TM can be assigned to a data source type. But a TM can be assigned to multiple data source types.
- A TM can access a data source type only after they have been assigned to that data source type.
- TM can work on the assigned data source types by adding, editing, updating and deleting. TM can access and work on mapping only for the assigned data source types.

Note:
• If a TM is not assigned to any data source type, they can view other data source types but cannot take action or make any changes to the data.

• If the TM user does not have a data source type assigned, they receive a message and cannot perform any operations for that data source type.

Figure 184. No user assigned to data source type

4.12.2 Survey

Survey is primary information that is collected from donors, NGOs, employers, providers and insurance companies. It eases mapping of financial information with SHA 2011 categories. HAPT has predefined survey templates with questions, and the survey link can be sent to contact people at data sources. The data source/respondent completes the survey and submits the response to HAPT. The survey templates are different for different data source types.

The survey questions for all data source types can be edited to make them more suitable to the particular country situation, but the meaning of the question may not be changed, as answers are directly linked to mapping codes.

- A survey is to be completed for one year only.

- To complete the survey, the data source must have “Survey” as the data collection method.

- TL can modify survey labels for all data source types. TMs can modify the survey template if they are assigned the particular data source type.

4.12.2.1 Editing survey labels

Survey labels can be edited by the HA team for a specific data source type (e.g. NGO, donor), so that the survey can be better understood by respondents.
• No questions can be added or deleted for a survey.

Note:
• Users can edit only the question labels and tool tip for the question.
• Survey labels are non-editable once the survey is shared with a data source or the user has completed it.

To edit the template, follow the steps below.

1. Click the data source type for which the survey label will be edited.

2. Click Edit Survey Labels.

![Figure 185. Editing survey label](image)

The Edit Survey Labels screen is displayed.

3. Enter the required edit details, and then click SAVE.

![Figure 186. “Edit Survey Labels” screen](image)

4.12.2.2 Sharing survey link with respondents

Survey links are shared only with those data sources for which users have marked survey as their data collection method. To share the survey link, follow the steps below.

1. Click the ellipsis (…) corresponding to the related data sources.

2. Click Share Survey Link.
3. Select the language from the drop-down list, and then click **SHARE**.

- The default sharing survey language is English.
- Sharing the survey link opens the default mailer if any is set on the user’s computer.
- Users can also use the “Copy URL” feature to copy the survey link and paste it into the mailer.

### 4.12.2.3 Completing survey by user

Users can complete the survey on behalf of a data source, if they have has required data. To complete the survey, follow the steps below.

1. Click the ellipsis ( .. ) corresponding to the data source whose survey is to be completed.
2. Click Fill Survey.

![Figure 189. “Fill Survey” option](image)

The Fill Survey screen is displayed.

3. Click LET’S BEGIN.

![Figure 190. “Fill Survey” screen](image)

4. Enter the required parameters, and then click NEXT.

![Figure 191. Completing survey](image)

- All mandatory survey questions must be answered.

**Note:**
- The response is automatically saved on clicking NEXT and also on clicking SAVE.
• For some questions, a hint is available in the form of a tool tip.
• Users can still complete and edit a survey even if the response has been received. The options below are shown when both TL/TM and respondent have filled out the survey and submitted it. Users have the option of selecting which survey they want to complete, edit or view.

![Figure 192. Editing completed survey](image)

5. After completing the survey, click **FINISH**.

![Figure 193. Finishing survey](image)

The survey is saved, and a confirmation message is displayed.

### 4.12.2.4 Completing survey offline

This feature allows users to complete the survey offline and submit the response to the HA team. It is designed especially to help users who do not have a stable internet connection. A survey link is shared, using the registered email address, with data sources to gather the data. An internet connection is needed to download the survey. To complete a survey offline using the survey link, follow the steps below.

1. Open the survey link sent to the registered email address.

**Note:** When the survey link is opened, a message to download the survey is displayed.
2. To download the survey, click ( ) at the top right corner on the survey page.

The blank survey is automatically downloaded.

![Image of downloading .zip folder of survey]

Figure 194. Downloading .zip folder of survey

3. Unzip the Survey folder and open it.

The files related to the survey are displayed.

4. Double click survey-WHO to open the survey.

Users can complete the survey offline.

![Image of opening survey folder]

Figure 195. Opening survey folder

5. Enter the answers in the survey, and click SAVE.

The file with the answers is saved on the computer.
6. To reopen the survey, click on survey-WHO file again.

7. To load the answers from the file previously saved on the computer, click CHOOSE FILE.

8. Select the file from the computer, and click LOAD SAVED ANSWERS.

Previously saved answers are loaded into the survey.

9. Repeat steps 6–8 if the survey will not be completed in a single session.

10. Click FINISH once the survey is completed.
Figure 199. Submitting survey

Users can share the folder along with the survey answer file with any other user by email. Users need to follow the same procedure for submitting answers.

Note:
- An internet connection is needed for downloading and submitting the survey.
- If Users do not have internet connection while submitting the survey, an error message is displayed.

4.12.2.5 Finalizing survey

Finalizing a survey is required for the creation of the data rows. The survey is finalized only after successful submission of the survey response. Whenever a user edits the survey, it needs to be finalized, to reflect the edits in calculation of data rows.

To finalize a survey, follow the steps below.

1. In the Data Collection module, select the data source type for which the survey is to be finalized.

Figure 200. Selecting data source type
2. Click the ellipsis (⋮) corresponding to the data source whose survey is to be finalized.

3. Click **Finalize Survey**.

![Figure 201. Selecting “Finalize Survey”](image.png)

The **Finalize Survey** screen is displayed.

4. Click **FINALIZE**.

The survey is finalized, and a confirmation message is displayed.

Repeat the above process every time the survey is edited.

---

**Note:**

- Users can finalize surveys of their own responses.
- Users can finalize surveys of data sources when the response is received.
- The options below are shown when both TL/TM and the data source have submitted the survey. Users have the option of selecting which survey they want to finalize.
- Users can view and edit survey responses even after finalizing the survey by following the same steps as for completing a survey.
4.12.3 Manual data entry

There are different ways to collect data. One is to manually create a data row. Rows present within the data sources are referred to as data rows. Data rows can be created for the following actors only:

- government
- household
- miscellaneous.

The purpose of creating data rows is to manually update and edit health study data. Users can create and edit bulk data rows and manually update health studies. Users can add up to 100 data rows manually for the selected data source.

4.12.3.1 Adding a data row

This option adds single or multiple data rows for the data source types government, household and miscellaneous. Users cannot add manual data rows for other data source types (donor, NGO, employer, insurance, provider). This enables the user to directly add HA expenditure instead of surveying and importing an Excel file (if the expenditure is known).

To add a data row for government and miscellaneous data source types, follow the steps below.

1. To open the study for which a new data row is to be added, refer to steps 1–4 of Opening an existing study.

2. In STUDY, choose Data Collection.
3. Choose the data source type from either government or miscellaneous.

4. Choose the data source to which the data row will be added.

5. Click the ellipsis ( ) for the data source, and click View Data Rows.

![Figure 203. Viewing data rows](image)

6. Click Add New Data Row.

![Figure 204. Adding new data row](image)

The Add New Data Row form is displayed.

![Figure 205. “Add New Data Row” form (government)](image)
7. Enter the data row details in the respective fields, and then click **ADD**.

The new data row is added successfully.

To add data rows for the household data source type, follow the steps below.

1. Click **Household**.

2. Click **Add New Data Row**.

   The **Add New Data Row** form is displayed.

3. Enter the data row details in the respective fields, and then click **ADD**.
The new data row is added successfully.

- The default number of data rows is 1. Users can add multiple data rows having the same expenditure and other details at once.
- Users can add a maximum of 100 rows when creating data rows manually.

Table 19 shows the fields in the **Add New Data Row** form.

**Table 19. Fields in “Add New Data Row” form**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Data Rows</td>
<td>Used to enter number of data rows to be added.</td>
</tr>
<tr>
<td>Budget Line Code</td>
<td>Used to enter budget line code.</td>
</tr>
<tr>
<td>Expenditure Amount</td>
<td>Used to enter amount of expenditure on a particular disease.</td>
</tr>
<tr>
<td>Currency</td>
<td>Used to select the currency for the data row.</td>
</tr>
<tr>
<td>ICD Category</td>
<td>Used to select ICD category.</td>
</tr>
<tr>
<td>ICD Sub-Category</td>
<td>Used to select ICD subcategory. This and previous features are needed for automatic crosswalk from ICD codes to ICHA-DIS codes. To view the crosswalk from ICD-10 codes to DIS mapping, see the file “ICD-10 to DIS mapping” under Help &gt; Documents. See <a href="#">Help</a> for further details.</td>
</tr>
<tr>
<td>Field</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>ISIC Code</td>
<td>Used to select ISIC (International Standard Industrial Classification of All Economic Activities) code, if used in the data. ISIC is an international reference classification of economic activities. Similar to ICD mapping, ISIC mapping minimizes the user’s work in implementing automatic crosswalk from ISIC codes to healthcare providers (ICHA-HP) codes. To view the crosswalk, see the file “ISIC to HP mapping” under Help &gt; Documents. See Help for further details.</td>
</tr>
<tr>
<td>Contact Number</td>
<td>Used to enter contact number of the organization/contact person.</td>
</tr>
<tr>
<td>Contact Name</td>
<td>Used to enter name of the person in the organization.</td>
</tr>
<tr>
<td>Email Address</td>
<td>Used to enter email address of the person in the organization.</td>
</tr>
<tr>
<td>Comments</td>
<td>Used to add comments about the newly added data row.</td>
</tr>
<tr>
<td>Descriptive Information 1–5</td>
<td>Used to add descriptive information, which can help to map the data. Five descriptive information fields can be used.</td>
</tr>
</tbody>
</table>

4.12.3.2 Editing a data row

This feature allows manual editing of health study data rows. Multiple data rows can be edited manually. To edit a data row, follow the steps below.

1. Click the ellipsis ( ) corresponding to the data row to be edited.

2. Click Edit.

![Figure 208. Editing data row](image)

The Edit Data Row form is displayed.

3. Enter the required edit details, and then click SAVE.
4.12.3.3 Deleting a data row

This feature allows deletion of health study data rows. To delete a data row, follow the steps below.

1. Click the ellipsis (⋮) corresponding to the data row to be deleted.

2. Click Delete.
A message to confirm the action is displayed.

3. To confirm, click **YES**.

The data row is deleted, and a confirmation message is displayed.

4. Once deletion is completed, a message in a dialog box will ask for the page to be reloaded. Upon reloading, the table data are displayed.

More details are shown in the notification message for deletion of data rows.
Both the start and complete notifications contain details of the delete data operation performed: data source name, data source type, study for which data rows are deleted, username, and date and time of the operation.

4.12.3.4 Restoring previous version

This feature allows restoration of the previous version of a data row that has been edited. To restore a data row to the previous version, follow the steps below.

1. Click the ellipsis (three dots) corresponding to the data row to be restored to the previous version.

2. Click Restore previous version.
3. Click **SELECT TO RESTORE** corresponding to the version to be restored.

![Figure 214. Restoring previous version](image)

The **Restore Previous Version** screen is displayed.

The previous version is restored successfully.

### 4.12.3.5 Deleting data for donor, NGO, employer, insurance and provider data source types

**Note:** Deleting data will not delete the data source.

To delete the data, follow the steps below.

1. Click the ellipsis (⋮) corresponding to the data source for which data are to be deleted.

2. Click **Delete Data**.
Figure 216. Deleting data

A message to confirm the action is displayed.

3. To confirm, click **YES**.

The data row is deleted, and a confirmation message is displayed.

4.12.4 Importing secondary data

This feature allows users to import data using an Excel file (.xlsx or .xls format) for data sources for which data are available – that is, secondary data. The year of the selected study is shown by default. If data are available for other years, these studies can also be imported. Users can import 200 000 rows from Excel. To import secondary data, follow the steps below.

1. In the Data Collection module, click **Import Data**.

   ![Figure 217. Importing secondary data](image)

The **Import Data** form is displayed.

2. Bind the required details with the respective fields, and then click **IMPORT**. Once columns are bound with respective fields, a tick mark is shown in the right grid in the **Binding** column.
Figure 218. “Import Data” form

A message that import has started is shown. Additional details are shown in a notification message.

Figure 219. Notification that data import has started

Once data import is completed, the user is notified. Additional information about the import can be viewed in the Notification section.

Figure 220. Notification that data import is completed
Notifications contain details of the import secondary data operation, including study name, country, data source type and year. The import data complete notification also includes the total number of rows, number of rows imported and not imported, and error messages. It also shows by whom and when the import data operation was performed.

Table 20 shows the fields in the Import Data form.

**Table 20. Fields in “Import Data” form**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>File name</td>
<td>Used to choose a secondary data file from the user’s system.</td>
</tr>
<tr>
<td>Excel sheet</td>
<td>Used to select a single Excel sheet from the imported file.</td>
</tr>
<tr>
<td>Year</td>
<td>Shows year of selected study by default. If data are available for other years, users can import these studies as well.</td>
</tr>
<tr>
<td>Study</td>
<td>Shows the selected study. Data for other studies can be imported by selecting another study and following the same steps as for importing data in the current study.</td>
</tr>
<tr>
<td>Save binding for future use</td>
<td>Used to save the column binding for future use. Users can select No if they do not want to save the binding.</td>
</tr>
<tr>
<td>Reset Binding</td>
<td>Used to reset the column binding.</td>
</tr>
<tr>
<td>Static Value</td>
<td>Allows static values across data rows when data are entered in this column. The data entered will be applied to all data rows of the Excel sheet. For example, if the user enters a static value for budget line code as 10101, all rows will have budget line code as 10101. If the user inputs a static value, a tick mark is not shown in the Binding column (see Figure 218. “Import Data” form for further information).</td>
</tr>
</tbody>
</table>

Users can import data rows for multiple data sources in a single Excel file by binding the data source column. The Excel file should have a column for data source name.

**Example Excel template used in application:**

![Figure 221. Example of Excel sheet for import of data](image)

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Users can add data rows for existing data sources. To select an existing data source, click the drop-down list and select the required data source. All data rows in the file will belong to the selected data source from the drop-down list.

![Figure 222. Adding data row to existing data source](image)

Users can create a data source while importing a secondary data sheet. To add a new data source, enter its name in the **Static Value** column and click **Create**. All data rows in the file will belong to this data source.

![Figure 223. Creating data source while importing](image)

- Several formats of currency can be used: currency(code), (code), currency - (code), currency/(code), currency\(\text{code}\) – for example, Australian dollar (AUD), (AUD), Australian dollar - (AUD), Australian dollar/(AUD), Australian dollar\(\text{AUD}\).

- For classification categories, only category codes are used, without classification and names – for example, to import FS.1.1 only, input 1.1 in Excel table column (see example screenshot below).
Figure 224. Example of classification category in Excel

A data row may not be imported for various reasons, including:

- ICD subcategory does not exist
- ICD category does not exist
- ISIC code does not exist
- incorrect classification code – category does not exist or levels for mapping not matched
- quality check error
- data source is not marked as secondary
- data source contains invalid characters or exceeds maximum length limit
- data source is missing
- currency is not found
- amount is missing.
4.12.5 Identifying double-counting

Identifying double-count is an important step in data processing. Without this step, the level of health expenditure is elevated, which results in incorrect analysis of health expenditure.

TL can check double-counting between donor and NGO data sources. To identify the incidence of double-count, users need to decide which expenditures are to be excluded. All expenditures are included by default.

For example, assume that Donor A reports giving $100 to NGO B, and that NGO B reports spending $80 on the same project funded by Donor A. The total spending on the project is $180, based on data collected from Donor A and NGO B. That is, the expenditure for one event is counted twice, resulting in an elevated value for expenditure. Checking for double-count involves comparing the donor and NGO expenditure details to exclude the expenditure that is double-counted.

Note:
- The double-count button appears when the user creates a data source.
- Checking for double-count should be performed only after importing the data for both data source types (donor and NGO).

To identify double-count, follow the steps below.

1. In the Data Collection module, click **Double Count**.

   ![Figure 225. Selecting “Double Count”](image)

   The **Double Counting/Donor and NGO** screen is displayed.

2. Click **OK**.

   The screen for performing double-count check is displayed.
Figure 226. Identifying double-count

Table 21 shows the fields in the **Double Counting/Donor and NGO** screen.

**Table 21. Fields in “Double Counting/Donor and NGO” screen**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments</td>
<td>Used to add and edit comments about comparison between expenditures of donor and NGO.</td>
</tr>
<tr>
<td>Donor Data source</td>
<td>Used to select data source for donor from the data source list.</td>
</tr>
<tr>
<td>NGO Data source</td>
<td>Used to select data source for NGO from the data source list.</td>
</tr>
<tr>
<td>Comments for Donor</td>
<td>Used to add and edit comments for performing double-count check for donor.</td>
</tr>
<tr>
<td>Comments for NGO</td>
<td>Used to add and edit comments for performing double-count check for NGO.</td>
</tr>
</tbody>
</table>

3. Select data source for donor from the drop-down list.

Figure 227. Selecting donor data source

4. Select data source for NGO from the drop-down list.
The record for donor and NGO data is displayed.

5. To exclude an expenditure, select the checkbox corresponding to the expenditure and click *Exclude*.

- An entire list of expenditures can be excluded by selecting all.

**Note:**
- When the user clicks *Exclude*, the selected expenditures are excluded, and the included expenditures are displayed.

Continue this process for all needed combinations of donors and NGOs.
4.12.6 Data weighting

Country health expenditure data can be collected from various data sources. The data should be collected from all data sources under different data source types (NGO, employers, insurance, providers) using survey or an Excel file. These data are then used to calculate health expenditure for a country for a year. If the data are available from only some of the data sources, the data should be extrapolated from an available data subset. TL and TM can perform data weighting (provided that the TM has been assigned the particular data source type).

The weighted amount can be seen on the Mapping screen.

Weighting helps users to estimate health expenditure based on assumptions. Three approaches can be used for weighting in HAPT.

- One approach requires that similar institutions spend similar amounts (e.g. employers belonging to the same sector of the economy, NGOs (depending on their size – small, medium, large)).
- The second approach categorizes data sources by additional available information (e.g. number of employees in case of employer, health spending amount for NGO).
- The third approach is weighting manually. Weights are applied manually for four data source types (NGO, employer, insurance and provider).

Weighting can also be used to correct for data missing as a result of survey non-responses. By grouping similar entities together or by applying averages that are based on survey data, weighting can help teams estimate total expenditure using available data based on articulated and reasonable assumptions.

Table 22. Overview of available weighting methods in HAPT

<table>
<thead>
<tr>
<th>Data source type</th>
<th>Weighting method</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NGO</td>
<td>By number of NGOs</td>
<td>Estimates the missing health expenditure of NGOs by calculating and applying a weighting factor based on the number of NGOs in the country (known by the user), without any expenditure data, and the number of NGOs for which expenditure data are available from primary/secondary data. Different weighting factors can be applied to different groups of NGOs, based on similar characteristics (e.g. size, level of activity). See Weighting data by number of NGOs.</td>
</tr>
<tr>
<td></td>
<td>By health spending</td>
<td>Calculates and applies a weighting factor based on the total health expenditure of missing NGOs (e.g. the total health expenditure of NGOs without primary or secondary expenditure data is known by the user). The amount of expenditure of missing NGOs is redistributed to NGO health expenditure</td>
</tr>
<tr>
<td>Data source type</td>
<td>Weighting method</td>
<td>Description</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Manual</td>
<td>For estimating missing NGOs’ expenditure data, users can use their own weighting factors (previously calculated outside HAPT) and apply manual weighting to the existing NGO expenditure data. See Weighting manually.</td>
<td></td>
</tr>
<tr>
<td>Employer</td>
<td>By number of employers</td>
<td>Estimates the missing health expenditure of employers by calculating and applying a weighting factor based on the number of employers (e.g. enterprises, non-profit institutions), known by the user, without any expenditure data, and the number of employers for which expenditure data are available from primary/secondary data. Different weighting factors can be applied to different groups of employers, based on the type of activity (e.g. agriculture, transport). See Weighting data by number of employers.</td>
</tr>
<tr>
<td></td>
<td>By number of employees</td>
<td>Estimates the missing health expenditure of employers by calculating and applying a weighting factor based on the number of employees (known by the user) in employers without any expenditure data, and the number of employees in employers for which expenditure data are available from primary/secondary data. Different weighting factors can be applied to different groups of employers, based on the type of activity (e.g. agriculture, transport). See Weighting data by number of employees.</td>
</tr>
<tr>
<td>Manual</td>
<td>For estimating missing employers’ expenditure data, users can use their own weighting factors (previously calculated outside HAPT) and apply manual weighting to the existing employers’ expenditure data. See Weighting manually.</td>
<td></td>
</tr>
<tr>
<td>Insurance</td>
<td>By number of insurance companies</td>
<td>Estimates the missing health expenditure of insurance companies by calculating and applying a weighting factor based on the number of insurance companies (known by the user), without any expenditure data, and the number of insurance companies available from primary/secondary data (with the possibility of redistributing the expenditure by groups of NGOs, based on similar characteristics, such as the main activity). See Weighting data by health spending.</td>
</tr>
<tr>
<td>Data source type</td>
<td>Weighting method</td>
<td>Description</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Companies for which expenditure data are available from primary/secondary data. Different weighting factors can be applied to different groups of insurance companies, based on similar characteristics (e.g. size, level of activity). See <a href="#">Weighting data by number of insurance companies</a>.</td>
</tr>
<tr>
<td></td>
<td>By number of individuals covered by health insurance</td>
<td>Estimates the missing health expenditure of insurance companies by calculating and applying a weighting factor based on the number of people covered by health insurance (known by the user), without any expenditure data, and the number of people covered by insurance companies for which expenditure data are available from primary/secondary data. Different weighting factors can be applied to different groups of insurance companies, based on similar characteristics (e.g. type of insurance). See <a href="#">Weighting data by number of individuals covered by health insurance</a>.</td>
</tr>
<tr>
<td></td>
<td>Manual</td>
<td>For estimating missing insurance companies’ expenditure data, users can use their own weighting factors (previously calculated outside HAPT) and apply manual weighting to the existing insurance companies’ expenditure data. See <a href="#">Weighting manually</a>.</td>
</tr>
<tr>
<td>Provider</td>
<td>By health spending</td>
<td>Calculates and applies a weighting factor based on the total health expenditure of missing healthcare providers (e.g. the total health expenditure of providers without primary or secondary expenditure data is known by the user). The expenditure of missing providers is redistributed to providers’ health expenditure available from primary/secondary data (with the possibility of redistributing the expenditure by groups of providers, based on similar characteristics, such as the main activity). See <a href="#">Weighting data by health spending</a>.</td>
</tr>
<tr>
<td></td>
<td>Manual</td>
<td>For estimating missing providers’ expenditure data, users can use their own weighting factors (previously calculated outside HAPT) and apply manual weighting to the existing providers’ expenditure data. See <a href="#">Weighting manually</a>.</td>
</tr>
</tbody>
</table>
Note:

- The tool uses the same weighting methods for all data source types except employers.
- For employers, data sources are grouped according to sector of the economy. Other data source types are grouped by expenditure amounts.

4.12.6.1 Weighting NGO data

Weighting data by number of NGOs

Weighting of NGO data involves categorizing NGOs by groups. This is done by grouping NGOs – for example, by size (small, medium, large), local versus international, number of projects or type of activity. Each group is assigned a number. To apply weight by number of NGOs, follow the steps below.

1. In the Data Collection module, choose the NGO sub-module.

![Figure 230. Selecting NGO data source type](image)

The NGO screen is displayed.

2. Click Weighting.

![Figure 231. Opening “Weighting”](image)

The Weighting screen is displayed.

3. Select the Yes checkbox to apply weighting.
4. Select Weight by number of NGO from the Weighting Method drop-down list.

5. Enter number of groups.

6. Assign each data source (NGO) to a group according to its characteristics, and then click Save.
Note:
- All amounts are shown in the default currency.
- The number of groups is determined by the user for all weighting methods.
- Users should decide how to group data sources before applying weights.
- It is important to save the grouping of data sources before applying weighting logic.

Table 23 shows the fields in the NGO weighting screen.

Table 23. Fields in weighting screen

<table>
<thead>
<tr>
<th>Field name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apply Weighting</td>
<td>Used to select the weighting option. Users can start weighting only after selecting the Yes checkbox.</td>
</tr>
<tr>
<td>Weighting Method</td>
<td>Used to select the weighting method from the list.</td>
</tr>
<tr>
<td>No. of Groups</td>
<td>Used to enter the number of groups into which NGOs are categorized.</td>
</tr>
<tr>
<td>Data Source</td>
<td>Displays the list of data sources.</td>
</tr>
<tr>
<td>Amount</td>
<td>Used to add and edit comments for performing double-count check for NGOs.</td>
</tr>
<tr>
<td>Group</td>
<td>Used to enter the group to which the data sources in the list are assigned.</td>
</tr>
<tr>
<td>Weighted Amount</td>
<td>Displays the weighted amount after applying the weighting.</td>
</tr>
</tbody>
</table>

7. Click **Apply** to apply the weighting logic.
The weighted amount is displayed.

**Weighting calculation logic**

The data sources are categorized into groups before weighting, and a weight is calculated for each group.

\[
\text{Weight} = \frac{\text{Total number of data sources in the group}}{\text{Number of data sources that provided data}}
\]

Example: For group 2, the weight is 4/3 because data are available for only one data source among all four data sources.

After calculating the weight, weighting logic is applied to each data source to calculate weighted expenditure.

\[
\text{Weighted amount} = \text{expenditure amount} \times \text{weight}
\]

Example: For selected data source in group 2, the weighted amount is 882 * 4/3 = 1176.
Weighting data by health spending

This method allows weighting of expenditure for missing categories based on available total health spending data for NGOs with missing categories and complete data from other NGOs. This weighting method is based on an assumption that similar NGOs (e.g. of similar size) behave in similar ways and have similar distribution of expenditures.

Note: Users can manually enter health spending data for data sources with the missing categories.

Weighting of NGO data involves categorizing NGOs by groups. This is done by grouping NGOs – for example, by size (small, medium, large), local versus international, number of projects or type of activity. Each group is assigned a number. To apply weight by health spending, follow the steps below.

To open the weighting screen, see steps 1–4 of Weighting data by number of NGOs.

1. Select Weight by Health Spending from the Weighting Method drop-down list.

2. Enter the number of groups.
3. Users can add the amount for the data sources when no amount is available from secondary data or survey.

4. After entering the amount for data sources for the same group, click **Save**.

5. Click **Apply** to apply the weighting logic.

The weighted amount is displayed.

**Weighting calculation logic**

The data sources are merged in different groups before applying weighting logic, and a weight is calculated for each group.
Weight

Example: For group 2, weight is (amount for NGO B + amount for NGO C + amount for NGO D + amount for NGO A (input by user) / (amount for NGO B + amount for NGO C + amount for NGO D) = 2374/2052 = 1.1569

Weight is = (882 + 468 + 702 + 322) / (882 + 468 + 702) = 2374/2052 = 1.1569
• 882 * 1.1569 = 1020.404
• 468 * 1.1569 = 541.439
• 702 * 1.1569 = 812.158

After calculating the weight, weighting logic is applied to each data source to calculate weighted expenditure.

Weighted amount = expenditure amount * Weighting factor

Total amount collected by survey
Secondary source

Figure 243. Displaying weighted amount

Weighting manually

Depending on the experience and calculation capabilities of the country, users may already calculate outside the tool and know the weight to be applied. Therefore, the weighting or application of the weight could be done manually in the tool. Follow the steps below.

To open the weighting screen, see steps 1–4 of Weighting data by number of NGOs.

1. Select Weight manually from the Weighting Method drop-down list.
2. Enter weighting factors in respective data sources.

3. Click **Save**.

4. Click **Apply** to apply the weighting logic.

The weighted amount is displayed.

**Weighting calculation logic**

Users input weights against each data source for which data are available. For example, the weights are 2 for NGO B, 3 for NGO C and 5 for NGO D.
Therefore, the weighted amounts are:

- NGO B, 882 * 2 = 1,764
- NGO C, 468 * 3 = 1,404
- NGO D, 702 * 5 = 3,510.

**Figure 248. Displaying weighted amount**

Note: The weight can be different for different data sources.

### 4.12.6.2 Weighting employer data

Employers are grouped based on the sector of economy to which they belong, and weighting is calculated. It is assumed that enterprises within the same sector allocate health resources similarly.

**Weighting data by number of employers**

Using the number of employers, weighting is calculated by grouping data sources by sectors of the economy. The weight is calculated as follows.

\[
\text{Weight} = \frac{\text{Total number of data sources in the group}}{\text{Number of data sources for which data are received}}
\]

Table 24 shows the calculation of weighted expenditure for the number of employers.

**Table 24. Weighted expenditure for number of employers**

<table>
<thead>
<tr>
<th>Data source</th>
<th>Amount</th>
<th>Industry type</th>
<th>Weighted expenditure (expenditure * weight for group)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2 000</td>
<td>Agriculture</td>
<td>2 000 * (3/2) = 3 000</td>
</tr>
<tr>
<td>B</td>
<td>–</td>
<td>Agriculture</td>
<td></td>
</tr>
<tr>
<td>Data source</td>
<td>Amount</td>
<td>Industry type</td>
<td>Weighted expenditure (expenditure * weight for group)</td>
</tr>
<tr>
<td>------------</td>
<td>--------</td>
<td>---------------</td>
<td>-----------------------------------------------------</td>
</tr>
<tr>
<td>C</td>
<td>5 000</td>
<td>Agriculture</td>
<td>5 000 * (3/2) = 7 500</td>
</tr>
<tr>
<td>D</td>
<td>–</td>
<td>Transport</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>–</td>
<td>Transport</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>8 000</td>
<td>Transport</td>
<td>8 000 * (3/1) = 24 000</td>
</tr>
<tr>
<td>G</td>
<td>–</td>
<td>Retail</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>12 000</td>
<td>Retail</td>
<td>12 000 * (3/1) = 36 000</td>
</tr>
<tr>
<td>I</td>
<td>–</td>
<td>Retail</td>
<td></td>
</tr>
</tbody>
</table>

First, the weights for each group are calculated.

- For group with agriculture: $B_1 = \frac{\text{number of employers (data sources) in group}}{\text{number of data sources for which data are received from survey or secondary data}} = \frac{3}{2}$.
- Similarly, for group with transport: $B_2 = 3/1$.
- Similarly, for group with retail: $B_3 = 3/1$.

The weighted amount is calculated using the following formula.

$$ Weighted \ amount = amount \ for \ data \ source \ * \ weight $$

The weighted amounts for data sources are:

- data source A: 3 000
- data source C: 7 500
- data source F: 24 000
- data source H: 36 000.

To apply weight by number, follow the steps below.

1. In the Data Collection module, click **Employer**.

![Figure 249. Selecting employer data source type](image)

The **Employer** screen is displayed.

2. Click **Weighting**.
The **Weighting** screen is displayed.

3. Select Yes to apply weighting.

4. Select **Weight by number of Employers** from the **Weighting Method** drop-down list.

5. For each data source, select the **Industry Type**.
6. Click **Save**.

7. Click **Apply** to apply the weighting logic.

The weighted amount is displayed.

*Weighting data by number of employees*

This strategy can be used when the number of employees is available for all sources that are not surveyed or have not responded to a survey. In this case, enter the number of employees for each
such source. Users cannot enter the number of employees for sources captured from survey or secondary data. For the calculation of weight by the number of employees, the following logic is used.

1. Add the number of employees in data (data added by user is in green).

Table 25. Calculation of weighted amount for number of employees

<table>
<thead>
<tr>
<th>Data source</th>
<th>Amount</th>
<th>Sector</th>
<th>Number of full-time employees</th>
<th>Weighted amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2 000</td>
<td>Agriculture</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>–</td>
<td>Agriculture</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>5 000</td>
<td>Agriculture</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>–</td>
<td>Transport</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>–</td>
<td>Transport</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>8 000</td>
<td>Transport</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>–</td>
<td>Retail</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>12 000</td>
<td>Retail</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>–</td>
<td>Retail</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

2. Calculate the weight for each group.

- For group with agriculture: \( B_1 = \frac{\text{number of employees in group combining all data sources}}{\text{number of total employees obtained from different surveys}} \) \( B_1 = \frac{11}{9} \).
- Similarly, for group with transport: \( B_2 = \frac{10}{5} = 2 \).
- Similarly, for group with retail: \( B_3 = \frac{7}{4} \).

3. Find the weighted amount expenditure for data sources.

Table 26 shows the calculation of the weighted amount for data sources.

Table 26. Calculation of weighted amount for data sources

<table>
<thead>
<tr>
<th>Data source</th>
<th>Amount</th>
<th>Sector</th>
<th>Number of full-time employees</th>
<th>Weighted amount (weight for group * expenditure)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2 000</td>
<td>Agriculture</td>
<td>5</td>
<td>( 2 000 \times (\frac{11}{9}) = 2 444.44 = 2 444 )</td>
</tr>
<tr>
<td>B</td>
<td>–</td>
<td>Agriculture</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>C</td>
<td>5 000</td>
<td>Agriculture</td>
<td>4</td>
<td>( 5 000 \times (\frac{11}{9}) = 6 111.11 = 6 111 )</td>
</tr>
<tr>
<td>D</td>
<td>–</td>
<td>Transport</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>E</td>
<td>–</td>
<td>Transport</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>F</td>
<td>8 000</td>
<td>Transport</td>
<td>5</td>
<td>( 8 000 \times (2) = 16 000 )</td>
</tr>
</tbody>
</table>
The weighted amounts for data sources are:

- data source A: 2 444
- data source C: 6 111
- data source F: 16 000
- data source H: 21 000.

To apply weight by number of employees, follow the steps below.

To open the weighting screen, see steps 1–3 of Weighting data by number of employers.

1. Select **Weight by number of employees** from the **Weighting Method** drop-down list.

   ![Weighting Method](image)

   **Figure 256. Weighting by number of employees**

2. For a selected industry type, enter the known number of employees.
3. Click **Save**.

4. Click **Apply** to apply the weighting logic.

The weighted amount is displayed.

**Weighting manually**

Depending on experience and calculations outside the tool, users may be aware of the weight that needs to be applied. In this method, the weights are applied manually. Table 27 shows the calculation of the weighted amount using manual weights.

<table>
<thead>
<tr>
<th>Employer</th>
<th>Amount</th>
<th>Weight</th>
<th>Weighted amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2 000</td>
<td>2</td>
<td>2 000 * 2 = 4 000</td>
</tr>
<tr>
<td>B</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>C</td>
<td>5 000</td>
<td>1.5</td>
<td>5 000 * 1.5 = 7 500</td>
</tr>
<tr>
<td>D</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>
Weighted amounts for data sources are:

- data source A: 4 000
- data source C: 7 500
- data source F: 5 600
- data source H: 12 000.

To apply weights manually, follow the steps below.

To open the weighting screen, see steps 1–3 of [Weighting data by number of employers](#).

1. Select **Weight manually** from the **Weighting Method** drop-down list.

![Figure 260. Weighting manually](image)

2. Enter weights in the respective data sources, and then click **Save**.

![Figure 261. Entering weights](image)
Selecting industry type

An employer can be from various sectors, such as agriculture, transportation, retailer, wholesaler and financial institution. Industry type categorizes the data sources into sectors. To select an industry type for a particular employer, follow the steps below.

To open the weighting screen, see steps 1–3 of Weighting data by number of employers.

1. Select Weight by number of Employers from the Weighting Method drop-down list.

2. Select industry type from the Industry Type drop-down list.

3. Click Save.

4. Click Apply.
The Industry type can be selected for both Weight by number of employees and Weight by number of Employers.

**Editing industry type**

To edit the industry type for the employer, follow the steps below.

To open the weighting screen, see steps 1–3 of Weighting data by number of employers.

1. Click **View Industry Types**.

![Figure 266. Viewing industry types](image)

2. Select the industry type from the list, and then click the **Edit** ( ) icon.

3. Enter the sector name in the field. The industry type label can be edited in any language, and can be translated into other languages if necessary.

![Figure 267. Editing sector name](image)

4. Click **SAVE**.
Adding a new industry type

A new sector type can also be added in HAPT. To add a type, follow the steps below.

To open the **View Industry Types** option, see steps 1–2 of [Editing industry type](#).

1. Click **Add Industry Type**.

2. Enter the sector name in the **Industry Type** field.
4.12.6.3 **Weighting insurance data**

For countries that have large numbers of private insurance companies, the HA team may decide to collect health expenditure data from a sample of companies and then apply weighting. The weighting procedure for health insurance companies is similar to that for NGOs and employers.

**Weighting data by number of insurance companies**

Categorize companies into different groups, and then weight them based on these groupings, as follows.

\[
\text{Weight} = \frac{\text{Total number of insurance companies (data sources) } \in \text{group}}{\text{Number of insurance companies for which data are available using survey or secondary}}
\]

Table 28 shows the calculation of weighted expenditure for the number of insurance companies.
Table 28. Calculation of weighted expenditure using number of insurance companies

<table>
<thead>
<tr>
<th>Data source</th>
<th>Number of individuals covered by insurance</th>
<th>Amount</th>
<th>Group</th>
<th>Weighted expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>A*A</td>
<td>3</td>
<td>20 000</td>
<td>1</td>
<td>20 000 * (2/1) = 40 000</td>
</tr>
<tr>
<td>LIC</td>
<td>–</td>
<td>–</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>New Insurance</td>
<td>2</td>
<td>10 000</td>
<td>2</td>
<td>10 000 * (2/1) = 20 000</td>
</tr>
<tr>
<td>ABC</td>
<td>–</td>
<td>–</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Weighted amount = amount for data source * weight

Example: Weight for A*A = Number of insurance companies ∈ group 1

Weighting data by number of individuals covered by health insurance

For this method, the HA team needs to know the number of individuals covered under health insurance for each insurance company. Depending on this input, the weighting for insurance is calculated.

Weight = Number of individuals covered by health insurance for all data sources ∈ group

Number of individuals covered under health insurance available

Table 29 shows the calculation of weighted expenditure for the number of individuals covered by health insurance.

Table 29. Weighted expenditure for number of individuals covered by health insurance

<table>
<thead>
<tr>
<th>Data source</th>
<th>Number of individuals covered by insurance</th>
<th>Amount</th>
<th>Group</th>
<th>Weighted expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>A*A</td>
<td>3</td>
<td>20 000</td>
<td>1</td>
<td>20 000 * (5/3) = 33 333.333</td>
</tr>
<tr>
<td>LIC</td>
<td>3</td>
<td>–</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>New Insurance</td>
<td>2</td>
<td>10 000</td>
<td>2</td>
<td>10 000 * (5/2) = 25 000</td>
</tr>
<tr>
<td>ABC</td>
<td>2</td>
<td>–</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Weight for A*A = Number of individuals covered by health insurance for all data sources ∈ group 1

Number of individuals covered under health insurance available

= (3+2)/3 = 5/3 = 1.666
Weighted amount = amount for data source * weight = 20 000* (5/3) = 33 333.333

**Weighting manually**
The method for manual weighting is similar to that for NGOs. See [Weighting manually](#).

### 4.12.6.4 Weighting provider data

**Weighting data by health spending**
The weighting method is similar to that for NGOs. See [Weighting data by health spending](#).

**Weighting manually**
The method for manual weighting is similar to that for NGOs. See [Weighting manually](#).
5 Mapping module

Mapping is used to assign appropriate classification categories to each expenditure data point. The Mapping module includes many features, functions and menus to assist users in mapping data.

The Mapping module is divided into two parts.

- **Mapping Options** pane: This pane is used to select data sources, select amount types and apply filters. It also has a **SHOW DATA** button, to trigger displays of the mapping tree on the display pane.

- **Mapping Display** pane: This pane displays the mapping tree for a given expenditure data row for imported data sources of a selected data source type.
To view the mapping tree for each data row of the selected data source, follow the steps below.

1. Click **MAPPING**.

2. Select the data source from the **Select DataSource** drop-down list.

3. Select the amount type from the **Select Amount Type** drop-down list.

### Table 30. Fields and buttons in Mapping module

<table>
<thead>
<tr>
<th>Field/button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select DataSource</td>
<td>Used to select the data source from the selected data source type.</td>
</tr>
<tr>
<td>Select Amount</td>
<td>Used to select an option for sorting data rows according to their amount.</td>
</tr>
<tr>
<td>Select filter</td>
<td>Used to apply filters from the list.</td>
</tr>
<tr>
<td>SHOW DATA</td>
<td>Shows the data as a mapping tree.</td>
</tr>
</tbody>
</table>

**Figure 275. Viewing data row mapping**

**Figure 276. Selecting data source**
Table 31 shows the amount types in the **Select Amount Type** drop-down list.

**Table 31. Amount types**

<table>
<thead>
<tr>
<th>Amount type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest Amount</td>
<td>Sorts data rows within the data sources, showing the data row with the</td>
</tr>
<tr>
<td></td>
<td>lowest amount first (sorted from lowest to highest).</td>
</tr>
<tr>
<td>Highest Amount</td>
<td>Sorts data rows within the data source, showing the data row with the</td>
</tr>
<tr>
<td></td>
<td>highest amount first (sorted from highest to lowest).</td>
</tr>
</tbody>
</table>

4. Select the required filter from the **Mapped Filters** drop-down list.

**Table 32. Mapping filters**

<table>
<thead>
<tr>
<th>Mapping filter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mapped</td>
<td>Shows data rows that are mapped. Data rows in which all classifications</td>
</tr>
<tr>
<td></td>
<td>are mapped are considered as mapped data rows.</td>
</tr>
<tr>
<td>Non-Mapped</td>
<td>Shows data rows that are not mapped. Data rows in which at least one</td>
</tr>
<tr>
<td></td>
<td>classification is not mapped are considered as non-mapped data rows.</td>
</tr>
<tr>
<td>Flagged</td>
<td>Shows data rows that are flagged.</td>
</tr>
<tr>
<td>Excluded</td>
<td>Shows data rows that are excluded.</td>
</tr>
</tbody>
</table>

5. Click **SHOW DATA**.
Performing mapping

To perform mapping, follow the steps below.

1. Click on the category node to select it for mapping. The node will turn dark, which means it is selected.

2. Click **SELECT FOR MAPPING**.
Note: The **SELECT FOR MAPPING** button appears only after selecting at least one node.

**Figure 281. Selecting node for mapping**

The list of categories under the selected classification appears in the right pane.

**Figure 282. Displaying list of categories**

3. Select the category from the list, and click **MAP**.
168

Figure 283. Selecting category for mapping

The category is mapped successfully.

Note:

- If the user hovers over the category for mapping, the category name is displayed.
- If the user selects more than one category for mapping, they need to define a split rule. To apply a split rule, see Adding a split rule while mapping data.

Figure 284. Name of category

4. To view details in a mapping tree, click on the mapped category code. This shows the label of the particular code, and the upper flow code and amount.
5. To unmap the node, select it, and then click **UNMAP**.

![Figure 285. Viewing category details](image)

**Note:** The **UNMAP** button appears only after selecting a node that is already mapped. A confirmation message is displayed.

- Selecting a mapped/non-mapped node, the expenditure type and actual/budget amount of the data row are displayed in the top right corner of the **Mapping** pane, as shown in **Figure 287. Viewing expenditure type**.

**Note:**

- In the Data Collection module, the data types are defined for data sources. Depending on the data type for the expenditure, an amount is categorized as actual amount or budget amount.
To map category(ies) of one classification (e.g. HP) that crosses with a combination of categories from other classifications (e.g. FS and HF), users can first select a flow (in this example, select multiple nodes connected together from the FS and HF classifications), choose the classification they want to map in **Select classification** and code that particular expenditure flow (in this example, HP.1.1).
When selecting multiple nodes, users can only map the expenditure flowing through the selected nodes.

When selecting multiple nodes, users can select only a classification that is not mapped (or partially not mapped).

5.2 Features in mapping

In mapping, various features are provided to view, search, edit and modify data rows in a mapping tree. These features make it easy to perform mapping and enhance the experience for users. Table 33 shows the icons in the Mapping module.

Table 33. Icons for features in mapping
<table>
<thead>
<tr>
<th>Icon</th>
<th>Icon name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="search" /></td>
<td>Search on map</td>
<td>Used to search a particular classification or matching classification item for a code or name present in the mapping tree.</td>
</tr>
<tr>
<td><img src="image" alt="reorder" /></td>
<td>Reorder</td>
<td>Used to reorder the sequence of classifications during mapping.</td>
</tr>
<tr>
<td><img src="image" alt="undo" /></td>
<td>Undo</td>
<td>Used to cancel the last changes made to a mapping tree.</td>
</tr>
<tr>
<td><img src="image" alt="redo" /></td>
<td>Redo</td>
<td>Used to reverse the changes made to the mapping tree.</td>
</tr>
<tr>
<td><img src="image" alt="zoom_in" /></td>
<td>Zoom in</td>
<td>Used to zoom in to the mapping tree to view a specific part of a health study.</td>
</tr>
<tr>
<td><img src="image" alt="zoom_out" /></td>
<td>Zoom out</td>
<td>Used to zoom out of the mapping tree to view a specific part of a health study.</td>
</tr>
<tr>
<td><img src="image" alt="full_screen" /></td>
<td>Full screen</td>
<td>Shows the diagram on full screen.</td>
</tr>
<tr>
<td><img src="image" alt="grid" /></td>
<td>Data grid view</td>
<td>Shows the mapped data in a tabular format.</td>
</tr>
</tbody>
</table>

### 5.2.1 Data grid view

The data grid view allows users to view the mapping data in a tabular structure. All filters applied in a mapping tree are applied in data grid view. To view data in data grid view, follow the steps below.

1. Click the ![grid](image) icon.

2. This shows data for one data row. To view data for all data rows, select the data rows on the left and click **SHOW DATA**.
5.2.2 Viewing metadata

Viewing metadata is additional to expenditure information collected from surveys and Excel files. See Annex 1 and Annex 2 to view the list of metadata fields. To view metadata, follow the steps below.

1. In the Mapping module, click View Metadata.
The **Metadata** screen is displayed.

![Metadata Screen](image)

**Figure 293. Viewing metadata**

Note: Users can move the **Metadata** screen and continue to have it displayed when mapping and navigating through data rows in the mapping tree.

### 5.2.3 Split library

All split rules and patterns are stored in the split library at the country level and can be used for the same country for different years. See [Split Rules](#) and [Split Patterns](#) to view rules and patterns in the Setup module at the country level. Split rules can also be stored at the study level to be used within the same study.

#### 5.2.3.1 Split rule

Split rules are used to split expenditure amounts among different categories using shares defined by the user. Expenditure amounts can be split into more than two categories if required.

#### 5.2.3.2 Adding a split rule

There are three methods for adding split rules:

- adding from split library (see [Adding a split rule from the split library](#))
- adding while performing mapping (see [Adding a split rule while mapping data](#))
- importing from Excel (see [Importing a split rule from an Excel file](#)).

*Adding a split rule from the split library*

To add a new split rule from the split library, follow the steps below.

1. In the Mapping module, click **Split Library**.
Figure 294. Selecting “Split Library”

The Split Library screen is displayed.

2. Click Add New Rule.

Figure 295. Adding new rule

The Add New Split Rule form is displayed.

3. Enter the split rule details in the respective fields, and then click ADD.

Figure 296. “Add New Split Rule” form

The new split rule is added successfully.

Note:

- A warning message is displayed when trying to create a rule with the same combination of categories and shares as an existing rule.
- Click the ( ) icon next to the category to remove it from the list.
Table 34 shows the fields and buttons in the **Add New Split Rule** form.

### Table 34. Fields and buttons in “Add New Split Rule” form

<table>
<thead>
<tr>
<th>Field/button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Split Rule Name</td>
<td>Used to enter the name of a split rule.</td>
</tr>
<tr>
<td>Add rule to country level split library</td>
<td>Selected if the user wants to add the rule to the country-level library.</td>
</tr>
<tr>
<td>Description</td>
<td>Used to enter the description of the split rule.</td>
</tr>
<tr>
<td>Classification to apply split rule</td>
<td>Used to select the classification to be split.</td>
</tr>
<tr>
<td>Classification categories</td>
<td>Used to select the classification category in which the user wants to split the classification from the list. Users can add and delete classification items.</td>
</tr>
<tr>
<td>Percentage</td>
<td>Used to input the percentage associated with each classification category included in the rule. Percentages are reported without the “%” sign. Percentages for all classification categories within a rule must sum to exactly 100.</td>
</tr>
</tbody>
</table>

**Adding a split rule while mapping data**

To add a new split rule, follow the steps below.

1. Click on a node to select it for mapping. The node will turn dark.

2. Click **SELECT FOR MAPPING**.

The classification window is displayed on the right side.

![Figure 297. Selecting node for mapping](image)
3. Select a category from the list. If more than one classification is selected for mapping, the **ADD NEW SPLIT RULE** button is displayed at the bottom.

4. Click **ADD NEW SPLIT RULE**.

![Figure 298. Adding new split rule](image)

The **Add New Split Rule** form is displayed.

5. Enter the split rule details in the respective fields, and then click **ADD**.

![Figure 299. “Add New Split Rule” form](image)
The form for adding a new split rule contains the same fields in both methods for adding a split rule (see Table 34. Fields and buttons in “Add New Split Rule” form for a description of the fields).

Importing a split rule from an Excel file

To import split rules from an Excel file, follow the steps below.

1. Click Split Library.

![Figure 300. Selecting “Split Library”](image)

2. Click Import Rule.

![Figure 301. Selecting “Import Rule”](image)

3. Click Choose file. Select the file to be imported.

4. Select Excel sheet.

5. Bind the columns with respective fields, and click IMPORT.
Once a file is imported, a message is received under the Notification section.

A confirmation message is received to reload the page to show the changes on the screen.
Clicking **YES** reloads the page, and imported split rules are displayed. If the user clicks **NO**, the page is not reloaded, and a manual page refresh must be done.

**Figure 305. Notification that import is completed**

Note:

Only rules with all necessary information (rule name, classification, classification category code, percentage) are imported. The sum of the percentages of all categories should be 100. If this condition is not met, the rule will not be imported.

**Example Excel template used in application:**

Figure 305 shows the Excel content, with the columns “Rule name”, “Classification”, “Classification categories” and “Percentage”.

<table>
<thead>
<tr>
<th>Rule name</th>
<th>Classification</th>
<th>Classification Categories</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEN rule</td>
<td>BEN</td>
<td>BEN.1</td>
<td>45</td>
</tr>
<tr>
<td>BEN rule</td>
<td>BEN</td>
<td>BEN.2</td>
<td>45</td>
</tr>
<tr>
<td>BEN rule</td>
<td>BEN</td>
<td>BEN.3</td>
<td>10</td>
</tr>
<tr>
<td>FS.RI rule</td>
<td>FS.RI</td>
<td>FS.RI.1.3</td>
<td>35.5</td>
</tr>
<tr>
<td>FS.RI rule</td>
<td>FS.RI</td>
<td>FS.RI.1.2</td>
<td>64.5</td>
</tr>
<tr>
<td>DIS Import</td>
<td>DIS</td>
<td>DIS.1.3</td>
<td>66.33</td>
</tr>
<tr>
<td>DIS Import</td>
<td>DIS</td>
<td>DIS.1.3</td>
<td>33.67</td>
</tr>
</tbody>
</table>

**Figure 306. Example Excel sheet for importing split rule**

- Rule name – should have the same name for one rule.
- Classification – should be a classification for which a split rule is created.
- Classification categories – should be categories for which a split rule is created.
- Percentage – can be in decimals or integers. Note that a value of 0.7 (for example) is captured as 0.7, rather than 70%.

The reasons for failure of import of a split rule are shown in the notification for any non-imported rule. Import of split rules may fail as a result of:

- missing classification categories
- missing mandatory information (e.g. percentage, classification, classification category)
• classification category not found
• sum of percentages not equal to 100
• same rule name associated with different classifications
• existing rule with the same name
• existing split rule
• duplicated classifications with categories and percentages.

In notifications, the status of split rule import is shown as the total number of split rules imported. If any split rules were not imported, the reason is shown in red.

![Notifications](image)

**Figure 307. Notification that split rule import is completed**

Examples of error messages shown in notifications if split rule import failed are:

• Row numbers 3,4 not imported due to absence of classification categories
• Row number 8 not imported due to missing mandatory information
• Row numbers 5,6,7 not imported as classification category not found
• Row numbers 15,16 not imported due to sum of categories not equal to 100 percentages
• Row numbers 17,18,19 not imported as the same rule name associated with different classifications
• Row numbers 21 not imported as rule with the same name exists
• Row numbers 25,26 not imported due to existing split rule
• Row numbers 30,31,32 not imported due to duplicated classification with categories and percentage.
5.2.3.3 Viewing split rule statistics

Statistics show how many data rows the split rule applies to. Split rule statistics show the data source type, data source name and number of data rows to which the particular split rule is applied. To view statistics, follow the steps below.

1. Click the ellipsis ( ) corresponding to the split rule for which statistics are to be viewed.

2. Click View Statistics.

![Figure 308. Viewing statistics](image)

The View Statistics screen is displayed.

![Figure 309. Viewing split rule statistics](image)

Table 35 shows the fields in the View Statistics screen.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Source Type</td>
<td>Shows the data source type to which the split rule is applied.</td>
</tr>
<tr>
<td>Data Source Name</td>
<td>Shows the data source name to which the split rule is applied.</td>
</tr>
<tr>
<td>Data Row</td>
<td>Shows the number of data rows to which the split rule is applied.</td>
</tr>
</tbody>
</table>

3. Click OK.
5.2.3.4 Editing a split rule

Data row and sub-row split rules can be edited. To edit a split rule, follow the steps below.

It is assumed that the split library is already open.

1. Click the ellipsis (…) corresponding to the split rule to be edited.

2. Click Edit.

![Figure 310. Editing split rule](image)

The Edit Split Rule form is displayed.

3. Edit the split rule details, and then click SAVE.

![Figure 311. “Edit Split Rule” form](image)

The split rule is edited and saved successfully.
• Click the ( ) icon next to the category to remove it from the list.

• Click the ( ) icon next to the category to add a new one.

Note:
• Editing split rules edits the rule wherever it applies throughout the study.
• If the split rule is used in the study on data rows, the user is asked for confirmation.
• If the user selects YES, the rule is updated in the split library. The rule is updated along with data rows wherever the rule was used.

![Confirmation window](image)

Figure 312. Confirmation for edit

### 5.2.3.5 Deleting a split rule

Split rules can be deleted if they are not used for any data rows. The deleted split rule will no longer be available for mapping. To delete a split rule, follow the steps below.

It is assumed that the split library is already opened.

1. Click the ellipsis ( ) corresponding to the split rule to be delete.

2. Click Delete.

![Split rule table](image)

Figure 313. Deleting a split rule

A message to confirm the action is displayed.
3. To confirm, click **YES**.

The split rule is deleted successfully.

### 5.2.3.6 Applying a split rule to a data row

Split rules are used while performing mapping, to split the expenditure of a data row in a determined classification between two or more classification categories. To apply a split rule from the split library, follow the steps below.

It is assumed that the split library is already opened.

1. Select the data row to which the split rule will be applied and open the split library.
2. Click the toggle button corresponding to the split rule to be applied.

The button turns green, and a confirmation message is displayed, indicating that the split rule is applied.

- A split rule for a determined classification cannot be applied to a data row that already has data mapped for this classification.
- A split rule cannot be applied to a completely unmapped data row (no classifications mapped). The user has to map at least one node in the data row to apply a split rule from the library so that the tool can identify the account that the data row belongs to.
- If the digit level does not match while applying a split rule, an error message (see below) is shown. For example, if the data row is mapped using HCR classification, so that HP can be mapped only to two-digit level categories, a split rule at more than the two digit-level (e.g. HP.3.1.1, HP.3.1.2) cannot be applied.

**Note:**

![Figure 314. Applying split rule](image)

**Figure 315. Error in applying split rule**
5.2.3.7 Applying a split rule to a node (sub-row)

To apply the split rule, follow the steps below.

1. Select the data row to which the split rule will be applied.

2. Select the node, and click **Split Library**.

3. Click the toggle button corresponding to the split rule to be applied.

4. Click **Back** to mapping.

The button turns green, and a confirmation message is displayed indicating that the split rule is applied.

![Figure 316. Selecting node and opening split rule](image1)

![Figure 317. Selecting split rule from split library](image2)
Users can select a mapped/non-mapped node to apply a split rule to.

Users can apply a split rule of the same classification or other classification by selecting a node.

If the user selects a mapped node and applies a split rule, the selected node is replaced by a split rule. For example, if the user selects HF.1.3 and applies the split rule from the split library for HF as HF.1.1.2 | HF.1.1.1 | HF.1.2.1, then HF.1.3 is replaced by HF.1.1.2, HF.1.1.1, HF.1.2.1.

Users cannot apply a split rule if the same categories are already mapped in the mapping tree. For example, if the user selects HF.1.2.1 and applies a split rule with HF as HF.3.1 | HF.nec, an error message will be received because HF.nec is already mapped.
5.2.4 Split pattern

A split pattern is used to group and apply multiple split rules simultaneously.

Note: It is not possible to include one split pattern within another.

5.2.4.1 Adding a split pattern

This feature is used to add new split patterns that are used to apply multiple split rules (for multiple classifications) to a data row at the same time. To add a new split pattern, follow the steps below.

It is assumed that the split rules have already been created before being included in a split pattern (see Adding a split rule).

1. In the Mapping module, click Split Library.

The Split Library screen is displayed.
2. Click **Split Patterns**.

![Figure 321. Selecting split library](image)

3. Click **Add New Pattern**.

![Figure 322. Selecting split pattern](image)

![Figure 323. Adding new pattern](image)

The **Add New Split Pattern** form is displayed.

4. Enter the split pattern details in the respective fields, and then click **ADD**.
A new split pattern is added successfully.

Table 36 shows the fields and buttons in the Add New Split Pattern form.

**Table 36. Fields and buttons in “Add New Split Pattern” form**

<table>
<thead>
<tr>
<th>Field/button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Split Pattern Name</td>
<td>Used to enter the name of the split pattern.</td>
</tr>
<tr>
<td>Doubtful split pattern</td>
<td>Creates a visual differentiation for selected split patterns for future review. By default, it is marked as <strong>No</strong>.</td>
</tr>
<tr>
<td>Add rule to country level split library</td>
<td>Used to select whether the user wants to add the rule to the country-level library.</td>
</tr>
<tr>
<td>Description</td>
<td>Used to enter a description of the split pattern.</td>
</tr>
<tr>
<td>Choose Split Rules</td>
<td>Used to select the split rules to be included in the split pattern. Split rules must have been added previously (see Adding split rule).</td>
</tr>
<tr>
<td>Recommend Pattern For</td>
<td>Used to select the classification categories for which the user wants to recommend this pattern.</td>
</tr>
</tbody>
</table>

- **Note:**
  - If **Doubtful split pattern** is selected as **Yes**, the split pattern is displayed in blue.
  - If **Doubtful split pattern** is selected as **No**, the split pattern is displayed in black.
5.2.4.2 Importing a split pattern

To import a split pattern, follow the steps below.

1. Open Split Library and click Split Patterns.

   ![Figure 325. Selecting “Split Library”](image)

2. Click Import Pattern.

   ![Figure 326. Selecting “Import Pattern”](image)

3. Click Choose file. Select the file to be imported.

4. Select Excel sheet.

5. Bind the columns with respective fields, and click IMPORT.

   ![Figure 327. “Import Split Pattern” screen](image)

Once the file is imported, a notification and confirmation message are received.
Upon clicking YES, the page is reloaded, and imported split patterns are displayed.
If import fails, the reasons are displayed in notifications for imported rules. Possible reasons are:

- missing mandatory information (e.g. split pattern name, rule name, classification item, percentage)
- classifications not found
- missing classification categories
- sum of categories not equal to 100%
- same pattern name associated with different split rules with classifications
- pattern with the same name exists.

Note:
- When importing a new split pattern, the split rules included in the pattern are also imported into the split library if they did not exist before (with the same classification categories and percentages),
- A new pattern is also imported even if some of its rules already exist in the split library (the same classification categories and percentages).

Example Excel template used in application:

Figure 330 shows the Excel content with the columns “Split pattern name”, “Rule name”, “Classification”, “Classification categories” and “Percentage”.

![Excel template](image)

**Figure 331. Example Excel sheet for importing split pattern**

- Split pattern name – should have the same name for one pattern.
- Rule name – should have the same name for one rule.
- Classification – should be a classification for which a split rule is created.
- Classification categories – should be categories for which a split rule is created.
• Percentage – can be in decimals or integers. Note that a value of 0.7 (for example) is captured as 0.7, rather than 70%.

In notifications, the status of split pattern import is shown as the total number of split patterns imported. If any split patterns were not imported, the reason is shown in red.

![Notification that split pattern import is completed](image)

**Figure 332. Notification that split pattern import is completed**

Examples of error messages shown in notifications if split pattern import failed are:

• Row numbers 1,2 not imported due to missing mandatory information
• Row numbers 1,2 not imported due to not found classifications
• Row numbers 1,2 not imported due to missing classification categories
• Row numbers 1,2 not imported due to sum of categories not equal to 100 percentages
• Row numbers 1,2 not imported due to the same pattern name associated with different split rules with classifications
• Row numbers 1,2 not imported as pattern with the same name exists.

### 5.2.4.3 Viewing split pattern statistics

Statistics show the data source type, data source name and number of data rows to which the pattern is applied.

To view statistics, follow the steps below.

1. Click the ellipsis (•) corresponding to the split pattern for which statistics are to be viewed.
2. Click View Statistics.
Figure 333. Viewing statistics

The View Statistics screen is displayed.

Figure 334. Viewing split pattern statistics

3. Click OK.

5.2.4.4 Editing a split pattern

A split pattern can be edited. The modified split pattern is applied to the data rows. Any changes made to the split pattern are reflected in the data rows to which the split pattern is applied.

To edit a split pattern, follow the steps below.

1. Click the ellipsis ( ) corresponding to the split pattern to be edited.

2. Click Edit.
3. Edit the split pattern details, and then click **SAVE**.

Note: The split pattern name field is non-editable.

### 5.2.4.5 Deleting a split pattern

Deleting a split pattern will remove the split pattern from the split library.

Note: It is not possible to delete a split pattern if it is already in use in data mapping.
To delete a split pattern, follow the steps below.

1. Click the ellipsis (…) corresponding to the split pattern to be deleted.
2. Click Delete.

![Figure 337. Deleting split pattern](image)

A message to confirm the action is displayed.

3. To confirm, click YES.

The split pattern is deleted successfully.

5.2.4.6 Applying a split pattern

Split patterns are applied while performing mapping. All the split rules in the split pattern are applied to a data row at once. To apply the split pattern, follow the steps below.

1. In the Data Rows menu, select a data row to which the split rule will be applied and open the split library.
2. Click the toggle button corresponding to the split pattern to be applied.

The button turns green, and a confirmation message is displayed, indicating that the split pattern is applied.

![Figure 338. Applying split pattern](image)
A split pattern including a split rule for a determined classification cannot be applied to a data row that already has data mapped for this classification.

Two or more split patterns can be applied to the same data row as long as they do not include the same classifications.

### 5.2.5 Excluding a data row from mapping

This function excludes a data row, along with all sub-rows, from the calculation of expenditure during mapping. A data row can be included or excluded at any point during production of a study. To exclude a data row from the calculation, follow the steps below.

1. Open the data row to be excluded from the calculation in the **Mapping** pane.
2. Click the ( ) toggle button in the **Mapping** pane.
3. The button turns to ( ), which means that the data row is excluded.

A message confirming the exclusion of the data row is displayed.

![Figure 339. Excluding data row](image)

- The toggle button ( ) can be used to include the previously excluded data row.

**Note:**

- To view the data rows that are excluded, select the **Excluded** option in the **Select filter** field. Users can also view the data rows that are excluded while checking for double-count using this filter.

![Figure 340. Excluded filter](image)
5.2.6 Flagging a data row

This feature flags a data row for reviewing during mapping so that the doubtful data can be revisited and mapped/remapped later. Users can select more than one data row for flagging. Users can also unflag a data row. To flag a data row, follow the steps below.

1. Open the data row to be flagged for review during mapping in the **Mapping** pane.

2. Click the toggle button ( ) in the **Mapping** pane.

3. The button becomes ( ), which means that the data row is marked with a flag.

A message confirming the action is displayed.

Note:
- The toggle button ( ) can be used to unflag a data row that was previously flagged or mark it as reviewed.
- To view data rows that are flagged, select the **Flagged** option in the **Select filter** field.

5.2.7 Repeating mapping

Repeat mapping can be used to apply classification codes of a mapped data row to multiple expenditure rows with the same characteristics, saving time and effort. Mapping can be repeated for expenditures with the same data source or same data source type, or to all data sources of all data source types.

Note: Classifications for which the user wants to repeat mapping should be mapped to use this function. To map the data row, see **Performing mapping**.

To repeat mapping, follow the steps below.
It is assumed that the user has already selected the data source for which they want to perform repeat mapping.

1. In the Mapping module, select the mapped data row from which mapping will be repeated and click **Repeat Mapping**. Classifications for which the user wants to repeat mapping should be mapped to use this function.

![Figure 343. Selecting “Repeat Mapping”](image)

The **Repeat Mapping** screen is displayed.

![Figure 344. “Repeat Mapping” screen](image)

2. Select the scope for repeat mapping from the drop-down list.

![Figure 345. Selecting scope for repeat mapping](image)

The scope criteria are used to specify the data sources selected for repeat mapping. Table 37 shows the options in **Scope for repeat mapping**.
Table 37. Options in scope for repeat mapping

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>All data rows for the same data source</td>
<td>Repeat mapping will be applied to all data rows of the same data source in the opened study.</td>
</tr>
<tr>
<td>All data sources for the same data source type</td>
<td>Repeat mapping will be applied to data rows of all data sources from the same data source type (donor, NGO, employer, insurance, government, miscellaneous, household, provider) in the opened study.</td>
</tr>
<tr>
<td>All data sources for all data source types</td>
<td>Repeat mapping will be applied to the whole opened study (data rows of all data sources from all data source types).</td>
</tr>
</tbody>
</table>

The Repeat Criteria screen is displayed.

![Repeat Mapping Screen](image)

**Figure 346. Selecting repeat mapping criteria**

Table 38 shows the fields in the Repeat Mapping screen and Repeat Criteria.

Table 38. Fields in “Repeat Mapping” screen and “Repeat Criteria”

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope for repeat mapping</td>
<td>Used to select the scope for repeat mapping. Scope defines which data sources are to be selected for repeat mapping.</td>
</tr>
<tr>
<td>Repeat Criteria Classifications</td>
<td>Used to select a classification for searching data rows mapped or not mapped to selected classification categories for which the user wants to repeat the mapping.</td>
</tr>
<tr>
<td>Metadata</td>
<td>Used to select metadata fields that should match for different data rows selected according to the scope of repeat mapping for which the user wants to repeat the mapping. See Annex 1 and Annex 2 for metadata fields.</td>
</tr>
<tr>
<td>Accounting Code</td>
<td>Used to select accounting code for different data rows selected according to the scope of repeat mapping for which the user wants to repeat the mapping.</td>
</tr>
</tbody>
</table>
Note: To perform repeat mapping, users need to select at least one repeat criterion.

5.2.7.1 Selecting repeat criteria

The repeat criteria are the characteristics that must be held in common for the mapping rule to be applied. Users can select one or several criteria for repeat mapping. Selecting repeat criteria is explained in detail in the following sections.

5.2.7.2 Selecting classification criteria for repeat mapping

Users can select classifications from the list of classifications, as well as mapping status and classification categories for repeat mapping.

To select classifications for repeat mapping, follow the steps below.

1. In Repeat Criteria, select the checkbox for Classifications to show the classification fields.

The classification fields are displayed.

2. Enter the details in the required fields, and then click NEXT.

Note: Click the ( ) icon next to the classification categories to add more fields for classifications for repeat mapping.

Figure 347. Selecting classification criteria for repeat mapping

Table 39 shows the fields in the classifications criteria for repeat mapping.
Table 39. Fields in classifications criteria for repeat mapping

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classifications</td>
<td>Used to select the classification from the list to search expenditures that are mapped or not mapped to selected classification categories for which the user wants to repeat the mapping.</td>
</tr>
</tbody>
</table>
| Mapping Status         | Used to select the status for data rows that need to be searched. There are two mapping statuses.  
                           - Mapped to indicates that the selected classification is mapped to the particular classification categories.  
                           - Unmapped to indicates that the selected classification is not mapped to the particular classification categories. |
| Classification categories | Used to select category codes for selected classifications from the list. Users can select more than one classification category in one field. |
To select the classifications, see Selecting classification criteria for repeat mapping.

Note: When selecting the metadata criteria, the value registered in the selected metadata field(s) needs to be exactly the same in the data rows to which repeat mapping is to be performed as in the source data row previously selected in the mapping graph.

5.2.7.4 Selecting accounting code criteria for repeat mapping

The third criterion for repeat mapping is accounting code. This is a budget line code either created by the user while creating data rows (see Adding a data row) or used in a secondary data source (see Importing secondary data). It is displayed on the Repeat Mapping screen only if the selected data row has a budget line code.

When the user selects Accounting Code as the mapping criterion, the data rows with the same digits (same characters and same place in the budget line code) for accounting code are selected for repeat mapping.

To select the accounting code for repeat mapping, follow the steps below.

1. Select the checkbox for Accounting Code.

The accounting codes are displayed.

2. Select the required accounting code(s), and then click NEXT.

Note: The selected accounting code(s) turns blue, indicating that it is selected for repeat mapping.

Figure 349. Selecting accounting code

Figure 350. Selecting accounting code for repeat mapping
The **Classification Selection** screen is displayed.

To select the classifications, see [Selecting classification criteria for repeat mapping](#).

### 5.2.7.5 Selecting multiple criteria for repeat mapping

Users can select the classification, metadata field and accounting code simultaneously to perform repeat mapping.

Two methods can be used to apply two or three criteria together in repeat mapping:

- logical **AND**
- logical **OR**

#### Using logical AND

The logical AND function allows users to perform repeat mapping using multiple criteria together. All selected criteria need to be met in the data rows to which repeat mapping will be applied. To select logical AND for repeat mapping, follow the steps below.

1. Select the checkboxes for all three repeat criteria.
2. Select the required classifications, metadata fields and accounting code from the list.
3. Select **Logical AND**, and then click **NEXT**.

![Figure 351. Repeat mapping using logical AND](image-url)
The Classification Selection screen is displayed.

To select the classifications, see Selecting classification criteria for repeat mapping.

**Using logical OR**

The logical OR function allows users to perform repeat mapping using multiple criteria independently. Repeat mapping is performed if one of the conditions in the repeat criteria is met.

To select logical OR for repeat mapping, follow the steps below.

1. Select the checkboxes for all three repeat criteria.

2. Select the required classifications, metadata fields and accounting code from the list.

3. Select Logical OR, and then click NEXT.

![Figure 352. Repeat mapping using logical OR](image)

The Classification Selection screen is displayed.

To select the classifications, see Selecting classification criteria for repeat mapping.

**5.2.7.6 Selecting classifications and data rows for repeat mapping**

To select classifications that are to be mapped using the repeat mapping function, follow the steps below.

Before selecting classifications, repeat mapping criteria must be selected.
1. To open the **Classification Selection** screen, see steps 1–3 of *Repeating mapping* and *Selecting repeat criteria*.

The **Classification Selection** screen is displayed.

2. Select the classifications to perform repeat mapping.

3. Click **NEXT**.

![Repeat Mapping](image)

**Figure 353. Selecting classifications**

The **Repeat mapping on type of rows** screen is displayed.

- Select the checkbox for the option **Allow to modify the expenditure types**
  to change the expenditure type (current, capital, related) of the data rows selected as per scope and repeat criteria. Repeat mapping is performed on these data rows.

- Selecting this field is optional.

4. Select the required fields to select the data rows that meet previously selected criteria, and click **REPEAT**.
Table 40 shows the fields and buttons in the Repeat mapping on type of rows screen.

Table 40. Fields and buttons in “Repeat mapping on type of rows” screen

<table>
<thead>
<tr>
<th>Field/button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mapped Rows</td>
<td>Used to select data rows that are already mapped for repeat mapping.</td>
</tr>
<tr>
<td>Unmapped Rows</td>
<td>Used to select data rows that are not mapped for repeat mapping.</td>
</tr>
<tr>
<td>Both</td>
<td>Used to select both mapped and unmapped data rows for repeat mapping.</td>
</tr>
<tr>
<td>Flag data rows for review</td>
<td>Marks data rows that are selected for repeat mapping to review later. Selecting this field is optional.</td>
</tr>
</tbody>
</table>

Repeat mapping is applied, and a confirmation message is displayed.

A notification message is shown when repeat mapping starts and when it is completed. More details are shown in the notification message.
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5.2.8 Finding and replacing a classification

This feature allows users to search for a classification that is mapped to one or more categories and replace it with another code. It is possible to replace all classifications at the same time. To find and replace a classification, follow the steps below.

1. In the Mapping module, click Find and Replace.

   ![Find and Replace Classification](image)

   Figure 357. Selecting “Find and Replace”

   The Find and Replace Classification screen is displayed.

2. Under the Find Classification tab, fill in the required details, and then click APPLY FILTERS.

- If repeat mapping causes a quality check error (not-allowed mapping), the repeat mapping is not performed on data rows for which mapping is not possible.
- If repeat mapping causes a quality check warning, the repeat mapping is performed. See Warnings during mapping.
Figure 358. Selecting classification to find

Click the ( icon in the right corner of the Find section of the Find and Replace Classification screen to add more fields for classifications to be searched. If more than one classification is added, the function will find data rows where selected classifications are mapped. A logical AND is applied.

For example, if HP is mapped to HP.1.1 and HC is mapped to HC.1.3, and the user finds both classifications with these categories, the function will find all data rows where both classifications are mapped.

The classification the user is searching for is displayed. The scope for finding a classification is data source type. For example, if donor data source type is open and a classification HP mapped to HP.1.1 is found, all data sources under donor will be searched for the mentioned criteria and results will be shown.

Figure 359. Finding classification
Table 41 shows the fields in the **Find and Replace Classification** screen.

### Table 41. Fields in “Find and Replace Classification” screen

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classification to find</td>
<td>Used to select the classification that the user is searching for.</td>
</tr>
<tr>
<td>Mapping Condition</td>
<td>Used to select the mapping condition from the list as mapped to or non-mapped to.</td>
</tr>
<tr>
<td>From Amount</td>
<td>Used to select the minimum limit of the amount associated with the classification the user is searching for.</td>
</tr>
<tr>
<td>To Amount</td>
<td>Used to select the maximum limit of the amount associated with the classification the user is searching for.</td>
</tr>
<tr>
<td>Classification sub categories</td>
<td>Used to select classification categories. Users can select more than one classification category. If more classification categories are selected, it will find categories in rows where any of the selected categories is mapped. A logical OR is applied in classification categories.</td>
</tr>
</tbody>
</table>

3. Under the **Find and Replace Classification** tab, fill in the required details, and then click **APPLY FILTERS**.

![Figure 360. Selecting classification to find and replace](image)

**Note:**
Click the icon in the right corner of the **Replace** section of the **Find and Replace Classification** screen to add more fields for classifications to be replaced.
To replace a category on the currently displayed data row, click **REPLACE**. The classification is replaced by the selected classification category for the currently displayed data row.

To replace the category for all data rows, click **REPLACE ALL**. The classification is replaced by the selected classification category for all data rows where the search (find) criteria match under the same data source type. For example, all data rows where criteria match will be replaced with all data rows in data sources under the same data source type.

![Image of the Find and Replace Classification screen](image.png)

**Figure 361. Finding and replacing classification**

Table 42 shows the fields in the **Find and Replace Classification** screen.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classification to replace</td>
<td>Used to select the classification the user wants to replace from the list.</td>
</tr>
<tr>
<td>Classification Subcategory to replace with</td>
<td>Used to select the classification subcategory with which the user wants to replace the classification.</td>
</tr>
</tbody>
</table>

- The fields for the **Find Classification** section are the same as for the **Find Classification** tab.
- Users can use “find and replace” function with different classifications in the search criteria and replace criteria. For example, they can search for data rows mapped to FA.1.1.1 and replace the mapping of HF with HF.1.1.1.

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- Data rows that have replaced mapping are flagged for review.
- If replacing mapping creates a warning, a flag will be raised for that particular data row. Users can silence this warning and log a message, if required.
- If replacing classification leads to a non-allowed mapping for a data row according to quality check conditions, the mapping is not replaced for that data row.
- When performing REPLACE ALL, if a warning is raised for any data row, replacement takes place. However, for non-allowed mapping, replacement does not take place. The error message is shown in the Notifications section after completion of the REPLACE ALL operation.

More details are shown in the notification message for replacing all.

![Figure 362. Notification that replace all has started](image)

![Figure 363. Notification that replace all is completed](image)

The start and completion notification contains the details for the REPLACE ALL operation. Additional details such as study name, country and year are shown. The notification also includes a count of rows...
that are replaced and ignored, along with the error messages for rows that were not replaced because of quality check issues.

5.2.9 Exporting mapping

The export mapping feature allows records of mapping data to be transferred and stored outside HAPT. The exported mapping data are saved in the default .xlsx file format, which can also be used for importing mapping. Users can select the data source type, data source, metadata fields and data rows that they want to export. To export mapping, follow the steps below.

It is assumed that the mapping of data rows in the study has already been performed. To perform mapping, see Performing mapping.

1. On the Mapping screen, click ( )

Figure 364. Opening export

The Export Mapping form is displayed.

2. Select the data source types and the corresponding data sources, and then click NEXT.

Figure 365. “Export Mapping” form (first screen)
Table 43 shows the fields in the first screen of the Export Mapping form.

**Table 43. Fields in “Export Mapping” form (first screen)**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choose Data Source Type</td>
<td>Used to select or deselect the data source types for export of mapping.</td>
</tr>
<tr>
<td>Choose Data Sources</td>
<td>Used to select or deselect the corresponding data sources for export of mapping.</td>
</tr>
</tbody>
</table>

3. Select the details from the required fields, and then click **EXPORT**.

![Figure 366. “Export Mapping” form (second screen)](image)

The Export dialog box is displayed.

Table 44 shows the fields in the second screen of the Export Mapping form.
### Table 44. Fields in “Export Mapping” form (second screen)

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter Data Rows to Export</td>
<td>Used to apply filters for the data rows to be selected for export of mapping. For example, users can select only data rows that are mapped for export. The types of filters are:</td>
</tr>
<tr>
<td></td>
<td>• mapped</td>
</tr>
<tr>
<td></td>
<td>• non-mapped</td>
</tr>
<tr>
<td></td>
<td>• review flag (reviewed or flagged for review)</td>
</tr>
<tr>
<td></td>
<td>• excluded.</td>
</tr>
<tr>
<td>Export Mapping Flags</td>
<td>Used to select or deselect the mapping flags for export of mapping.</td>
</tr>
<tr>
<td>Export Metadata Fields</td>
<td>Used to select or deselect the data source type for which the metadata fields are to be exported.</td>
</tr>
<tr>
<td>Metadata Fields</td>
<td>Used to select or deselect metadata fields for export of mapping.</td>
</tr>
<tr>
<td>Export all data in one Excel sheet</td>
<td>Used to export all data in a single sheet for all data source types. If this checkbox is checked, it does not create separate sheets for each data source type. If not checked, it creates separate sheets for each data source type.</td>
</tr>
</tbody>
</table>

4. Enter the required name for the file in the **Export As** field, and then click **EXPORT**.

![Export dialog box](image)

**Figure 367. Exporting mapping**

5. Once the export is completed, a confirmation to reload the screen is received. Upon reloading, the data are displayed.
The mapping is downloaded as a .xlsx file in the default download location of the web browser. The Excel file contains all metadata fields selected with a few more details:

- row number of the data source
- data source type
- data row amount
- currency
- sub-row amount
- selected filters from the screen
- selected flags from the screen
- classifications
- selected metadata fields as per data source type.

More details are shown in the notification message for export mapping.
The start and completion notifications contain the details for the export mapping operation. Additional details such as study name, country and year are shown.

The completion notification message shows a link to download the exported file. Click **DOWNLOAD** to save the file on a local computer.

5.2.10 Import mapping from another study

The import mapping feature allows reuse of existing mapping from another study. Exported mapping saved in the default .xlsx file format can be used for importing data.

Users can select the data source type, data source and classifications for which they want to import mapping of an existing study.
The prerequisite to perform import mapping is having at least two studies for the same country in the application (a source study from which mapping will be imported and a destination study to which mapping will be applied). To import the mapping, follow the steps below.

1. On the Mapping screen, click ( ).

2. Select the study whose mapping is to be used.

![Figure 373. Selecting source study for importing mapping](image)

3. Click NEXT.

4. Select the data source types for the source study. Click Choose Data Source Type to view data sources.
5. Click NEXT.

6. Select the data source types for the destination study. Click **Choose Data Source Type** to view the data sources.

Define the correlations by mapping data sources for the destination study and the source study.

7. Click on the name of the data source in the left grid and then select the checkbox of the data source in the right grid.

8. Click NEXT.

The **Import Mapping** screen is displayed.
9. Select the classifications for which mapping is to be imported.

![Image of classification mapping selection]

*Figure 376. Selecting classification mapping to be imported*

10. Click **NEXT**.

11. Select the metadata fields, which should match between the source study and the destination study to import the mapping.

12. Select other conditions, and click **Import Mapping**.

![Image of metadata field criteria selection]

*Figure 377. Selecting metadata field criteria to import mapping*
A notification message is received once import of mapping starts. A success message and a notification are received when import of mapping is completed.

More details are shown in the notification message for import mapping.

The start and completion notifications contain the details for the import mapping operation. Additional details such as source study name, destination study name and classifications imported are shown.

### Table 45. Fields and buttons in “Import Mapping” form

<table>
<thead>
<tr>
<th>Field/button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choose Study</td>
<td>Used to select the study whose mapping is to be imported into the current study.</td>
</tr>
<tr>
<td>Source Customisation: Choose Data Source Type</td>
<td>Used to select data source types and data sources from the source study.</td>
</tr>
<tr>
<td>Destination correlation: Choose Data Source Type</td>
<td>Used to select data source types and data sources from the destination study.</td>
</tr>
<tr>
<td>Correlations</td>
<td>Used to define correlations by mapping each data source from the destination study to another data source in the source study.</td>
</tr>
<tr>
<td><strong>Field/button</strong></td>
<td><strong>Description</strong></td>
</tr>
<tr>
<td>-----------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Classification Customisation: Choose Classifications</td>
<td>Used to select classifications to be imported.</td>
</tr>
<tr>
<td>Metadata Fields</td>
<td>Used to select the metadata fields, which should be matched as a condition while importing mapping.</td>
</tr>
<tr>
<td>Case Sensitive</td>
<td>Determines whether the search for metadata fields should be case-sensitive. Case-sensitive means text that is sensitive to capitalization of letters. For example, “Donor” and “donor” are two different words because the “D” is upper case in the first example and lower case in the second example. Yes means that the metadata search is case-sensitive. No means that the metadata search is not case-sensitive.</td>
</tr>
<tr>
<td>Condition</td>
<td>When multiple metadata fields are selected, the user has to select between the logical AND and logical OR conditions.</td>
</tr>
<tr>
<td>Mapping Rationale</td>
<td>The mapping rationale, optionally reported by the user (as comment in the mapping module), is also imported. Depending on the selection, it either merges the rationale with an existing one or replaces the rationale.</td>
</tr>
</tbody>
</table>

- Split rules are also imported.
- When metadata fields match with more than one data row, the mapping for the data row with the first occurrence of matching found by the tool is considered and mapped accordingly.
- Data rows whose mapping was flagged in import mapping are flagged in the destination study as well.

**Note:**
- The mapping rationale for mapping included by the user is also imported. Users can overwrite or merge the rationale. If the mapping rationale is chosen as Add to existing, all the comments added for the data row are imported and added to the existing comments of the data row, if any, in the destination study (depending on the matched metadata fields). If the mapping rationale is Replace existing, comments from the destination study are replaced by the source study and shown (depending on the matched metadata fields).
5.2.11 Resetting mapping

The reset mapping feature removes the mapping of all classifications from an entire data row. It allows users to reconfigure the mapping. To reset mapping, follow the steps below.

1. In the Mapping module, click Reset Mapping.

![Figure 380. Selecting “Reset Mapping”](image)

A message to confirm the action is displayed.

2. To confirm, click YES.

The mapping was reset successfully.

Note: This action resets the mapping of all classifications of a data row. To unmap only part of the classifications, select mapped node(s) in the mapping tree and click UNMAP.

5.2.12 Checking for double-count after mapping

Users can check for double-count before mapping and after mapping. To see more about checking for double-count before mapping, see Identifying double-count. This section explains how to add a new rule for double-count, to apply the rule after data have been mapped. It also explains how to edit and delete the double-count rule.

After the data have been mapped, it may still be the case that some expenditures are counted twice. By default, all expenditures are in the included expenditures, and the feature for checking for double-count after mapping allows selection of the expenditures the user wants to exclude. Double-count after mapping can be checked for all data source types.

To check for double-count after mapping, the TL should create a double-count rule in a particular study and apply it. The TL can also edit and delete a double-count rule. Checking for double-count after mapping can be performed only by a TL.

Some double-count rules may already be built into the tool for convenience. They cannot be edited or deleted, but it is not obligatory to perform them.

5.2.12.1 Adding a new double-count rule

TL can add a new double-count rule for a particular study. To add a double-count rule for a study, follow the steps below.
It is assumed that a relevant study is already opened. See Opening an existing study.

1. To display the mapping tree, see steps 1–5 of Performing mapping.

2. Click Double Count.

![Figure 381. Selecting “Double Count” in mapping](image)

The Double Count screen is displayed.

3. Click Add New Rule.

![Figure 382. Adding new rule for double-count](image)

The Add New Rule form is displayed.

4. Enter the details in the respective fields, and click ADD.
The double-count rule is added, and a confirmation message is displayed.

Table 46 shows fields and buttons in the **Add New Rule** form.

**Table 46. Fields in “Add New Rule” form**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Used to assign a name to the new rule for double-count.</td>
</tr>
<tr>
<td>Description</td>
<td>Used to provide additional information for the new rule.</td>
</tr>
<tr>
<td>Left Data Source Type</td>
<td>Used to select the data source type (e.g. donor, NGO) that will appear on the left side of the comparison table while checking for double-count.</td>
</tr>
<tr>
<td>Right Data Source Type</td>
<td>Used to select the data source type that will appear on the right side of the comparison table while checking for double-count.</td>
</tr>
<tr>
<td>Metadata Fields to show in Left Data Source Type</td>
<td>Used to select the metadata fields that will appear on the left side for the selected left data source type of the comparison table for a better understanding of the data while checking for double-count.</td>
</tr>
<tr>
<td>Metadata Fields to show in Right Data Source Type</td>
<td>Used to select the metadata fields that will appear on the right side for the selected right data source type of the comparison table for a better understanding of the data while checking for double-count.</td>
</tr>
<tr>
<td>Classifications to show in Left Data Source Type</td>
<td>Used to select the classifications that will appear on the left side for the selected left data source type of the comparison table when the rule is applied.</td>
</tr>
<tr>
<td>Classifications to show in Right Data Source Type</td>
<td>Used to select the classifications that will appear on the right side for the selected right data source type of the comparison table when the rule is applied.</td>
</tr>
<tr>
<td>Classifications</td>
<td>Used to select the classifications. If more than one classification is selected, a logical AND is applied between the classifications, and data rows are filtered accordingly.</td>
</tr>
<tr>
<td>Classification Category</td>
<td>Used to select the classification categories. If more than one category is selected, a logical OR is applied when the rule is evaluated, and data rows are filtered accordingly.</td>
</tr>
</tbody>
</table>

- The icon (++) next to Classification Category adds a new category to the double-counting criteria list.
- The icon (−) next to Classifications Category removes the category from the list.
- The icon (−) next to Classifications removes the whole classification from the list.
- If multiple classifications are selected, a logical AND is applied to evaluate the rule.
- If multiple classification categories are selected, a logical OR is applied to evaluate the rule.

### 5.2.12.2 Editing a double-count rule

This feature allows users to modify an existing double-count rule. To edit a double-count rule, follow the steps below.

1. Click the ellipsis (…) corresponding to the double-count rule to be edited.
2. Click Edit.
Figure 384. Editing rules for double-count

The Edit form is displayed.

3. Edit the details for the respective fields, and then click SAVE.

Figure 385. Editing rule for double-count

The double-count rule is updated, and a confirmation message is displayed.
5.2.12.3 Deleting a double-count rule

This feature allows users to delete a double-count rule for a study. The rule is deleted permanently. To delete a double-count rule, follow the steps below.

1. Click the ellipsis (·) corresponding to the double-count rule to be deleted.
2. Click **Delete**.

![Figure 386. Deleting rule for double-count](image)

A message to confirm the action is displayed.

3. To confirm, click **YES**.

The double-count rule is deleted, and a confirmation message is displayed.

5.2.12.4 Applying a double-count rule

This feature allows users to apply a double-count rule that has been created in a particular study or a rule that has already been created in the system. To add a new rule for double-count in a study, see Adding a new double-count rule. Users can also apply the double-count rule created under the Admin / RULES section by the PO user. When a TL applies the double-count rule, it is performed on the data rows after mapping. To view the mapping tree, see Performing mapping.

To check for double-count after mapping, follow the steps below.

It is assumed that a double-count rule has been created.

1. To display the mapping tree, see steps 1–5 of Performing mapping.
2. Click **Double Count**.
3. Click the ellipsis (⁺) corresponding to the double-count rule to be applied.

4. Click Apply.

Figure 387. Applying rule for double-count

The **Apply double counting** screen is displayed.

5. To exclude an expenditure from a single data row, scroll to the right of the grid.

Figure 388. Applying double-count after mapping

Table 47 shows the fields, buttons and icons in the **Apply double counting** screen.

Table 47. Fields, buttons and icons in “Apply double counting” screen
<table>
<thead>
<tr>
<th>Field/button/icon</th>
<th>Button/icon name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments</td>
<td>–</td>
<td>Displays comments added or edited for a selected data row. The comments allow users to provide the reason for excluding the amount due to double-count.</td>
</tr>
<tr>
<td>Amount</td>
<td>–</td>
<td>Displays the amount for a particular data row. The left grid displays amounts for data rows of the left data source type selected. The right grid displays amounts for data rows of the right data source type selected.</td>
</tr>
<tr>
<td>Total Expenditure</td>
<td>–</td>
<td>Displays the total health expenditure for data rows selected as per filters of the double-count rule after mapping. Total expenditure for the left data source type is displayed in the left grid. Total expenditure for the right data source type is displayed in the right grid.</td>
</tr>
<tr>
<td>Included Expenditure</td>
<td>–</td>
<td>Displays the expenditure amount after subtracting the excluded amount (if any) from the total expenditure. Included expenditure for the left data source type is displayed in the left grid. Included expenditure for the right data source type is displayed in the right grid.</td>
</tr>
<tr>
<td>Exclude</td>
<td>–</td>
<td>Allows users to discard the expenditure of the selected data row, and the amount is subtracted from the included expenditure. It is a toggle button. To turn on, click the button. It scrolls to the right and turns green. To turn off, click the button. It scrolls to the left and turns grey.</td>
</tr>
<tr>
<td>Edit</td>
<td>–</td>
<td>Used to write comments for a selected sub-row.</td>
</tr>
<tr>
<td>Include</td>
<td>–</td>
<td>Used to add the expenditure for multiple rows selected. The amount is added to the included expenditure.</td>
</tr>
<tr>
<td>Exclude</td>
<td>–</td>
<td>Used to discard the expenditure for multiple rows selected. The amount is subtracted from the included expenditure.</td>
</tr>
<tr>
<td>Comments</td>
<td>–</td>
<td>Used to add comments for multiple data rows selected, providing the reason for excluding the amount due to double-count.</td>
</tr>
</tbody>
</table>
• The **Include**, **Exclude** and **Comments** buttons are enabled only when more than one data row is selected.

**Note:**
• To include, exclude or comment on multiple data rows, select the checkbox corresponding to the data rows that should be included, excluded or commented on.

6. Click the toggle button.

![Apply double counting](image)

**Figure 389. Excluding expenditure**

The button turns green, and a confirmation message is displayed, indicating that the amount is excluded.

**Note:** The toggle button is to the right of both the left data source type grid and right data source type grid. Scroll to the right to see the toggle button.

### 5.2.13 Quality check during mapping

Quality check rules are used to recommend probable mapping. The quality check rules validate the flow and mapping of health expenditure data. There are two types of quality check rules: error and warning. Users can ignore and silence warnings if they have good reasons and provide comments on this decision, but they cannot ignore errors while performing mapping and need to correct the mapping data. The quality check rules evaluated in the mapping stage are created to be applied during mapping.

#### 5.2.13.1 Warnings during mapping

If cross-mapping a classification with another classification causes a warning, a warning message is displayed. Users can silence the warning message for a quality check generated during mapping for a
data row, all data rows of the same data source, multiple data sources of the same data source type, multiple data source types, or an entire study even if the mapping is declared as not suitable by the program owner.

For example, \([FS.1.4] \ast [HF.1]>0\) is a quality check rule that displays a warning message – when a user maps FS.1.4 to HF.1 or its categories, a warning message is displayed. Thus, the quality check rule helps to avoid mistakes in mapping.

To silence warning messages, follow the steps below.

1. In the Mapping module, select data source type and data source.


![Figure 390. Mapped classification](image)

4. If the mapping creates a not-suitable mapping, a pop-up message is shown.

5. Select an option from the checkboxes on the pop-up message.
Users can silence warning messages for:

- current occurrence only – the warning message is silenced only for the current data row
- all data rows of the same data source – the warning message is silenced for all data with the same data source
- multiple data sources of the same data source type – the warning message is silenced for all selected data sources in the data source type
- multiple data source types – the warning message is silenced for all selected data source types
- the entire HA study – the warning message is silenced for the entire study.

Users can write comments in the **Warning messages** field.
6. Click **DEACTIVATE WARNING**.

The classification is mapped in the data row, a success message is shown, and the warning counter is updated.
Users can click on the **Warnings** button and view all quality check rules applied.

**Figure 397. Warning messages applied on data row**

- User can only silence quality check warnings.
- Users can select multiple data sources or data source types.
- TMs see only the data source types that are assigned to them.

**Note:**
- Quality checks are performed for the classification, and its categories and subcategories. For example, in the \([FS.1.4] \* [HF.1]\)\(>0\) rule, the quality check is performed for all HF.1 sub-categories.
- If repeat mapping causes a warning, the repeat mapping is still performed and the warning counter is updated.
When find/replace causes a warning, the replace is still performed and the warning counter is updated.

If adding split rules to a split pattern generates an error/warning, a message is displayed.

**Figure 398. Selecting from options**

### 5.2.13.2 Errors during mapping

If cross-mapping a classification with another classification causes an error, an error message is displayed. Users cannot silence the error message for a quality check generated during mapping. These rules are not-allowed mappings, and users cannot map such classifications(categories).

For example, \([FS.1.2]*[HF.3]>0\) is a quality check rule that displays an error message. If a user maps FS.1.2 to HF.3 or its categories, an error message is displayed. Thus, the quality check rule helps to avoid mapping mistakes.

To view errors during mapping, follow the steps below.

1. In the Mapping module, open a data row to map.
3. Map another classification in a data row.

An error message is shown.
5. Click **CANCEL**.

Users cannot map classifications that cause an error.

- Users cannot map not-allowed mappings.
- The quality check rule is applied to the classification, and its categories and subcategories. For example, in the \([FS.1.2] * [HF.3]>0\) rule, the quality check rule is also evaluated when any child categories of HF.3 are selected.

**Note:**
- When repeat mapping causes not-allowed mappings, the repeat mapping is not performed on those data rows.
- When replace/replace all causes not-allowed mapping, replace is not performed on the data rows.
- When adding split rules to a split pattern, if classification categories may generate an error or warning at mapping, the error or warning is shown.
6 Validation module

The Validation module allows users to visualize the charts and tables for an entire study, to help determine the accuracy of the data. The Validation module comprises three sub-modules: Graphs, Tables and Reports. In this module, the country HA team can see clearly and analyse how resources flow through the health sector, from revenues to schemes, from agents to providers, and so on. If a flow looks incorrect, the team can easily return to the mapping stage to recode data. Finally, the production of HA tables, which is usually quite time consuming, is automatic in this module. All tables produced can be exported from the tool. There are also some standard tables that are predefined in the tool.

6.1 Graphs

Graphs show the mapping for all data sources under different data source types in a study. Users can navigate through the graph to view and track health financing flows, mapping patterns under different expenditure types (current, capital and related). Users can also select a data source and data type to generate the graph by applying various filters.

Note:
- Data rows that are completely mapped (all classifications of a data row are mapped) are considered for generating a graph.
- Data rows that are excluded are not shown in the graphs.
- All users (TL, TM and CU) have access to this feature.

6.1.1 Generating graphs

This feature generates graphs to show or filter the mapping for the whole study. To generate graphs, follow the steps below.

1. In the Validation module, click Graphs.

The Graphs sub-module is displayed.
Figure 401. Generating graphs

The graph screen is flexible in that it allows the HA team to display data in various ways. Table 48 shows the fields in the Graphs sub-module.

Table 48. Fields in Graphs sub-module

<table>
<thead>
<tr>
<th>Field name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expenditure Type</td>
<td>Used to select the type of expenditure from the drop-down list: current, capital or related.</td>
</tr>
<tr>
<td>Data Source Type</td>
<td>Used to select one or all data source types that provide information about the selected expenditure type.</td>
</tr>
<tr>
<td>Data Source</td>
<td>Used to select contributors of funding from the drop-down list.</td>
</tr>
<tr>
<td>Data Absolute</td>
<td>Used to select the display of data as absolute values.</td>
</tr>
<tr>
<td>Data Percentage</td>
<td>Used to select the display of data as percentages.</td>
</tr>
<tr>
<td>Threshold value</td>
<td>Used to select the expenditure limit for the graph. Depending on the entered value, the graph is shown on the screen. For example, if the threshold value is set as $500, the graph will show all the mappings and amount flowing through classifications having a higher value than the threshold.</td>
</tr>
<tr>
<td>Scale</td>
<td>Used to select the scale for the expenditure amount to be displayed.</td>
</tr>
<tr>
<td>Currency</td>
<td>Used to select the currency from the list of currencies of the study.</td>
</tr>
</tbody>
</table>

Note: • For all filters, the options in the drop-down list are study-specific.
• Users can select absolute data values and percentage data values at the same time to view the data.

Users must click on Sync Data to load the graph on the screen, according to the selected filters. Once the synchronization operation starts, a notification message is received. The time for synchronization of data depends on the size of the study. Once synchronization is completed, the user is asked for confirmation to reload the page. Once the page is reloaded, the graph is displayed on the screen.

Table 49 shows the icons displayed in the Graphs sub-module.

Table 49. Icons in Graphs sub-module

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Zoom In" /></td>
<td>Configures various settings related to classifications.</td>
</tr>
<tr>
<td><img src="image" alt="Zoom Out" /></td>
<td>Zooms in to the graph.</td>
</tr>
<tr>
<td><img src="image" alt="Fit to Window" /></td>
<td>Zooms out of the graph.</td>
</tr>
<tr>
<td><img src="image" alt="Full Screen" /></td>
<td>Shows the graph in full screen.</td>
</tr>
<tr>
<td><img src="image" alt="Grid View" /></td>
<td>Shows the data in grid view.</td>
</tr>
<tr>
<td><img src="image" alt="Warning" /></td>
<td>Shows warnings and errors after mapping, if any.</td>
</tr>
</tbody>
</table>

More details are shown in notification messages.
The start and completion notifications contain the details for the synchronization operation. Additional details such as study name, country and year are also shown.

6.1.2 Quality checks during validation

Quality checks of mapping take into account all mapped data and can be applied at the data validation stage. This feature helps to increase the study data quality, applying to different data classifications and categories. To view such quality checks, follow the steps below.

1. In the Validation module, choose the Graphs sub-module.

2. If the data are not synchronized and updated yet, click **Sync Data**.

3. Once synchronization is complete, click the warnings and errors icon (⚠️).
Figure 405. “Warning(s) and Error(s)” screen

Warnings and errors are listed.

Table 50. Fields in “Warning(s) and Error(s)” screen

<table>
<thead>
<tr>
<th>Field name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classifications</td>
<td>Shows the rules evaluated for classifications in the study.</td>
</tr>
<tr>
<td>Message(s)</td>
<td>Shows the error/warning message for the rules.</td>
</tr>
<tr>
<td>Comment</td>
<td>Shows the comments entered by the user.</td>
</tr>
<tr>
<td>Type</td>
<td>Shows the rule type (warning or error).</td>
</tr>
</tbody>
</table>

If the user does not want to adjust the mapping, they can leave comments explaining why these atypical entries exist in the country data. These comments will appear in the Warning(s) and Error(s) screen (see Figure 405. “Warning(s) and Error(s)” screen). To edit a comment, follow the steps below.

1. Click the pencil icon ( ) next to the warning or error.
2. Enter a message or comment, and then click ADD.

Once the message is added, a confirmation is received.
Users can export warning and error messages by clicking **EXPORT**.

A list of warnings and errors is exported and downloaded on the user’s computer.

**Note:**
- Row expenditure data will be included in the total amount displayed in the Validation module only after all classifications are mapped for this row.
- Once the mapping has been corrected, the particular warning or error will disappear from the list.

### 6.1.3 Modifying classifications order

This function allows users to change the classifications order in the mapping tree, or exclude specific classifications from the graph. To manage the settings in the Graphs sub-module, follow the steps below.

1. Generate the graph (see **Generating graphs**).

The graph is generated.
2. In the Graphs sub-module, click **Settings**.

The **Configuration** screen is displayed.

![Configuration screen](image)

**Figure 409. Opening settings menu**

3. Select the toggle button ( ) corresponding to the classification to realign its position in the mapping tree.

   - The toggle button turns green ( ) when the classification to reorder is selected.

   Note:
   - The toggle button turns grey ( ) when the classification is deselected from reordering.
   - Classifications that are deselected are excluded from the mapping tree.

4. Select the level of the classification from the drop-down list to move it up or down.

5. Click **REORDER**.

The graph is reordered, and a confirmation message is displayed.

### 6.1.4 Exporting graphs

This feature allows users to save graphs on their system. The exported graph is saved in a .png file format. To export a graph, follow the steps below.

1. Generate the graph (see **Generating Graphs**).

   The graph is generated.

2. Click **Export Diagram**.
The graph is downloaded as a .png file in the default download location of the system.

### 6.1.5 Data grid view

The data grid view allows users to view the graph data in a tabular structure. All filters applied in a graph are applied in the data grid view. To view data in data grid view, follow the steps below.

1. Click the icon

2. Data for the data rows are shown.

![Data Grid View](image)

### 6.2 Tables

HA study results can be presented as a set of two-dimensional cross-tables. HAPT has six standard tables. Their set and order cannot be changed. Users can also create customized tables. All tables can be exported to Excel files.

To view tables, follow the steps below.

1. On the **Validation** screen, click **Tables**.
The Tables screen is displayed.

2. Click **Sync Data**. A notification message is received when the synchronization operation starts. Depending on study size, synchronization may take some time.

3. Once synchronization is complete, the user receives a confirmation to reload the screen. Once the screen is reloaded, the data are displayed.

4. Select the required cross-table, currency and scale.
The Tables screen is displayed.

More details are shown in notification messages for cross-table synchronization.

The start and completion notifications contain details for the cross-table synchronization operation, such as study name, country and year.
6.2.1 Adding a new table

This feature creates a new customized table with a specific classification combination for analysing the health expenditure in a country. To add a new table, follow the steps below.

1. In the Validation module, click **Tables**.

2. Click **Add New Table**.

![Figure 418. Adding new table](image)

The **Add New Table** form is displayed.

3. Enter the details in required fields, and then click **ADD**.

![Figure 419. "Add New Table" form](image)

The new table is added, and a confirmation message is displayed.

- Click the ( ) icon next to a classification category to remove the selection from the list.

  **Note:**

- Click the ( ) icon next to a classification category to add a new classification category.

Table 51 shows the fields in the **Add New Table** form.
Table 51. Fields and buttons in “Add New Table” form

<table>
<thead>
<tr>
<th>Field/button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table Name</td>
<td>Used to indicate a new table name.</td>
</tr>
<tr>
<td>Expenditure Type</td>
<td>Current, capital or related expenditure type can be used in the tables.</td>
</tr>
<tr>
<td>Header Row Choose classification row</td>
<td>Used to choose a classification for the row of the table. Note: In Figure 419. “Add New Table” form, HF is shown in columns in the table.</td>
</tr>
<tr>
<td>Header Row Choose aggregation row</td>
<td>Used to select the aggregation level of classification categories for the row.</td>
</tr>
<tr>
<td>Header Column Choose classification column</td>
<td>Used to choose a classification for the column of the table. Note: In Figure 419. “Add New Table” form, FS is shown in the rows in the table.</td>
</tr>
<tr>
<td>Header Column Choose aggregation column</td>
<td>Used to select the aggregation level of classification categories for the column.</td>
</tr>
<tr>
<td>Filter Classifications</td>
<td>A filter for the cross-table with categories for different classifications. This function can be used to create multiple crosses with single categories from several classifications.</td>
</tr>
<tr>
<td>Classification Categories</td>
<td>Used to choose a category for filtered classifications for crosses.</td>
</tr>
<tr>
<td>Show Totals</td>
<td>Displays the totals of the selected categories in the table. Users can choose whether or not to enable this feature.</td>
</tr>
<tr>
<td>Show Shares</td>
<td>Displays the percentage for the selected categories. Users can choose whether or not to enable this feature.</td>
</tr>
</tbody>
</table>

The **New Table** screen is displayed.

### 6.2.2 Editing a table

This feature is used to modify existing tables in a study. To edit a table, follow the steps below.

1. In the Validation module, click **Tables**.

2. Select the table to be edited.

![Figure 420. Selecting table](image)

3. Click **Edit Table**.
The **Edit Table** form is displayed.

4. Modify the required fields, and then click **SAVE**.

The table is updated, and a confirmation message is displayed.

For a description of the fields in the **Edit Table** form, see **Table 51. Fields and buttons in “Add New Table” form**.

### 6.2.3 Exporting tables

This function saves cross-tables in .xlsx file format in the user’s system. Even if the user chooses one table, all tables will be exported in a file. Users can refer to this file even if there is no internet connection. To export tables, follow the steps below.

1. In the Validation module, click **Tables**.
2. Select the table to be exported.
3. Click **Export Table**.

The **Export** form is displayed.

4. Enter the name under which the file will be saved, and then click **EXPORT**.

The table is downloaded as an .xlsx file, in the default download location of the system. The time needed for export depends on the size of the file.

More details are shown in the notification message for table export.
The start and completion notifications contain the details for the export cross-table operation, such as study name, country and year.

The completion notification message shows a link to download the exported file. Click Download to save the file on a local computer.

6.2.4 Metadata

To view metadata, follow the steps below.

1. In the Validation module, click Tables.

2. Select the table.

3. Click View Metadata.

The View Metadata screen is displayed. It shows the data sources.
To view tables, the user must initially perform data synchronization.

Information is shown, such as the latest synchronization date and the name of the user who performed it.

If the data in tables are up to date, no synchronization is required, and a message is shown.

Similarly, if any changes have been performed in mapping or data collection modules, a message to synchronize data is shown. A message to synchronize data is also shown when a table is edited or created.

The synchronization operation may take time, depending on the size of study.

Note:
6.3 Reports

The Reports sub-module in the Validation module contains several types of reports. It summarizes the key activities and decisions made during production of the HA study. It includes general information related to the study, such as summary of classifications, double-count, metadata, split rules and data collection. To print these reports, they should first be exported to Excel.

The reports are categorized into seven types, based on the information they contain. To create a report, follow the steps below.

1. In the Validation module, click Reports.

![Figure 432. Selecting “Reports”](image)

2. Select the desired report type from the drop-down list.

![Figure 433. Selecting report type](image)

Table 52 shows the report types in the drop-down list.

<table>
<thead>
<tr>
<th>Report type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Information</td>
<td>Displays general information: name of the study, country, year and time period, currency and exchange rates, and a field with the study description. It also displays a list of the selected classifications.</td>
</tr>
<tr>
<td>Reported Classifications</td>
<td>Displays the classification categories mapped in the selected study.</td>
</tr>
<tr>
<td>Data Collection Summary</td>
<td>Displays information on all data sources for all data source types for the study. This includes the data source name, its details and the method of data collection.</td>
</tr>
<tr>
<td>Double Counting</td>
<td>Displays the summary of double-counting in the selected study. Users can view information such as the data source in which any double-count has</td>
</tr>
<tr>
<td>Report type</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Study Statistics Summary</td>
<td>Displays a summary of statistics generated for the study. This includes the percentage of available data, mapped data, flagged data rows for review and total expenditure.</td>
</tr>
<tr>
<td>Metadata Summary</td>
<td>Displays a metadata summary for all data source types for a selected study. This includes the percentage of mapped and unmapped rows, the number of rows under quality check, and the number of rows that are excluded and flagged for review.</td>
</tr>
<tr>
<td>Split Rule Summary</td>
<td>Displays the split rule summary of all data source types for a selected study. This includes the split rule name, description, classifications and number of classification items.</td>
</tr>
</tbody>
</table>

The report for the selected type is displayed. The **General Information** report is displayed by default.

![Figure 434. Report](source)

### 6.3.1 Exporting reports

This function exports the selected reports in Excel. Reports can be saved on the user’s system and referred to in the event of poor internet connectivity or inability to log in to HAPT. To export reports, follow the steps below.

1. In the Validation module, click **Reports**.
2. Click **EXPORT**.
The **Export** form is displayed.

3. Enter the report details in the respective fields, and then click **EXPORT**.

![Figure 435. Exporting reports](image)

The reports selected are exported as an .xlsx file, in the default download location of the system. Table 53 describes the fields in the **Export** form.

**Table 53. Fields in “Export” form**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Export as</td>
<td>Used to enter the name of exported reports to the user’s own computer system.</td>
</tr>
<tr>
<td>Report Category</td>
<td>Used to select the reports for exporting. Users can export multiple reports at once.</td>
</tr>
</tbody>
</table>

- Users can choose to export all reports by clicking the **Select All** checkbox in the **Export** form.
- **Selected** indicates the number of reports selected in the **Export** form.
7  Downloading and installing HAPT offline version

Users can download and install the offline version of HAPT on their own computers. This version can be accessed like any other web application. The offline version of HAPT protects a country’s data. To download the files, see Download files.

7.1  Understanding HAPT installer

The HAPT installer can be used to install HAPT on a computer. The computer on which the installer is installed should be connected to the intranet. This grants access to the installer locally, to a single user or a group of users.

Prerequisites required to run the HAPT installer are as follows.

- Docker should be installed and running on the computer.
- Users should have administrative privileges.
- Users should have at least 8 GB of RAM on their computer.
- The offline version of HAPT should not already be installed on the computer.

HAPT Installer checks for all these prerequisites during installation of HAPT (see Installing HAPT Installer).

Note:

- If an older version of HAPT is installed on the computer, click the Check for updates button in the left grid. This shows whether a version of HAPT that is not the latest version is installed.
- Users can download updated files, uploaded by the WHO team from here. See Download files for further details.

7.2  Installing Docker Desktop for Windows (other than Windows 10 Home edition)

Users need to install and run Docker Desktop for Windows to install the HAPT installer. If the Windows version on the machine is not Windows 10 Home edition, follow the steps below. Otherwise, see Installing Docker Desktop for Windows 10 Home edition.

To install Docker Desktop for Windows, follow the steps below.


The webpage to install Docker Desktop for Windows is displayed.

2. Click Docker Desktop for Windows.
Figure 437. Downloading Docker Desktop for Windows

**Docker Desktop.exe** is downloaded in the browser’s default download location.

3. Double-click **Docker Desktop.exe** to install Docker Desktop.

4. Open Docker Desktop from the **Programs** menu.

5. In the **Windows** search box, type “cmd”, and then press **Enter**.

The Command Prompt window is opened.

6. Run command **docker images** on the Command Prompt, to check if Docker is running.

---

*Note:* When Docker is not installed properly, the message, “Docker is not recognized as an internal or external command” is displayed on the Command Prompt.
7. Click the **Settings** icon on the Docker menu bar.

![Figure 439. Selecting settings in Docker Desktop](image)

The **Settings** screen is displayed.

8. Under **Resources**, click **FILE SHARING**.
Local drives to install the installer on the computer are displayed in the right pane.

9. Click the expand ( ) icon, and then select the drive where the HAPT installer is to be installed.

The selected drive is chosen to install the HAPT installer.

7.3 Installing Docker Desktop for Windows 10 Home edition

If the Windows version on the computer is Windows 10 Home edition, follow the steps below.

1. Open PowerShell as Administrator, type the following command and press Enter:
   
   ```
   dism.exe /online /enable-feature /featurename:Microsoft-Windows-Subsystem-Linux /all /norestart
   ```
2. Press **Windows + r** keys on keyboard simultaneously; the **Run** window will open.

![Figure 442. Opening PowerShell](image)

3. Type “ms-settings:windowsupdate”. This will open a screen to update Windows; if necessary, update Windows. If Windows is updated, move to the next step.

![Figure 443. “Run” window](image)

4. Open PowerShell as Administrator, type the following command and press **Enter**: `dism.exe /online /enable-feature /featurename:VirtualMachinePlatform /all /norestart`

![Figure 444. Typing command in “Run” window](image)
5. Open any browser and download the Linux kernel update package from https://wslstorestorage.blob.core.windows.net/wslblob/wsl_update_x64.msi.

6. Open PowerShell as Administrator, type the following command and press Enter:
   wsl --set-default-version 2

7. Open a browser and Install Linux distribution - Ubuntu 18.04 from https://www.microsoft.com/store/apps/9N9TNGVNDL3Q.

8. Click Get and Install.

9. Once installation is complete, the user will be prompted to create a username and password for Linux distribution.

10. Create the username and password.


12. Install Docker Desktop.

13. After Docker is installed, run it and then install the offline version of HAPT by following the steps below.

### 7.4 Installing HAPT installer

Users can download and install the HAPT installer on their computer only after installing Docker.

On successful installation of the HAPT local version, a user can register as a Program Owner (PO) user. To see more about user roles, see User roles.

To download and install the non-shared version of HAPT, follow the steps below.

1. Download Hapt.Installer.exe from the Download Files page. See Download files for further details.

   The installer file, Hapt.Installer.exe, is downloaded in the browser's default download location.


   The Step 1 – Welcome page of HAPT Installation Wizard is displayed.

3. Click Next.
Figure 445. HAPT installation welcome screen

The Step 2 – Check Pre-Requisites page is displayed.

Note: Ensure that the folder in which the installer files will be installed is added in the file sharing of Docker Desktop. Do not proceed until this step is complete.

4. Click Next.
The **Step 3 – Select folder to store installation files and data** page is displayed.

- Only when all the prerequisites are met can the user proceed to step 3 of the HAPT Installation Wizard.
- If the prerequisites are not met, the user must exit the installer.

5. Select the folder to store the installation files and databases, and then click **Next**.
All installation files and databases are stored in the selected folder.

- The folder chosen here to store installation files and databases is D:Test.

Note:
- Inside the selected folder, Test, folders are created to store installation files. SQL server image is loaded, new SQL user is created, and databases required to run the application are created. This process takes some time to complete.

The Docker Desktop – Filesharing dialog box is displayed.

6. Click Share it.
The **Step 4 – Install Application** screen is displayed.

- The **Docker Desktop – Filesharing** dialog box prompts several times during the installation for permission to share different folders to Docker. Users can accept file sharing by selecting **Share it**.

  **Note:**
  - Different folders are shared to Docker when the user clicks **Share it** on the **Docker Desktop – Filesharing** dialog box.
  - The **Docker Desktop – Filesharing** dialog box may not always display to prompt file sharing.

7. Click **Next**.

Listed tasks are completed.

**Note:**
- Docker files are copied and modified as per the current computer settings.
• The Docker Compose desktop icon is created to start Docker Compose. The desktop icon is not used often, but can be used if Docker Compose is down.

8. Click Finish.

Figure 451. Launching HAPT

Command Prompt opens and runs continuously to start all the microservices one by one.

⚠️ **Warning**  Do not close the Command Prompt without ensuring that the application URL is working. Once the URL is opened in the browser and HAPT is running, the registration page is displayed. It takes time to complete the process.
Figure 452. Starting all microservices

Two desktop icons, **HAPT.DockerCompose** and **HAPT.WebApplication** are created on the desktop.

9. Click the **HAPT.WebApplication** desktop icon to launch HAPT.

![HAPT.WebApplication icon](image)

Figure 453. Desktop icons for HAPT

The default browser opens with the URL [https://(your-machine-name):4481/hapt/](https://(your-machine-name):4481/hapt/), and the local version of HAPT runs.

Note:
- The installation process can take some time to complete.
- Refresh the page few times until the registration page is displayed.
- Close the Command Prompt once the registration page is displayed.

10. Enter registration details on the registration page for a user, and then click **REGISTER**.
The user is successfully registered and the **Two-factor authentication (2FA)** screen is displayed.

Note:

- If the browser window is accidently closed before the registration is completed, double-click on the desktop icon **HAPT.WebApplication** to reopen the browser.
- Two-factor authentication is needed to log in to HAPT (see [Two-factor authentication](#)).

### 7.5 Uninstalling HAPT

Uninstallation of HAPT is a manual process. Uninstalling the offline version of HAPT involves the following steps.

1. Identify the folder where HAPT is installed.
2. Remove all the files from the local installation folder.
3. Delete registry (where the path and HAPT version are present).
4. Delete all desktop shortcuts.

To uninstall HAPT, follow the steps below.

1. In the Windows search box, enter “run”.
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2. Enter “regedit” in the Open field, and then click OK.

3. Open the WHO folder to check the installation path, and then click InstallLocation folder.
Figure 457. Opening “InstallLocation” path

The installation path is displayed.
The InstallLocation folder path in the registry here is D:/test. This is the path of the selected folder where all the installation files and databases of HAPT are stored. See step 5 of Installing HAPT installer.

The registry path is displayed in the windows menu bar. It is Computer\HKEY_LOCAL_MACHINE\SOFTWARE\WHO\InstallLocation.

4. Open the InstallLocation folder path present in the registry path.

![Figure 458. Displaying “InstallLocation” path](image)

The Docker subfolder is displayed.

5. Open Docker subfolder.

![Figure 459. Displaying “Docker” subfolder](image)

Docker files are listed.
6. Stop Docker Compose by running the Docker command from the Command Prompt (see Stopping Docker Compose).

7. Select all subfolders in the installation path, and then press the **Delete** key.

   ![Figure 460. Docker files](image)

All the subfolders are deleted.

---

Note: Deleting these folders deletes all the data, including the database present for the local version of HAPT.

8. Right-click the **WHO** registry from the **Registry Editor**.

A shortcut menu is displayed.

9. Click **Delete**.
The **WHO** registry is deleted.

10. Delete the desktop icons (HAPT.DockerCompose and HAPT.WebApplication).

Uninstallation of HAPT is completed.
### 7.6 Stopping Docker Compose

Users need to stop Docker Compose before the installation files are deleted from the `InstallLocation` path.

To stop Docker Compose, follow the steps below.

1. On the Command Prompt, change the directory to select the installation path of the Docker folder (see [Changing directory on Command Prompt](#)).

The path at the Command Prompt is changed to the installation path of the Docker folder.

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.18363.693]
(c) 2019 Microsoft Corporation. All rights reserved.
D:\Test\Docker>
```

**Figure 464. Navigating to Docker folder**

Note: The installation path of the Docker folder here is `D:\Test`.

2. Run the command “`docker-compose -p "who-hapt" down`” to stop Docker Compose.

```
C:\Users\person1.114\AppData\Local\Temp\cmd.exe
Microsoft Windows [Version 10.0.19042.867]
(c) 2020 Microsoft Corporation. All rights reserved.
C:\Users\person1.114\AppData\Local\Temp\cmd.exe
D:
D:\cd test\docker
D:\Test\Docker>docker-compose -p "who-hapt" down
```

**Figure 465. Running command to stop Docker Compose**

- An error may be received when the command is run to stop Docker Compose. In such a situation, start Docker Desktop to run it.
- Run the command again to stop Docker Compose.

All Docker services are stopped and removed from the computer.
3. Close the Command Prompt window.

### 7.7 Changing directory on Command Prompt

Users need to run the stop Docker Compose command in the Docker folder. If the user is not in the Docker folder, they need to change the directory.

There are two ways to change the directory.

- Change the directory by running a command on Command Prompt.
- Change the directory by selecting the path from Windows Explorer.

To change the directory by running a command on Command Prompt, follow the steps below.

1. In the Windows search box, type “cmd”, and then press **Enter** to open Command Prompt. The Command Prompt window is opened.

2. To change to D drive, type “D:”, and then press **Enter**.
3. To navigate to the Docker folder, type “cd Test\Docker” on Command Prompt.

![Command Prompt]

Figure 468. Command to change directory

The path is changed to the installation path of the Docker folder.

![Displaying installation path]

Figure 469. Displaying installation path

To change the directory by selecting the installation location path, follow the steps below.

1. Open Windows Explorer.

2. Navigate to the installation path of the Docker folder.

![Navigating to installation path in Windows Explorer]

Figure 470. Navigating to installation path in Windows Explorer

3. Click on the address bar, and then type “cmd”.

4. Press Enter.

The path is changed to the installation path of the Docker folder.
Figure 471. Displaying installation path
## Troubleshooting

<table>
<thead>
<tr>
<th>Problems and requirements</th>
<th>Causes</th>
<th>Remedies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not able to download the survey</td>
<td>Network connection may not be available.</td>
<td>Check for availability of a network connection.</td>
</tr>
<tr>
<td>Not able to bind the columns while importing data</td>
<td>The columns present in the tool and columns available in the Excel sheet may not be the same.</td>
<td>Import an Excel sheet with the appropriate column names or bind columns manually.</td>
</tr>
<tr>
<td>Not able to see records</td>
<td>Network connection may not be available.</td>
<td>Check for availability of a network connection. Refresh the page and try again.</td>
</tr>
<tr>
<td>Not able to select countries</td>
<td>User role may not be selected.</td>
<td>Select a user role to access the countries associated with that user role.</td>
</tr>
<tr>
<td>Not able to select data for performing mapping</td>
<td><strong>SELECT FOR MAPPING</strong> button is not present on the mapping module page.</td>
<td>Select the node from a diagram and click <strong>SELECT FOR MAPPING</strong> to perform mapping.</td>
</tr>
<tr>
<td>Not able to apply split pattern</td>
<td>The classification is already mapped.</td>
<td>Unmap the classification and try again.</td>
</tr>
<tr>
<td>Connection issues</td>
<td>Cache is not cleared.</td>
<td>Clear the browser cache. For Firefox, follow these steps.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. Click the menu button (hamburger button) and select <strong>Settings</strong>.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Select the <strong>Privacy &amp; Security</strong> panel.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. In the <strong>Cookies and Site Data</strong> section, click <strong>Clear data</strong>.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Remove the check mark in front of <strong>Cookies and Site Data</strong>.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. With <strong>Cached Web Content</strong> checked, click <strong>Clear</strong>.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. Close the browser and start again.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>For Chrome, follow these steps.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. Click on the ellipsis menu (at top right).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Click <strong>Settings</strong>.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Click <strong>Privacy and security</strong>.</td>
</tr>
</tbody>
</table>


4. Click **Clear browsing data**.
5. Select **Cache images and files**.
6. Click **Clear data**.

For Edge, follow these steps.
1. Click on the ellipses menu (at top right).
2. Click **Settings**.
3. Click **Privacy, search and services**.
4. Click **Choose what to clear every time you close the browser**.
5. Select **Cache images and files**.

For Safari, follow these steps.
1. Select **Safari -> Preferences...**
2. Click the **Advanced** tab and check the box next to **Show Develop menu** in menu bar.
3. From the menu bar, select **Develop -> Empty Caches**.

### Browser requirements

<table>
<thead>
<tr>
<th>Supported browsers:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Edge, 44.18362.449.0 and above</td>
</tr>
<tr>
<td>Google Chrome, 81.0.4044.92 and above</td>
</tr>
<tr>
<td>Mozilla Firefox, 68.7.0 and above</td>
</tr>
<tr>
<td>Safari, 12.1.2 (14607.3.9) and above</td>
</tr>
</tbody>
</table>

### Screen requirements

The application is best viewed on browsers and other devices having resolution greater than 1024 pixels (except mobile phones).
9 Glossary

Classification: Classifications categorize health expenditures across different dimensions using the SHA 2011 methodology. There are 21 classifications available in HAPT.

Country User (CU): Users with CU role have access to assigned countries with read-only permissions.

Data row: An individual row of health study data. A data row is added for data sources such as government, miscellaneous and household. Health study data can be manually updated in data rows.

Data source: The major contributors of funding to the health system. Institutional surveys are designed and sent to the data sources to gather information on health expenditures.

Data source type: The various sources that provide information about health expenditures. The eight data source types in HAPT are:
- donor
- NGO
- employer
- insurance
- government
- miscellaneous
- household
- provider.

Double-counting check: Excludes expenditures that are duplicated within a study. Duplication occurs when different data sources report the same expenditure for a country for a year. The check helps to remove redundant health expenditure and gives more accurate estimation of health expenditure.

Mapping: The process of classifying data across various classifications. It applies the codes of categories and classifications from the application to the data nodes.

SHA: The System of Health Accounts (SHA) is an internationally standardized methodology that allows systematic tracking of flows of expenditures in the health system.

Split rule: Used to split the classifications for a given study among different classification items. Split rules are used to track the exact expenditure amount collected from the data sources.

Study: HAPT supports the creation of “studies” for one country and for a year. A study captures the health expenditure data for a year for a country.
Survey: Surveys are used for data collection. A survey is a set of predefined questions to obtain information on total expenditure from various sources. Data in HAPT can be gathered using surveys with standard templates for five data source types: donor, NGO, employer, insurance and provider.

Team Lead (TL): A user role that has access to only those countries that have been assigned to that specific TL. TL have read, write, edit and delete permissions for assigned countries.

Team Member (TM): A user role that has access to only those countries and data source types that have been assigned to that specific TM. TM have read, write, edit and delete permissions for assigned countries and data source types.

Weighting: Used to extrapolate data from a subset of data. The data are collected to calculate total current health expenditure amounts.
Annexes

Annex 1 Metadata fields for all data source types by survey

**Donor**
- Name
- Position
- Email address
- Contact number
- Name of project/programme
- Description of project
- Source of funds for project
- Recipient organization name (non-capital expenditures)
- Description of activities undertaken in project
- Disease on which money was spent
- Age group benefiting
- People benefiting (if disease selected was HIV)
- Recipient organization name (capital expenditures)
- Capital expenditures exported by your organization in reporting period
- Disease on which money was spent

**NGO**
- Name
- Position
- Email address
- Contact number
- Type of NGO
- In addition to using your information in an aggregate manner, would you approve the disclosure of your organization’s name and contribution in the final HA report?
- Is this NGO a healthcare facility?
- Does this NGO provide healthcare services?
• Does the government appoint officers to the NGO?
• Is there a contractual agreement with the government?
• Do you get financing support by the government?
• Project name
• Description of project
• Source of funds for project
• Provider (non-capital expenditures)
• Factors of provision
• Activity carried out by the provider
• Disease on which money was spent
• Age group benefiting
• People benefiting (if disease selected was HIV)
• Capital expenditure spent on (capital expenditures)
• Capital expenditures exported by your organization in reporting period
• Disease on which money was spent

Employer

• Name
• Position
• Email address
• Contact number
• Name of firm/entity
• Firm/entity ownership
• Principle activity
• Number of full-time employees
• Number of part-time employees
• Nature of health benefits provided
  – Who was entitled to receive health benefits?
• Own health facilities
  – Non-capital expenditures
    – Services on which amount was spent
    – Factors of provision
- Capital expenditures
  - Capital expenditure by type of assets
  - Disease on which money was spent

- Contract with healthcare provider
  - Healthcare services provided to your employees at health facility

- Reimbursement of employees
  - How much in total did you reimburse your employees for health services upon presentation of receipts?

- Treatment abroad
  - What was the total employer contribution to the treatment abroad?
  - Services on which the amount was spent
  - Expenditure made on which services

- Workplace programmes
  - Non-capital expenditures
    - What was the total amount of money that you spent providing health care to your employees through workplace programmes (do not report any amount that was previously reported under “own health facilities”)?
    - Workplace programmes on which amount was spent
    - Expenses on programmes
    - What disease was the money spent on?
    - Factors of provision for services
    - Amount spent on factors of provision for services
  - Capital expenditures
    - How much did you spend on capital expenditures at your own health facilities?
    - How much did you spend on capital expenditures?
    - What disease was the money spent on?

- Corporate social responsibility
  - What was the total amount of money that you spent on corporate social responsibility programmes for health?
  - Corporate social responsibility programmes offered
  - Expenses for programmes

- Programme details
  - What was the total amount of money that you spent on “Other”?
  - What was the health service for which this amount was spent?
  - Specify the amount or percentage breakdown for same.

**Insurance**

- Name
- Position
• Email address
• Contact number
• What type of insurance did you offer?
• Non-capital expenditures:
  – Factors of provision
• Capital expenditures:
  – Capital expenditure spent on
  – Expenses associated with capital expenditure
• Health insurance expenditures
  – Expenditures on providers receiving health service
  – Health service provided at selected provider
• Life insurance expenditures
  – Sources of income
  – Expenditures on providers receiving health service
  – Health service provided at selected provider
• Car insurance expenditures
  – Expenditures on providers receiving health service
  – Health service provided at selected provider
• Other insurance expenditures
  – Sources of income
  – Expenditures on providers receiving health service
  – Health service provided at selected provider

Provider

• Name
• Position
• Email address
• Contact number
• Name of facility
• Facility identification/registration code (if relevant)
• National classification code of activity (or ISIC Rev 4/NACE etc.)
• Type of healthcare provider
• Services the facility provides (e.g. curative, rehabilitative, inpatient, family doctor consultations)
• Region/address of facility
• Number of employees
• Did you have any health expenditures between " & StartDate & " and " & EndDate & "/"?

• What currency will you use to fill out all questions in the survey?

• What are your total expenditures (except capital expenditure) for the same time period?

• What is your capital expenditure on health for the same time period?

• Non-capital expenditures
  – What were the sources of revenues?
  – Factors of provision for same (line items under which amount is spent) with respect to revenue
  – Activities that were carried out by the provider with respect to sources of revenue
  – What disease was the money spent on?

• Capital expenditures
  – What capital expenditures were exported by your organization in the reporting period?
Annex 2 Metadata fields of all data source types by secondary data source

Donor

- Budget line code
- Comment
- Name of respondent
- Contact number
- Position of respondent
- Description of project component
- Descriptive information 1
- Descriptive information 2
- Descriptive information 3
- Descriptive information 4
- Descriptive information 5
- Email address of respondent
- NGO
- Project description
- Project name
- Source of funding
- File name
- Line number

NGO

- Budget line code
- Comment
- Name of respondent
- Contact number
- Position of respondent
- Description of project component
• Descriptive information 1
• Descriptive information 2
• Descriptive information 3
• Descriptive information 4
• Descriptive information 5
• Disease
• Does this NGO provide healthcare services?
• Email address of respondent
• Factor of provision
• Activity (function)
• Would you approve disclosure of your organization’s name and contribution in the final NHA report?
• Is there a contractual agreement with the government?
• Do you get financing support from the government?
• Is this NGO a healthcare facility?
• Age
• Project description
• Project name
• Provider
• Source of funding
• Type of NGO
• File name

**Employer**

• Benefit type
• Budget line code
• Comment
• Name of respondent
• Contact number
• Position of respondent
• Descriptive information 1
• Descriptive information 2
• Descriptive information 3
• Descriptive information 4
• Descriptive information 5
• Email address of respondent
• Number of full-time employees
• Services provided
• Type of employer
• File name

**Insurance**

• Benefit type
• Budget line code
• Comment
• Name of respondent
• Contact number
• Position of respondent
• Descriptive information 1
• Descriptive information 2
• Descriptive information 3
• Descriptive information 4
• Descriptive information 5
• Email address of respondent
• Function
• ICD category
• ICD sub-category
• ISIC
• Number of people covered by health insurance
• Provider
• Source
• File name
Government

- Budget line code
- Comment
- Descriptive information 1
- Descriptive information 2
- Descriptive information 3
- Descriptive information 4
- Descriptive information 5
- ICD category
- ICD sub-category
- ISIC
- Unique index
- File name

Miscellaneous

- Budget line code
- Comment
- Descriptive information 1
- Descriptive information 2
- Descriptive information 3
- Descriptive information 4
- Descriptive information 5
- Unique index
- File name

Household

- Budget line code
- Comment
- Name of respondent
- Contact number
- Position of respondent
• Descriptive information 1
• Descriptive information 2
• Descriptive information 3
• Descriptive information 4
• Descriptive information 5
• Email address of respondent
• Health service
• Provider
• Reference number
• Unique index
• File name

**Provider**

• Budget line code
• Comment
• Comment 1
• Comment 2
• Name of respondent
• Contact number
• Position of respondent
• Descriptive information 1
• Descriptive information 2
• Descriptive information 3
• Descriptive information 4
• Descriptive information 5
• Disease
• Email address of respondent
• Facility identification code
• Factor of provision
• Activity (function)
• ISIC
- Type of healthcare provider
- Source of funding
- File name