

Learner's Guide to Sharing

What is this guide?

This guide contains all exercises and detailed steps to perform them related to the review of **sharing** for the Design for Data Use Level 1 academy. Please perform each of the exercises when prompted to by your instructors.

Learning objectives for this session

1. Review the sharing concept
2. Explain the link between sharing, user roles and user groups
3. Describe the difference between metadata and data sharing
4. Identify the aggregate metadata that can be shared
5. Describe the concepts of category option and dataset sharing
6. Apply category option and dataset sharing to your own metadata

Exercise 1 - Review of sharing as applied to different users

Perform this exercise in the DEMONSTRATION system

Log in as the HIV user

Log in as the HIV user

Username: hiv

Password: District1#

You can review the apps menu and note that the apps they have access to here are c

This user has the ability to enter and analyze HIV data only. This starts from when they log in, as they only have access to the HIV dashboards within the system.

Navigate to data entry and access a facility. If you try to see a dataset, they will only have access to the HIV data sets.

The screenshot displays the 'Data Entry' interface. On the left is a tree view of Lao PDR regions, with '0001 CH Mahosot' highlighted. On the right is a form titled 'Data Entry' with three fields: 'Organisation Unit' (0001 CH Mahosot), 'Data Set' ([Select data set]), and 'Period' ([Select data set]). A dropdown menu is open for the 'Period' field, showing 'HIV Monthly' (selected) and 'HIV annual data'.

Data Entry

Organisation Unit	0001 CH Mahosot
Data Set	[Select data set]
Period	[Select data set] HIV Monthly HIV annual data

Navigate to data visualizer

First, review the dimensions panel. You will see it has been reduced from the admin user. You only have those dimensions that are applicable to the HIV user.

YOUR DIMENSIONS

- ☒ Admin Levels ●
- ☒ Age (HIV)
- ☒ Age in years (0-14, 15+, unknown)
- ☒ Age in years (0-4, 5-14, 15+)
- ☒ Age in years (0-4, 5-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65+, unknown)
- ☒ HIV status (known/unknown)
- ☒ IPD/OPD ●
- ☒ Ownership ●
- ☒ Pop: Single age
- ☒ Population Estimates
- ☒ Pregnant women/others
- ☒ Sex (Male/Female)
- ☒ Sex (with unknown)
- ☒ Type ●

Now, open the data panel. With all types selected, scroll through. You will notice the user only has access to data items from shared population items as well as the HIV data items.

Data

Search by data item name

Data Type

All types

◦ HIV - ANC clients tested positive for HIV

◦ HIV - ANC clients with know HIV positive status

🔗 HIV annual data - Reporting rate

🔗 HIV annual data - Reporting rate on time

🔗 HIV annual data - Actual reports

🔗 HIV annual data - Actual reports on time

🔗 HIV annual data - Expected reports

📊 HIV - ART coverage rate (%)

📊 HIV - ART retention rate after 12 months (%)

📊 HIV - Estimated HIV prevalence rate (%)

◦ HIV - Estimated people living with HIV

📊 HIV - Estimated people living with HIV

◦ HIV - Facilities with HIV test kits stockout days reported

◦ HIV - Facilities with HIV treatment courses stockout days

➡

➔

⬅

⬅

Selected Items

No items selected

⬆

⬇

Hide

Update

Select indicators as the data type, only the HIV and population indicator groups are available to this user.

Data

Search by data item name

Data Type

Indicators

Indicator group

All groups

All groups

HIV

HIV stock

Population estimates

HIV - ART retention rate after 12 months (%)

HIV - Estimated HIV prevalence rate (%)

HIV - Estimated people living with HIV

HIV - HIV test positivity rate (%)

HIV - HIV tests performed

HIV - HIV tests positive

HIV - HIV viral load testing coverage annualized (%)

➡

➡

⬅

⬅

Selected Items

No items selected

⬆

⬇

Hide

Update

The same is true for the other data types. Here is the example for data elements

Data

Data Type

Data elements

Data element group

All groups

Disaggregation

Totals only

- o All groups
- o HIV
- o HIV stock
- o Population Estimates (General)
- o Population Estimates (Single Age)
- o HIV - ANC clients newly tested HIV positive and started on ART
- o HIV - ANC clients tested for HIV
- o HIV - ANC clients tested positive for HIV

Selected Items

No items selected

→

→

←

←

↑

↓

Hide

Update

Log in as the education user

Log out of the HIV user and log in as the EMIS user

Username: emis

Password: District1#

This user has the ability to enter and analyze EMIS data only. This starts from when they log in, as they only have access to the EMIS dashboard within the system.

Navigate to data entry and access a school. If you try to see a dataset, they will only have access to the Primary Termly Tool. Note they are also only seeing the Gambia hierarchy with the schools inside of it.

The Gambia MoBSE

Region 1

Banjul

A Better Chance Learning Cen

Albion LBS

Albion LBS (Banjul)

Albion SSS

Atta Awun Islamic LBS

Atta Awun Islamic School LBS

Bethel BCS

Bethel LBS

Campama LBS (Banjul)

Clunny Nursery School BCS

Gambia SSS (Banjul)

Garba Jahumpa SSS (Banjul)

Garba Jahumpa UBS (Banjul)

Methodist Kindergarten BCS

Methodist LBS (Banjul)

Muhammedan BCS

Muhammedan LBS (Banjul)

Muslim High Banjul SSS

Muslim High Banjul UBS

Muslim SSS (Banjul)

Pentecost Baniul DCC

Data Entry ?

Organisation Unit

Albion LBS (Banjul)

Data Set

EMIS - Primary Termly Tool

Period

[Select data set]

School Term

EMIS - Primary Termly Tool

School Term

Term 2

Albion LBS (Banjul)

PRIMARY SCHOOL TERMLY DATA REPORTING FORM

SECTION A: Background Information

SECTION B: Learner's Information

SECTION C: Enrollment of learners with disability

SECTION D: Reasons for learners leaving school

SECTION E: Teenage pregnancy and management at school last term

SECTION F: Number of

SECTION A: Background information

EMIS No

School Email address

Telephone contact

SNE Institution Category

Special

Select option

Unit

Does the school have an ECCE attached to it?

Ownership status of the school

Public

Select option

Navigate to data visualizer

Review the dimensions panel. Only a handful of dimensions, specific to the EMIS user, are available.

YOUR DIMENSIONS

- ⊞ Age in years (0-14, 15+, unknown)
- ⊞ Age in years (0-4, 5-14, 15+)
- ⊞ Age in years (0-4, 5-14, 15-24, 25-34, 35-44, 45-54, 55-64, 65+, unknown)
- ⊞ Class
- ⊞ EMIS Sc - Levels ●
- ⊞ Pop: Single age
- ⊞ Population Estimates
- ⊞ Pregnant women/others
- ⊞ School Term
- ⊞ Sex (Male/Female)
- ⊞ Sex (with unknown)

Now, open the data panel. With all types selected, scroll through. You will notice the user only has access to data items from shared population items as well as the EMIS data items.

Data

Data Type

All types

◦ District Population: Children aged 6 years

🔍 EMIS - District Population - Reporting rate

🔍 EMIS - District Population - Reporting rate on time

🔍 EMIS - District Population - Actual reports

🔍 EMIS - District Population - Actual reports on time

🔍 EMIS - District Population - Expected reports

√🔍 EMIS - Enrolment in primary

√🔍 EMIS - Gross Enrolment in primary

√🔍 EMIS - Gross Intake in primary

√🔍 EMIS - Net Enrolment in primary

√🔍 EMIS - Net Intake in primary

🔍 EMIS - Primary Termly Tool - Reporting rate

🔍 EMIS - Primary Termly Tool - Reporting rate on time

🔍 EMIS - Primary Termly Tool - Actual reports

➡

➔

⬅

⬅

Selected Items

No items selected

⬆

⬇

Hide

Update

Select indicators as the data type, only the EMIS and population indicator groups are available to this user.

9 / 21

Data

Search by data item name

Data Type

Indicators

Indicator group

All groups

√₈ EMIS - Enrolment in primary

√₈ EMIS - Gross Enrolment in primary

√₈ EMIS - Gross Intake in primary

√₈ EMIS - Net Enrolment in primary

√₈ EMIS - Net Intake in primary

√₈ EMIS - Pupil teacher ratio primary

√₈ GEN - Estimated population <1 year

√₈ GEN - Estimated live births in population

√₈ GEN - Population total

√₈ PTT_Learners leaving school P1 Female

√₈ PTT_Learners leaving school P1 Male

➡➡

➡

⬅⬅

⬅

Selected Items

No items selected

⬆

⬇

Hide

Update

The same is true for the other data types. Here is the example for data elements

Data

Data Type

Data elements ▾

Data element group

All groups ▾

All groups

EMIS District Population

Population Estimates (General)

Population Estimates (Single Age)

Primary Termly Tool

GEN - Aircause Outpatients

GEN - Population

GEN - Population < 1 year

GEN - Population < 2 years

GEN - Population expected pregnant women

Disaggregation

Totals only ▾

12 years

3 years

3-5 years

6 years

6-12 years

➡

➔

⬅

⬅

Selected Items

No items selected

↑

↓

Hide

Update

Log in as the all health programs user

The combination of user roles, user groups and sharing allows us to provide a great deal of granularity when we define our users. We can have them only access segmented pieces of the system, along with limited access to the apps within DHIS2; or we can create users with maintenance privileges and access to many data types. Anything in between can also be created.

For the last user, log in with

Username: health_admin Password: District1#

Right away we can see this user has access to all of the health dashboards.

If we view there app menu, they have access to all of the DHIS2 apps.

ALL CATEGORY **DATA ELEMENT** DATA SET INDICATOR ORGANISATION UNIT PROGRAM VALIDATION OTHER

Data element management ?

Search by name, code or id Domain type 1 - 50 of 688 < >

Value type Category combination

Name	Domain type	Value type	Category combo	Last updated	
District Population: Children aged 12 years	Aggregate	Positive or Ze...	Sex	November 23, 2...	⋮
District Population: Children aged 3 years	Aggregate	Positive or Ze...	Sex	November 23, 2...	⋮
District Population: Children aged 3-5 years	Aggregate	Positive or Ze...	Sex	November 23, 2...	⋮
District Population: Children aged 6 years	Aggregate	Positive or Ze...	Sex	November 23, 2...	⋮
District Population: Children aged 6-12 years	Aggregate	Positive or Ze...	Sex	November 23, 2...	⋮
EPI - ADS 0.05 ml broken	Aggregate	Positive or Ze...	None	November 15, 2...	⋮
EPI - ADS 0.05 ml issued	Aggregate	Positive or Ze...	None	November 15, 2...	⋮

We can go to Maintenance -> Data Elements and see this user has wide authority to view, edit and add data elements from all of the health programs.

ALL CATEGORY **DATA ELEMENT** DATA SET INDICATOR ORGANISATION UNIT PROGRAM VALIDATION OTHER

Data element management ?

Search by name, code or id Domain type 1 - 50 of 688 < >

Value type Category combination

Name	Domain type	Value type	Category combo	Last updated	
District Population: Children aged 12 years	Aggregate	Positive or Ze...	Sex	November 23, 2...	⋮
District Population: Children aged 3 years	Aggregate	Positive or Ze...	Sex	November 23, 2...	⋮
District Population: Children aged 3-5 years	Aggregate	Positive or Ze...	Sex	November 23, 2...	⋮
District Population: Children aged 6 years	Aggregate	Positive or Ze...	Sex	November 23, 2...	⋮
District Population: Children aged 6-12 years	Aggregate	Positive or Ze...	Sex	November 23, 2...	⋮
EPI - ADS 0.05 ml broken	Aggregate	Positive or Ze...	None	November 15, 2...	⋮
EPI - ADS 0.05 ml issued	Aggregate	Positive or Ze...	None	November 15, 2...	⋮

We can see from these different user types that we can create a wide variation of access using a combination of user roles, user groups and sharing.

Exercise 2 - Review data level sharing

Perform this exercise in the CUSTOMIZATION system

We will now review the concept of data level sharing in more detail as it applies to aggregate data sets. In particular, we will discuss 2 objects in detail:

- Category Options
- Data Sets

These 2 objects have both meta-data and data level sharing applied to them. In most instances (unless everything is public) sharing of these items will have to be configured in order for users to access the data sets, data and reporting rates related to these data sets correctly.

Sharing generally works within the intersection of these 3 concepts in DHIS2:

- The user role assigned to a user (already covered)
- The user group in which the user belongs to
- The sharing settings themselves

We can traditionally think of user groups as defining how outputs are shared (dashboards, tables, maps, etc.) but we can also use both meta-data and data level sharing to restrict what a user has access to in quite a bit of detail.

User Groups

We have covered user roles, now we can discuss user groups in a bit more detail. Navigate to the user groups part of the application.

Navigate to Users - > User Groups and list out the groups.

You will see a number of user groups available here; and they typically follow the same pattern

- Data Capture
- Access
- Admin

Display name	Is member	
GEN access		⋮
GEN admin		⋮
HIV access		⋮
HIV admin	✓	⋮
HIV data capture		⋮
Immunization access		⋮
Immunization admin	✓	⋮
Immunization data capture		⋮
Malaria access		⋮

These 3 user group types contain the same users that were discussed earlier, linked to the various functionality that has already been demoed. We can use these groups to share reports/outputs, data elements, indicators, categories and other meta-data, as well as data which is what we will do in this case.

Creating a user group is very easy.

1. Select the blue plus sign to add a new group
2. Assign the group a name (and code if you want)
3. Save the user group

We assign these user groups to our user at any time (either during or after creating the user) in order to apply the correct sharing settings to them. If we review the user "EMIS: we can see they are assigned to two EMIS user groups.

Available user groups

Selected user groups

Filter

GEN access
GEN admin
HIV access
HIV admin
HIV data capture
Immunization access
Immunization admin
Immunization data capture
Malaria access
Malaria admin
Malaria data capture

→
←

Primary Termly Tool data capture
Primary Termly Tool Access

ASSIGN ALL 20 →

← REMOVE ALL 2

This allows us to use these user groups to assign sharing permissions to any user assigned to the user group.

Slides 8-9 in the sharing presentation explain specific permissions for data level sharing for different aggregate specific objects.

Go to Category option management in maintenance and open the sharing dialog for any of the category options

Sharing settings

15-24 years

Created by: package admin

Who has access



Public access

Anyone can find and view



External access

No access

Add users and user groups

Enter names



METADATA

Can edit and view



Can view only

No access

DATA



Can capture and view

Can view only

No access

We can see that the category options are not actually shared with a particular user group, but are in fact public. You will also notice that these sharing settings are separated into **METADATA** and **DATA**.

METADATA sharing determines if a person can edit (for example, updating its name or changing another parameter, note that they would need the proper user authorities/user role assigned to them on top of this sharing setting) and view an object or only view the object (see the object in various apps).

DATA level sharing takes this one step further and determines, in specific detail, what a person can do with the data that is linked to the object.

Exercise 3 - Review the data sharing configuration of aggregate objects

Perform this exercise in the CUSTOMIZATION system

Category Options

Go to Category option management and open the sharing dialog for any of the category options

Sharing settings

15-24 years

Created by: package admin

Who has access



Public access

Anyone can find and view



External access

No access

Add users and user groups

Enter names



METADATA

Can edit and view



Can view only

No access

DATA



Can capture and view

Can view only

No access

Regarding aggregate data and category options, this relationship is VERY important! When we create a new category option, data sharing by default is set to no access. If we then use this category option in a category and category combination without altering the sharing settings, a user trying to access a data set containing this category option will in fact not be able to do so. In essence, it will completely restrict the user from entering entire datasets as well as any data associated with this category combination if the data sharing is set to no access. Users will need "can capture and view" access to enter data. User group sharing is possible, but can quickly become challenging if not maintained over time.

In this case, keeping category options public with the sharing settings displayed on screen is recommended so that users and administrators are able to re-use them freely. By making them public, any program can use them to make category combinations; and any admin will be able to log in and check for duplicates before creating new ones!

Data Sets

EMIS

Go to dataset management and open the sharing dialog for the dataset EMIS - Primary Termly Tool.


Sharing settings

EMIS - Primary Termly Tool


Created by: HISP UG


Who has access


no access


 External access


No access








 Primary Termly Tool Access








 Primary Termly Tool Admin






 Primary Termly Tool data capture





Add users and user groups

Enter names



CLOSE













We can see this dataset is shared with 3 user groups; and there are different sharing settings applied to each of these user groups.

Sharing settings

EMIS - Primary Termly Tool

Created by: HISP UG

Who has access

No access		
	External access No access	 
	Primary Termly Tool Access	 
	Primary Termly Tool Admin	 
	Primary Termly Tool data capture	 

Add users and user groups

Enter names

METADATA			
		Can edit and view	
		✓ Can view only	
DATA			
		✓ Can capture and view	
		Can view only	
		No access	

TB - Laboratory (monthly)	Section	Monthly
TB - RR/MDR-TB case detection and treatment (ye...	Section	Yearly
TB - Treatment outcomes (quarterly)	Section	Quarterly

You will notice there is only one user group that has they "Can capture and view" setting applied to it's data level sharing. This means that only users part of this user group will be able to enter data within this data set.

You could switch over the the EMIS user in another browser to review the effect these sharing settings have to a user within this user group.

Username : emis

Password : District1#

HIV

You can also open the sharing settings for the HIV Monthly data set.

Sharing settings

HIV Monthly

Created by: Thai Nguyen

Who has access

No access

External access

No access

HIV access

HIV admin

HIV data capture

Add users and user groups

Enter names

CLOSE

Similarly, this dataset is also shared with 3 user groups; and there are different sharing settings applied to each of these user groups.













You will notice there is only one user group that has they "Can capture and view" setting applied to it's data level sharing. This means that only users part of this user group will be able to enter data within this data set.

Sharing settings

HIV Monthly

Created by: Thai Nguyen

Who has access

NO access		
	External access No access	 
	HIV access	 
	HIV admin	 
	HIV data capture	 

Add users and user groups

Enter names

METADATA

Can edit and view



Can view only

DATA



Can capture and view

Can view only

No access

TB - Household contacts (quarterly)	Section	Quarterly
TB - Laboratory (monthly)	Section	Monthly
TB - RR/MDR-TB case detection and treatment (ye...	Section	Yearly

You could switch over the the HIV user in another browser to show the effect these sharing settings have to a user within this user group.

Username : hiv

Password : District1#

Breakdown of the settings

Let us breakdown these user groups and their sharing settings as a review

- Access user groups
 - Metadata : can view only
 - This means they can see the data set in various apps
 - Data :
 - Can view only
 - This actually only refers to the reporting rates for the data set, not the values within the data set themsevles. That is tied to the data elements and the category model
- Admin user groups

- Metadata : can edit and view
 - Users in this group can edit the dataset; but they must have the appropriate user authorities to access data set maintenance or they won't be able to do this via the UI
- Data :
 - Can view only
 - This actually only refers to the reporting rates for the data set, not the values within the data set themselves. That is tied to the data elements and the category model
- Data Capture user groups
 - Metadata : can view only
 - This means they can see the data set in various apps
 - Data :
 - Can capture and view
 - Users in this group can see the data set in data entry and enter values in the data set AS LONG AS they have the correct user authorities to add values. They can also see this dataset in various analysis apps