

Learner's Guide to the Attribute Model

What is this guide?

This guide contains all exercises and detailed steps to perform them related to the review of **attributes** 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. Describe what dataset attributes are
2. Use attributes in analysis apps
3. Configure attribute options, attribute categories, attribute category combos in maintenance
4. Verify the creation of attribute category option combos via the API

Exercise 1 - Use attributes to create visualizations

Perform this exercise in the DEMONSTRATION system

Review a dataset in data entry that uses the attribute model

There are two datasets one can view : Immunization and the Primary termly tool. Immunization is located at the facility level in the Lao hierarchy, while the termly tool is located at the school level in the Gambia hierarchy.

The screenshot shows the 'Design for Data Use' interface. On the left is a tree view of the organizational hierarchy. The main area is titled 'Data Entry' and contains a form for entering data. Below the form is a table titled 'Outreach sessions'.

Organizational Hierarchy (Left Panel):

- DHIS2 Academy
 - Lao PDR
 - 01 Vientiane Capital
 - 0101 Chanthabouli
 - 0001 CH Mahosot** (highlighted in orange)
 - 0002 CH Mittaphap
 - 0101 DH Chanthabouli
 - PPM Chanthabouli
 - 0102 Sikhottabong
 - 0103 Xaisettha
 - 0104 Sisattanak
 - 0105 Naxaythong
 - 0106 Xaithani
 - 0107 Hatxayfong
 - 0108 Sangthong
 - 0109 Pakngum
 - 09 Xiangkhouang
 - 10 Vientiane
 - 11 Bolikhamxai
 - 18 Xaisomboun
 - The Gambia MoBSE

Data Entry Form (Right Panel):

- Organisation Unit: 0001 CH Mahosot
- Data Set: Immunization
- Period: December 2022 (with buttons for 'Prev year' and 'Next year')
- Results/Targets: Results
- Filter on section: [Select option]

Outreach sessions Table:

Filter in section	Value
Outreach immunization sessions held	3
Outreach immunization sessions planned	3

🏠 ⬅ ➡

🔍

DHIS2 Academy

└ Lao PDR

└ The Gambia MoBSE

└ Region 1

└ Banjul

└ A Better Chance Learning C

└ Albion LBS

└ **Albion LBS (Banjul)**

└ Albion SSS

└ Atta Awun Islamic LBS

└ Atta Awun Islamic School LE

└ 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

Data Entry ?

Organisation Unit

Albion LBS (Banjul)

Data Set

EMIS Primary Termly Tool

Period

2021

Prev year

Next year

School Term

Term 1

[Select option]

Term 1

Term 2

Term 3

PRIMARY SCHOOL TERMLY DATA REPORTING FORM

SECTION A: Background Information

SECTION B: Learner's Information

SECTION C: Enrollment of learners with disability

SECTION A: Background information

EMIS No

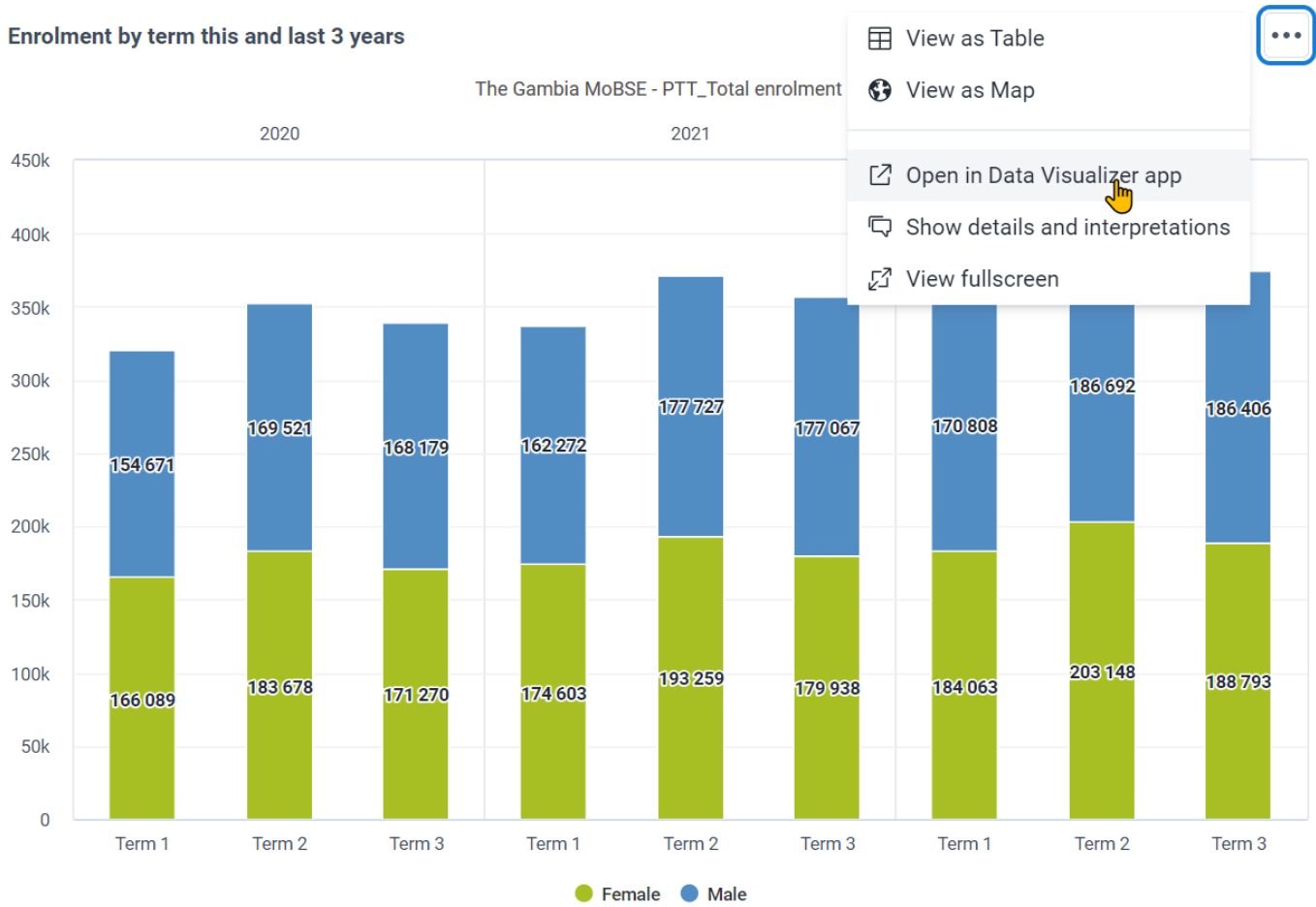
School Email address

Telephone contact

Select either one (or both) to review in data entry focusing on the use of attribute categories to disaggregate the data set.

Review how attribute categories can be used to visualize data

Open the chart "Enrolment by term this and last 3 years" from the EMIS - Primary school dashboard





This chart has two categories being used to disaggregate the data. The first is our disaggregate category : sex. The second one is our attribute category : school term! We can see term 1, term 2 and term 3.

We can add in additional dimensions as items or filters to our chart.

As an example, we can select the disaggregate category "Class" and select some classes to filter our data further

Class

☐ Automatically include all items
Select all Class items. With this option, new items added in the future will be automatically included.

☒ Manually select items...

Search

P3

P4

P5

P6

P7

➡

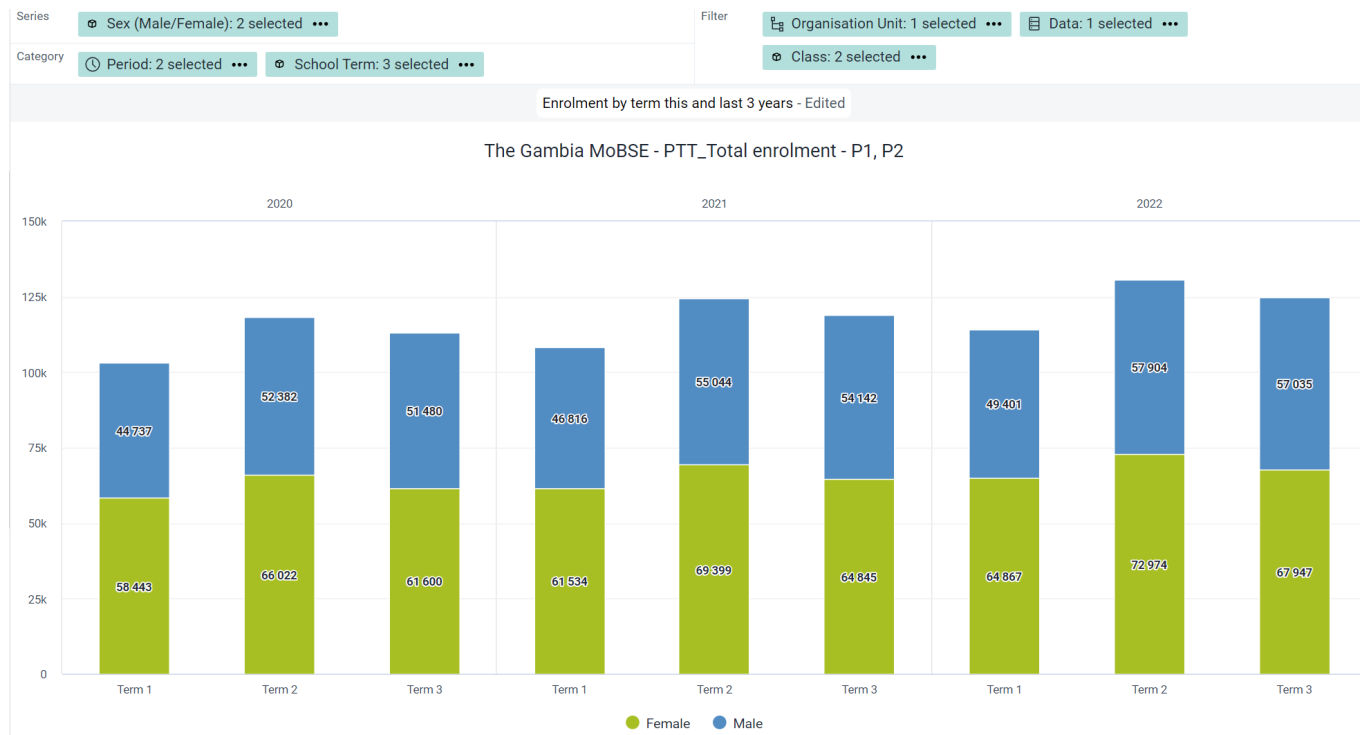
⏴

Selected Items

P1

P2

Place the class dimension in the filter and update the data.



You will see this effects the output of the data we are now showing.

Note you can do this for any type of data set disaggregated using attribute categories.

If you open the chart "EPI - BCG Doses Given, last 12 months" you will be able to see this applied to other data types as well.



Create a new chart

To create a new chart select File - > New

Here are the inputs for the chart:

Chart Type

- Column

Data

- Data Type : Indicators
- Indicator group: Primary Termly Tool
- Indicator Name: PTT_Total Enrolment

Data

Search by data item name

Data Type

Indicators

Indicator group

Primary Termly Tool

√_{PTT} PTT_Learners leaving school P1 Female

√_{PTT} PTT_Learners leaving school P1 Male

➡

➡

Selected Items

√_{PTT} PTT_Total enrolment

Period

- 2020, 2021, 2022

Period

Relative periods

Fixed periods

Period type

Yearly

Year

2022

⦿ 2013

⦿ 2014

⦿ 2015

⦿ 2016

⦿ 2017

⦿ 2018

⦿ 2019

➡

➡

⬅

⬅

Selected Periods

⦿ 2020

⦿ 2021

⦿ 2022

Organisation unit

- The Gambia

We now want to add in the sex and school term data dimensions to the chart. We can note now that the attribute category "School term" is not treated differently from any other available data dimension when we look at the side panel. There is no distinction to seperate it from other categories or org unit group sets either as the attribute category dimension can be used the same as the other ones that are available. As long as the data we are reviewing is disaggregated according to said dimension, it can be used to disaggregate and filter our data.

Add in the categories for school term

School Term

- ☐ Automatically include all items
Select all School Term items. With this option, new items added in the future will be automatically included.
- ☒ Manually select items...

Selected Items

▣ Term 1

▣ Term 2

▣ Term 3

and sex

Sex (Male/Female)

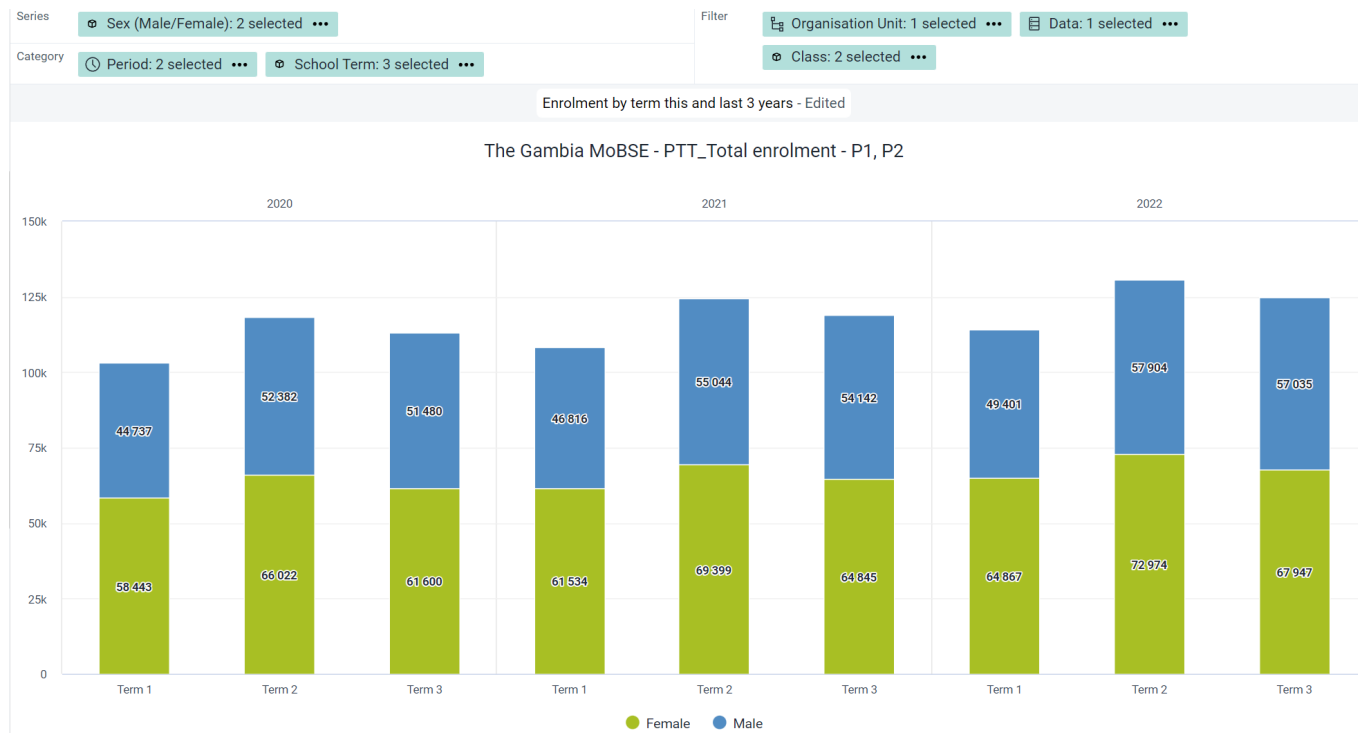
- ☐ Automatically include all items
Select all Sex (Male/Female) items. With this option, new items added in the future will be automatically included.
- ☒ Manually select items...

Selected Items

▣ Female

▣ Male

Modify the layout and update the chart



You will see the disaggregations (categories) have now been applied.

Exercise 2 - Review how to manage category options in maintenance

Perform this exercise in the CUSTOMIZATION system

In our example, let us create the category options that we had used to disaggregate our Immunization data set. This consists only of Targets and Results.

Navigate to maintenance -> Category -> Category Option

From this screen, the first thing you want to do is search for the category option you are creating.

Design for Data Use

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

Category option management ⓘ

Search by name, code or id

Results

Name	Public access	Last updated	
Results	Public view/edit	November 7, 20...	

1 - 1 of 1

If I type in "Results" as a category option, I will see that this already exists. Under normal circumstances, you would stop here. Never create a duplicate category option when it already exists.

In this scenario, we want to go through the process of the attribute category model from start to finish; so we will create this category option for demonstration purposes only.

Create a new category option by selecting the plus icon.

Use your initials as a prefix and create the category option Results

← Category option ?

This object will be created with public edit and view rights

Name (*)

SND_Results

Short name

SND_Results

Code

SND|R

Form name

Description

Start date

End date

Filtering organisation units by name

0 Organisation units selected

▾

☐ DHIS2 Academy

☐ Lao PDR

☐ The Gambia MoBSE

For organisation units within

DHIS2 Academy

Organisation unit level

SELECT

DESELECT

Organisation unit group

SELECT

DESELECT

SELECT ALL

DESELECT ALL

SAVE

CANCEL

You can discuss the fields as you fill them in. Save the category option when you are finished.

Repeat this process to create the category options for Targets.

So far, nothing is actually different then when we create disaggregate category options.

8 / 17

Exercise 3 - Review how to manage categories in maintenance

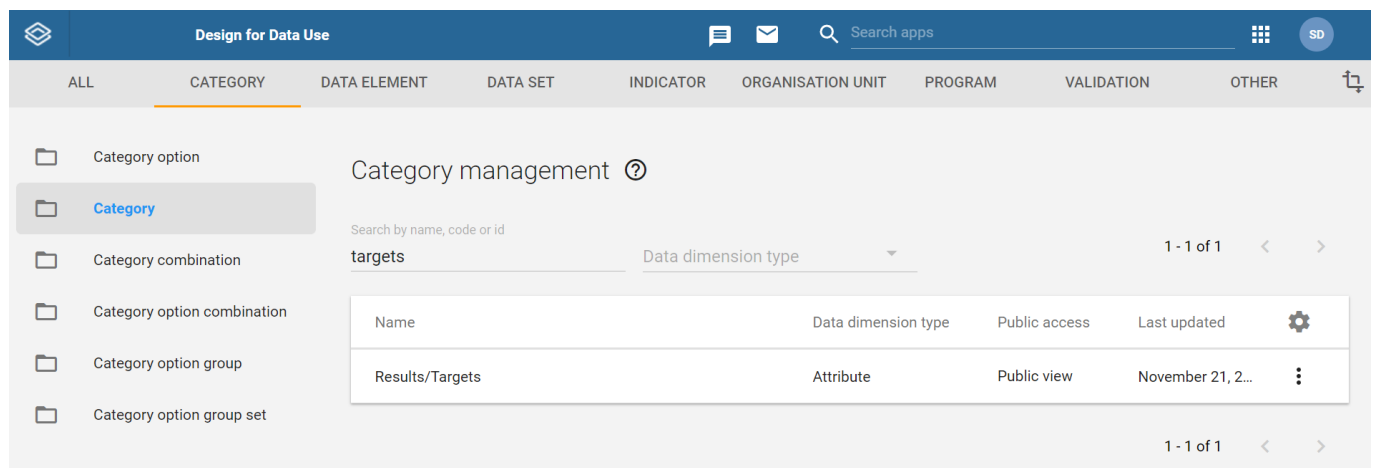
Perform this exercise in the CUSTOMIZATION system

We want to create one category

- Targets/Results

Navigate to maintenance -> Category -> Category

From this screen, the first thing you want to do is search for the category you are creating.



The screenshot shows the 'Design for Data Use' interface. The top navigation bar includes a search bar and a 'SD' button. Below it, a tabbed interface shows 'CATEGORY' as the active tab. The left sidebar lists various category options, with 'Category' highlighted. The main content area is titled 'Category management' and features a search bar with the text 'targets'. Below the search bar, a table displays the results of the search.

Name	Data dimension type	Public access	Last updated	
Results/Targets	Attribute	Public view	November 21, 2...	

We will see Results/Targets listed already. Under normal circumstances, you would stop here. Never create a duplicate categories when they already exist.

In this scenario, we want to go through the process of the attribute category model from start to finish; so we will create these attribute categories for demonstration purposes only.

Create a new category by selecting the plus icon.

Use your initials as a prefix and create the category for Targets/Results. Make sure you use the category options that you have created (initials_results, initials_target)

← Category ?

This object will be created with public edit and view rights

Name (*)

SND_Targets/Results

Short name (*)

SND_Targets/Results

Code

Description

Data dimension type (*)

Attribute

☒ Data dimension

Category options

+

↺

SND

289 hidden by filters

→

←

0 hidden by filters

SND_Results
SND_Target

↑

↓

ASSIGN ALL →

← REMOVE ALL 2

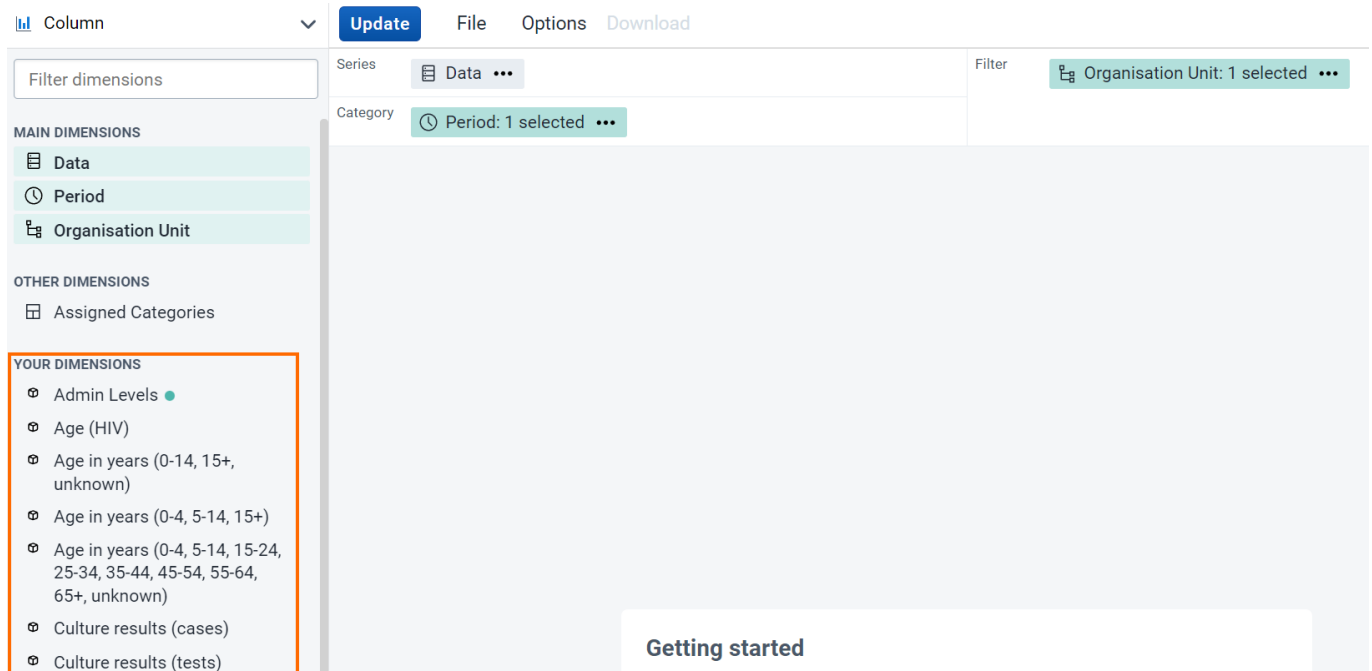
SAVE

CANCEL

You can discuss the fields as you fill them in. In particular, make sure to review the data dimension type. This time, we will be using attribute. This is because this category is being applied to a data set, not a data element.

Also, explain that the data dimension tick box allows the category to show up on the left side menu in analysis apps.

10 / 17



Ensure you use the category options that you made with your initials to create this new attribute category.

Exercise 4 - Review how to manage attribute category combinations in maintenance

Perform this exercise in the CUSTOMIZATION system

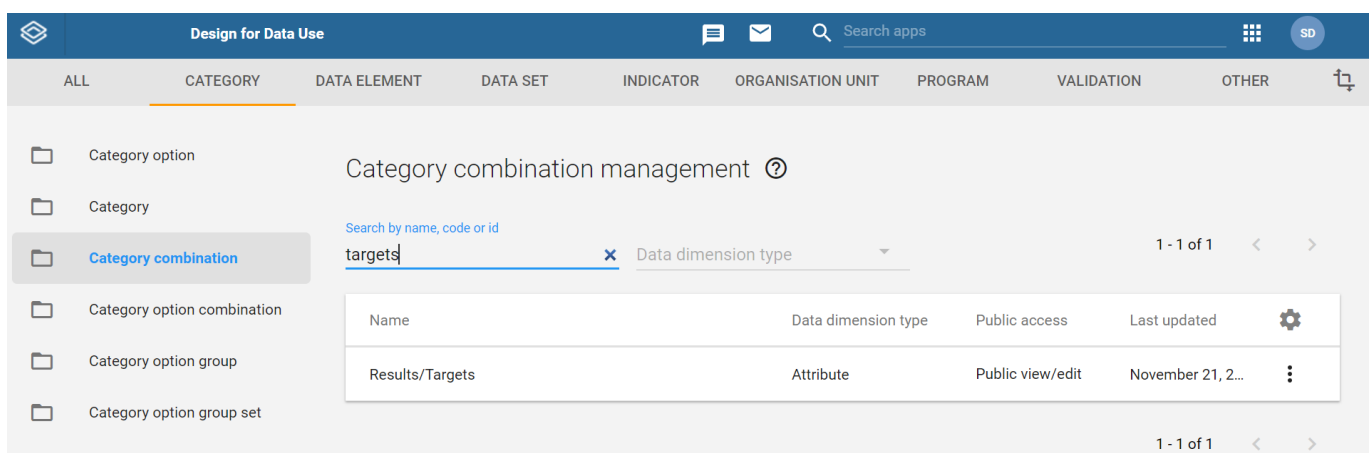
We want to create one attribute category combination

- Targets/Results

Navigate to maintenance -> Category -> Category combination

From this screen, the first thing you want to do is search for the category you are creating.

The category combination already exists



In this scenario, we want to go through the process of the attribute category model from start to finish; so we will create this category combination for demonstration purposes only.

Create a new category combination by selecting the plus icon.

Use your initials as a prefix and create the category combination for for Targets/Results. Make sure you use the categories that you have created (initials_targets/results)

← Category combination ⓘ

🔒 This object will be created with public edit and view rights

Name (*)
SND_Targets/Results

Code

Data dimension type (*)
Attribute

☐ Skip category total in reports

Categories ⊕ ↺

SND

3 hidden by filters

→

←

0 hidden by filters
SND_Targets/Results

↑
↓

ASSIGN ALL →

← REMOVE ALL 1

SAVE CANCEL

You can discuss the fields as you fill them in. In particular, make sure to review the data dimension type. We will use attribute once again. Interestingly, when you select attribute as the data dimension type, you will only be able to select from attribute categories to create your attribute category combination.

Exercise 5 - Check the category option combinations via the API

Perform this exercise in the CUSTOMIZATION system

We have successfully created our category combination. It is now time to check if the category option combinations have been created. Based on what we made, we should have a total of 4 category option combinations

- Targets
- Results

To check this, first, get the UID of the category combination that you made

Navigate to maintenance -> Category -> Category combination

Search for your category combination, hit the action button followed by show details

Category combination management ?

Search by name, code or id

SND Data dimension type 1 - 1 of 1

Name	Data dimension type	Public access	Last updated	
SND_Targets/Results	Attribute	Public view/edit	November 22, 2022	<div><div>Edit</div><div>Clone</div><div>Sharing settings</div><div>Delete</div><div>Show details</div><div>Translate</div></div>

You should now be able to obtain the UID

Category combination management ?

Search by name, code or id

SND_ Data dimension type 1 - 1 of 1

Name	Data dimension type	Public access	Last updated	
SND_Age...	Disaggregation	Public view/edit	November 21, 2022	

Created
Mon Nov 21 2022 04:02:48 GMT-0500 (Eastern Standard Time)
Last updated
Mon Nov 21 2022 04:02:48 GMT-0500 (Eastern Standard Time)
Id
CZdqpXRkg8Y
Api URL
<https://academy.dev.dhis2.org/ddu/api/29/categoryCombos/CZdqpXRkg8Y>

Use the following API call in order to check your category option combinations:

```
api/categoryCombos/CZdqpXRkg8Y.csv?fields=categoryOptionCombos[id,name]
```

where "CZdqpXRkg8Y" is the UID of the category option combo; this will allow you to get a CSV file of the category combo with all of the category option combinations.

	A	B
1	name	id
2	<u>SND_Results</u>	GguU3fCyWvF
3	<u>SND_Target</u>	or40FUqQndL

Now that you have verified it has been created correctly, you can use the attribute category combination to disaggregate the data sets that you need.

Note : the process to check if this has been generated correctly is the EXACT SAME as what was done for disaggregate category option combinations. This is because the underlying data model is also identical. The only difference is the classification (attribute) and that is now used to disaggregate a data set instead of a data element.

Exercise 6 - Review where you apply these attribute category combos when creating a dataset

Perform this exercise in the CUSTOMIZATION system

Navigate to Maintenance -> Data Set and list the data sets. Search for either the EMIS primary termly tool or the immunization data set.

← Data set ?

Name (*)

EMIS Primary Termly Tool

Short name

Primary Termly Tool

Code

Color

SELECT COLOR

SELECT COLOR

Icon

ADD ICON

Description

Expiry days

0

Open future periods for data entry

1

Days after period to qualify for timely submission

0

Period type (*)

Yearly

DATA INPUT PERIODS

Category combination (*)

School Term

Name (*)

Immunization

Short name

Immunization

Code

IMM_AGG

Color

SELECT COLOR

Icon

ADD ICON

Description

Expiry days

0

Open future periods for data entry

12

Days after period to qualify for timely submission

15

Period type (*)

Monthly

DATA INPUT PERIODS

Category combination (*)

Results/Targets

After opening these datasets, navigate to the category combination field. It is usually marked as "None" when there is no attribute category combination applied. In these cases however, you will see the attribute category combination that is required has been applied to the data sets in question.