

Trainer's Guide to the Attribute Model

What is this guide?

This guide is a support document for DHIS2 Academy trainers for the session "Additional Dimensions : Attributes." This session follows the standard Academy training approach with

1. a live demo session where the trainer demonstrate and explain the features, and
2. a hands-on session with exercises where participants get to practice the same features.

This guide will help the trainer prepare for the live demo session. The "Live Demo step by step" section has a detailed walkthrough of all the steps to demonstrate with explanations and screenshots that should be easy to follow. Use that when preparing for the live demo session.

There is also a Quick Guide which lists the steps very briefly and this is meant as a lookup guide or "cheatsheet" WHILE doing the demo, to help the trainer remember all the steps and the flow of the demo.

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

Time Requirements

- Live Demo:
- Hands-on Exercises:
- Assignment:

Background

Preparations

Best Practices

Before starting the demonstration, please keep in mind that the most important thing is that the audience is following, so make sure to ask questions to the audience to verify that they are following. If something is unclear, go back and go through it slowly. If you don't have time for all the steps, it is better to cut some steps, than to go fast while nobody understands.

In an online setting, you will be breaking regularly to allow them to perform various ungraded exercises in order to keep them engaged.

In an in-person setting, the participants may be doing the demo with you at the same time. In this scenario, it is ideal if there are other trainer's moving around the room to support participant's as it will be difficult for the trainer leading the session to answer many individual questions during the demonstrations.

Quick Guide

1. Review the presentation Additional Dimensions - Attributes
2. Review a dataset in data entry that uses the attribute model (immunization or termly tool)
3. Show how attribute categories can be used to visualize data
 1. Open the chart "Enrolment by term this and last 3 years" from the EMIS - Primary school dashboard
 2. Create a new chart
 1. Chart type: column
 2. Data:
 1. Data Type : Indicators
 2. Indicator group: Primary Termly Tool
 3. Indicator Name: PTT_Total Enrolment
 3. Period: 2020, 2021, 2022
 4. Org unit: The Gambia

STOP - Perform Exercise 1

1. Show how to manage category options in maintenance
2. Create the options for results and targets

STOP - Perform Exercise 2

1. Show how to manage categories in maintenance
2. Create the attribute category results/targets

STOP - Perform Exercise 3

1. Show how to manage attribute category combinations in maintenance
2. Create the attribute category combination results/targets

STOP - Perform Exercise 4

1. Check the category option combinations via the API
 1. `api/categoryCombos/yourCatCombIDhere.csv?fields=categoryOptionCombos[id,name]`

STOP - Perform Exercise 5

1. Review where you apply these attribute category combos when creating a dataset

Live Demo step by step

Review the presentation Additional Dimensions - Attributes

[Link](#)

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.

Design for Data Use

Data Entry ?

Organisation Unit: 0001 CH Mahosot

Data Set: Immunization

Period: December 2022 [Prev year] [Next year]

Results/Targets: Results

Filter on section: [Select option]

Outreach sessions

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

Data Entry ?

Organisation Unit: Albion LBS (Banjul)

Data Set: EMIS Primary Termly Tool

Period: 2021 [Prev year] [Next year]

School Term: [Select option]

PRIMARY SCHOOL TERMLY DATA REPORTING FORM

SECTION A: Background Information	SECTION A: Background information
SECTION B: Learner's Information	EMIS No
SECTION C: Enrollment of learners with disability	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.

Show 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



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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...

☐ P3

☐ P4

☐ P5

☐ P6

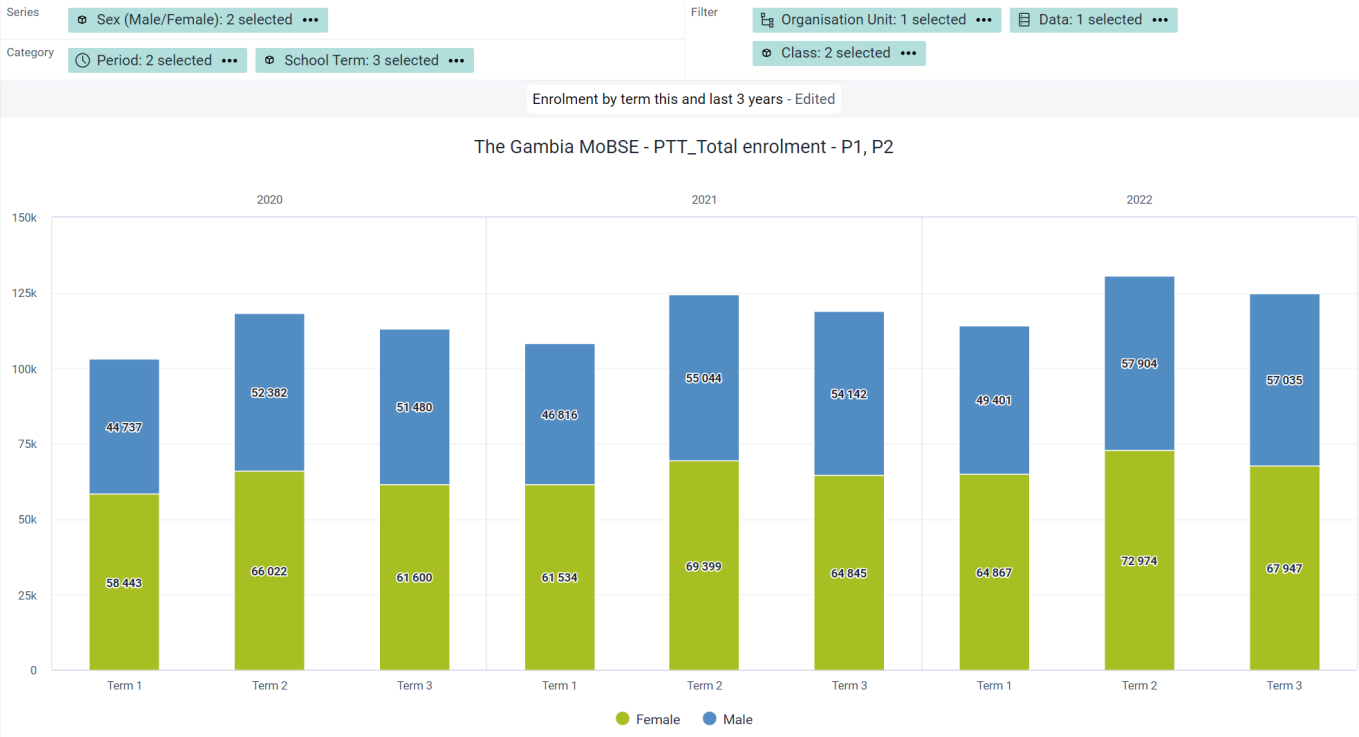
☐ P7

Selected Items

☐ P1

☐ P2

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





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_Learners leaving school P1 Female

PTT_Learners leaving school P1 Male

➡

➡

Selected Items

PTT_Total enrolment

Period

- 2020, 2021, 2022

Period

Relative periodsFixed periods

Period typeYear

Yearly2022

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...

Search

Selected Items

Term 1

Term 2

Term 3

and sex

Sex (Male/Female)

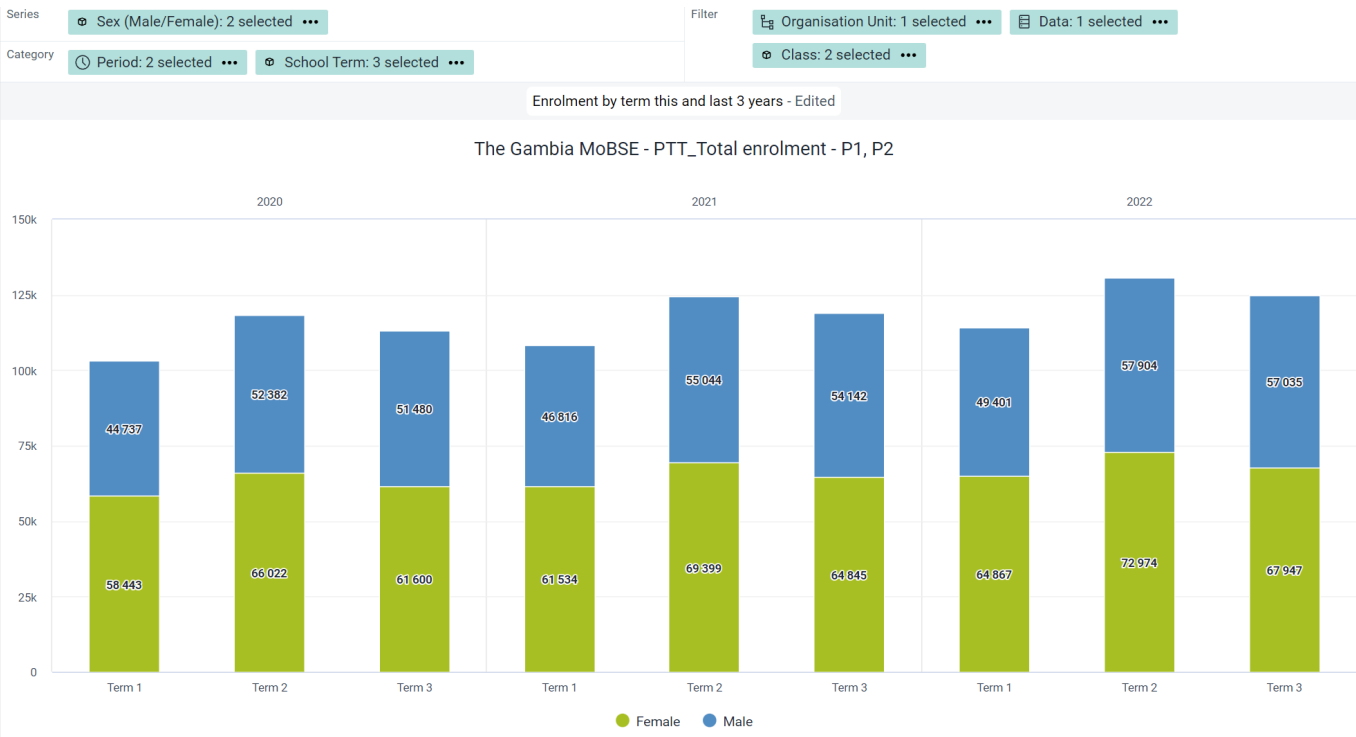
- ☐ Automatically include all items
Select all Sex (Male/Female) items. With this option, new items added in the future will be automatically included.
- ☒ Manually select items...

Selected Items

Female

Male

Modify the layout and update the chart



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

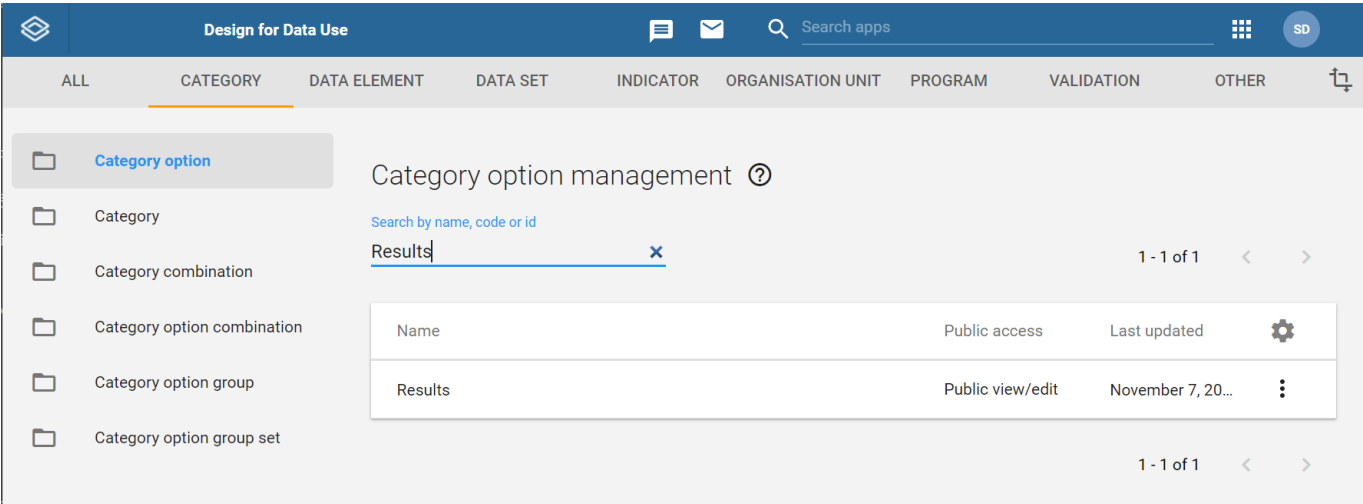
STOP - Perform Exercise 1

Show how to manage category options in maintenance

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.




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

SNDJR

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 ▾

Organisation unit group ▾

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.

STOP - Perform Exercise 2

Show how to manage categories in maintenance

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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 'Category management' screen. On the left is a sidebar with a tree view containing 'Category option', 'Category' (highlighted), 'Category combination', 'Category option combination', 'Category option group', and 'Category option group set'. The main content area has a header 'Category management' with a help icon. Below it is a search bar with the text 'targets'. To the right of the search bar is a dropdown for 'Data dimension type' and a pagination indicator '1 - 1 of 1'. Below the search bar is a table with the following data:

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

At the bottom right of the table area, there is another pagination indicator '1 - 1 of 1'.

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

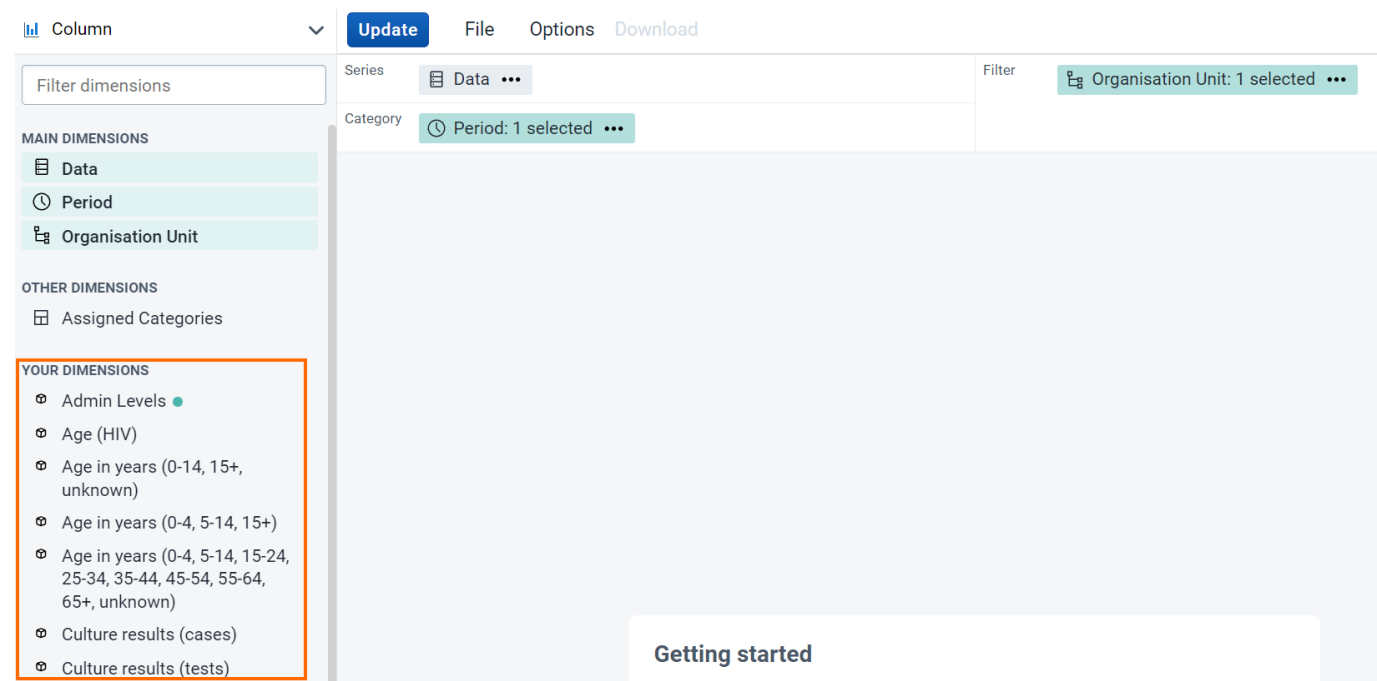
SAVE

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.

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

STOP - Perform Exercise 3

Show how to manage attribute category combinations in maintenance

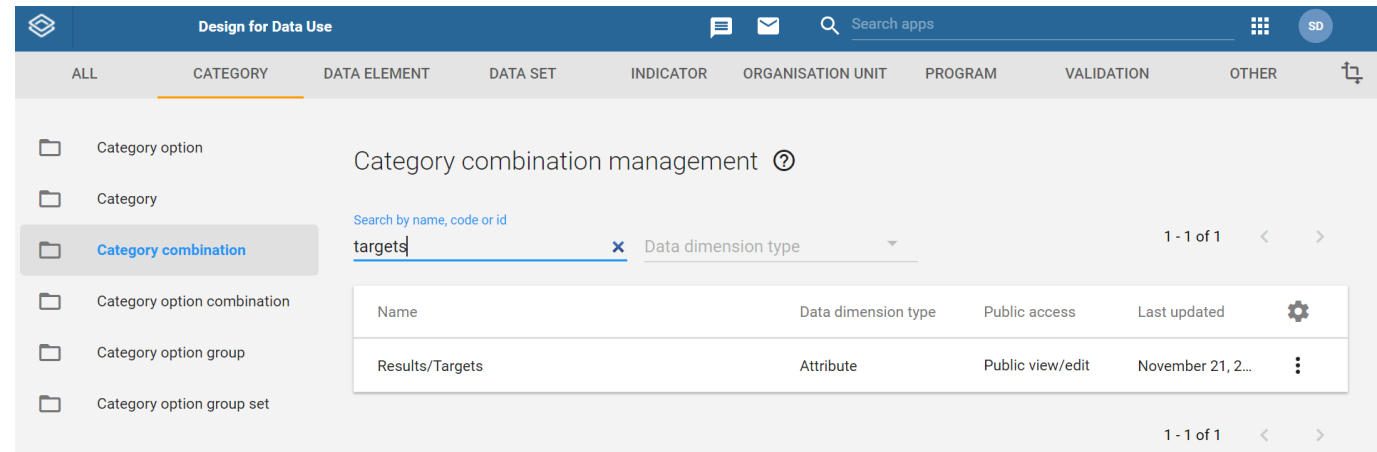
We want to create one attribute category combination

- 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 →

SAVE CANCEL

← REMOVE ALL 1

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.

STOP - Perform Exercise 4

Check the category option combinations via the API

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, 2...	<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, 2...	

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.

STOP - Perform Exercise 5

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

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

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.