Learner's Guide to Event Reports and Line List

What is this guide?

This guide contains all exercises and detailed steps to perform them related to the use of event reports and Line List. Please perform each of the exercises when prompted to by your instructors

Learning objectives for this session

The overall objective of this session is to use the DHIS2 event reports app to review ***tracker*** aggregate data and the Line Listing app to review ***tracker*** individual level data. Detailed objectives include:

1. Describe the functions of the event reports app
2. Explain the difference between event and enrollment type reports
3. Describe the functions of the line listing app
4. Design line listing reports using tracker data
5. Describe the differences between how repeated and non-repeated stage data is displayed
6. Design line listing reports showing data from multiple tracker program stages

Exercise 1

Create an aggregate/pivot table using the Malaria Case notification program in the Event Report App

Create an aggregate event report using the event reports app. You can use the following data items as an example:

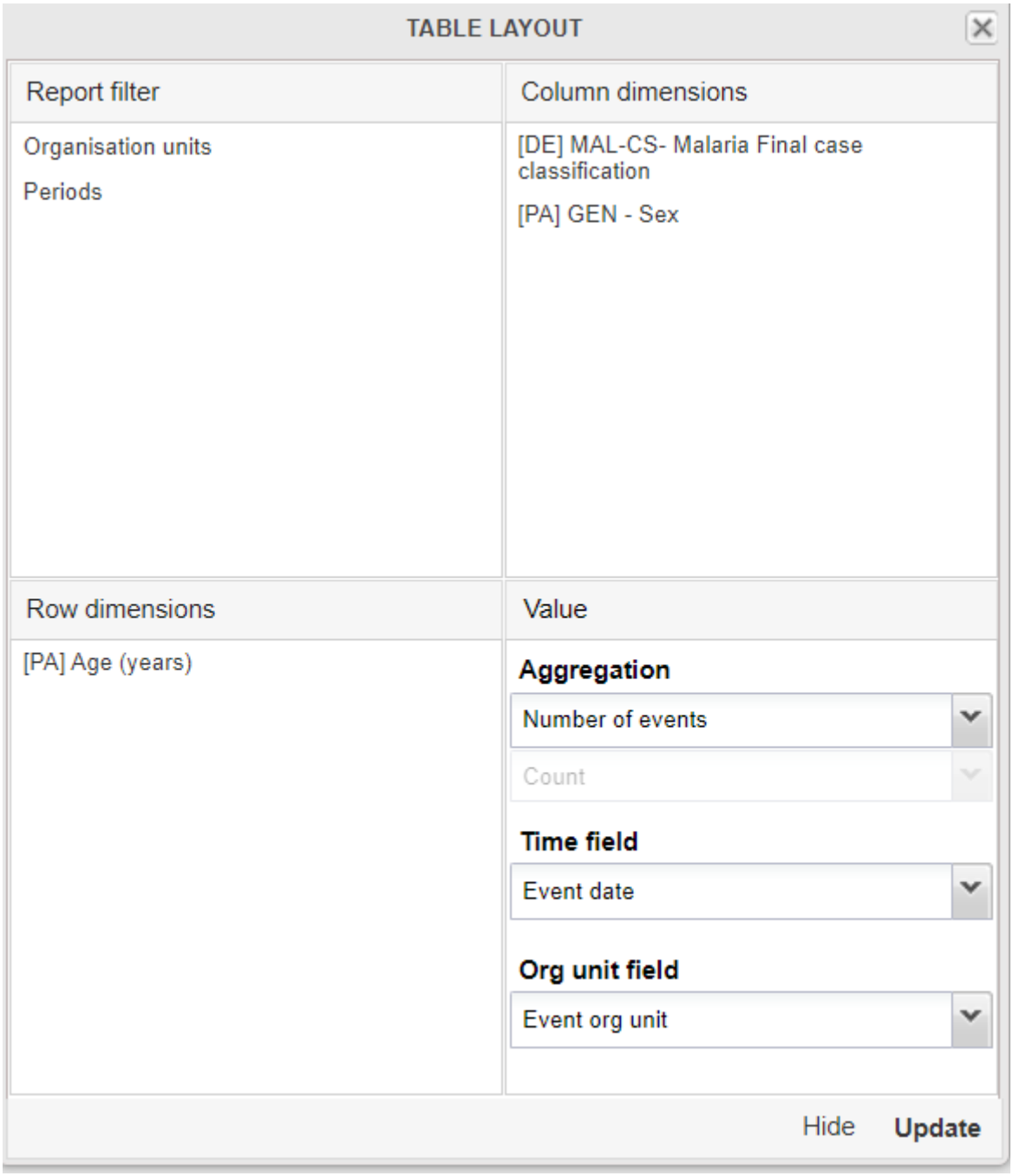
- Table Style : Pivot, Output Type : Event
- Program : Malaria Case Notification program
- Stage : Stage - Case Outcome
- Data :
    - Malaria Final Classification (select Indigenious (local) as the filter),
    - Age (years), Range Set = MAL-CS-Malaria age group
    - Sex
- Period : This year
- Org Unit : Country

The table should look like this after updating:

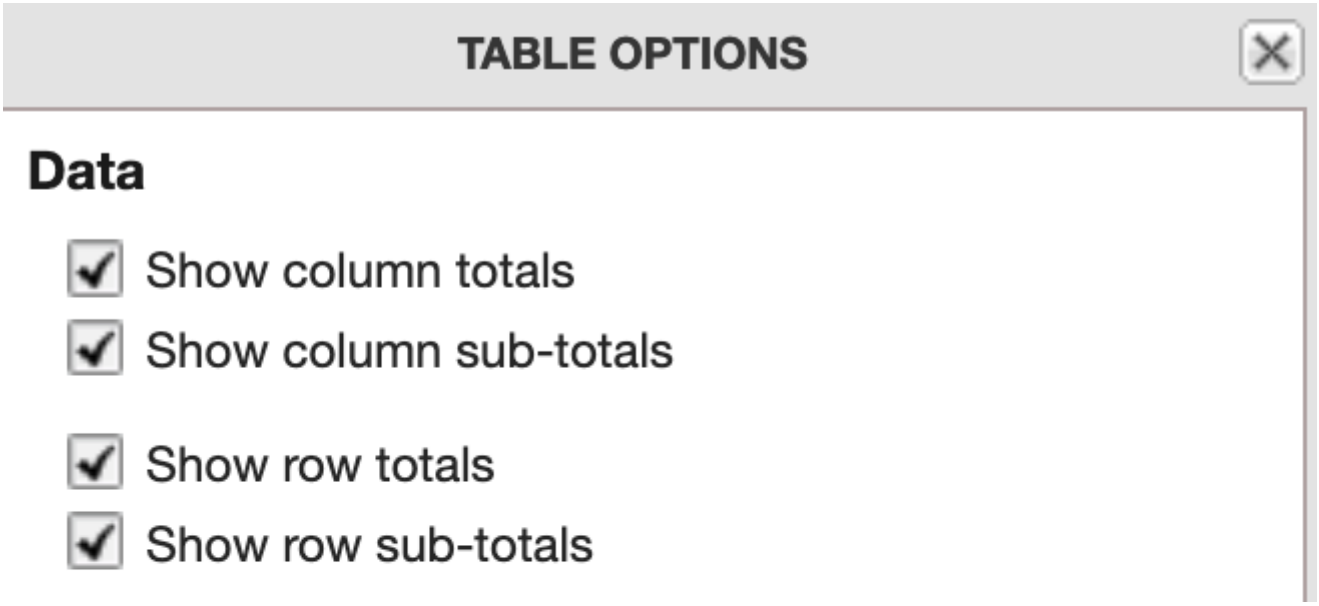
		Organisation unit	Lao PDR		Total
MAL-CS- Malaria Final case classification	Age (years)	GEN - Sex / Period	2024		
Indigenous (local)	≤5	Female			
		Male			
	6-16	Female	4	4	4
		Male	4	4	4
	27 - 37	Female	3	3	3
		Male	4	4	4
	38 - 49	Female			
		Male			
	50 - 60	Female			
		Male			
	61 - 71	Female			
		Male			
	72 - 82	Female			
		Male			
	83 - 93	Female			
		Male			
	94 - 104	Female			
		Male			
			15	15	15

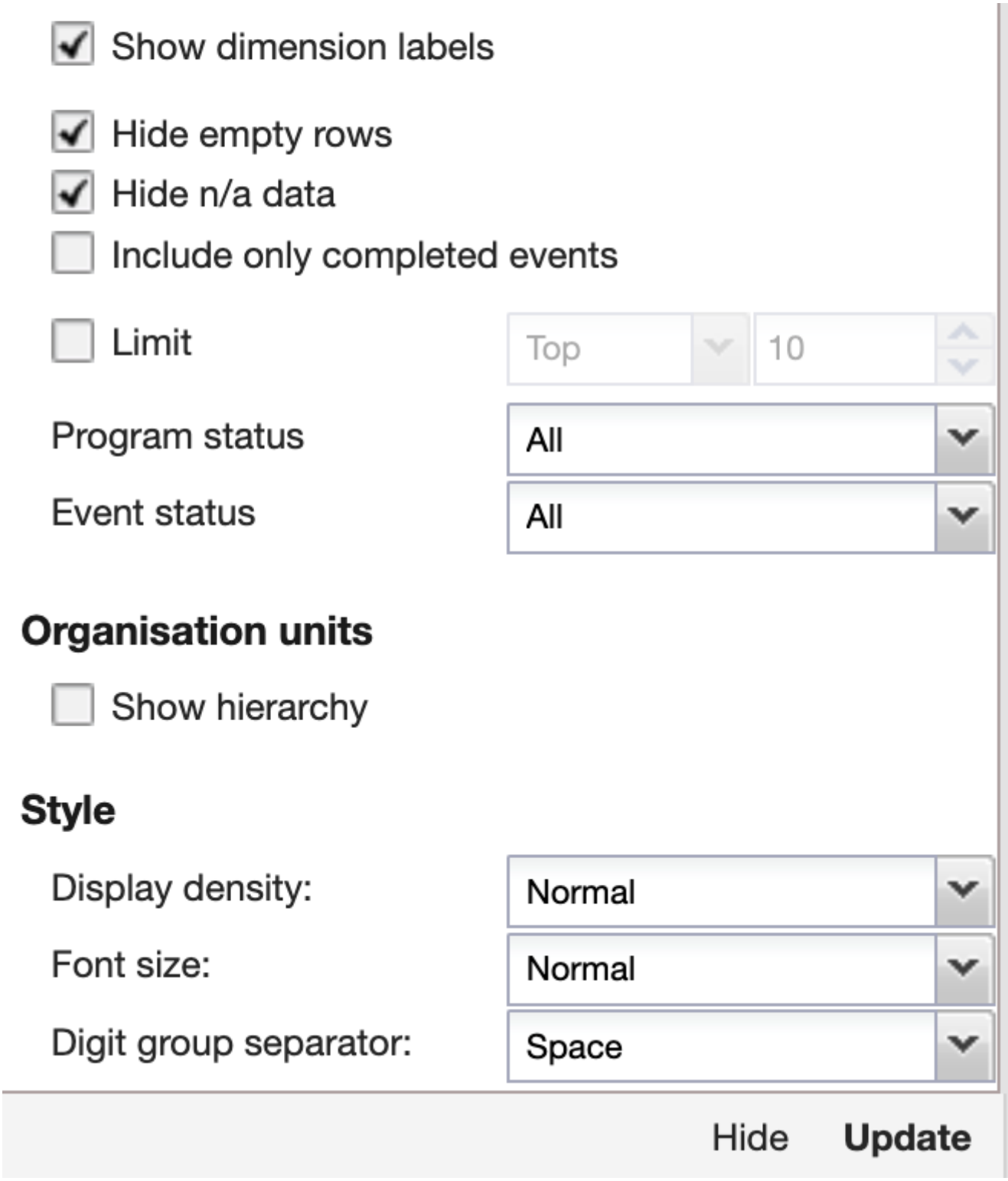
This is not exactly the table we want. We can make some adjustments to modify it.

Start with the layout. The layout can should like this



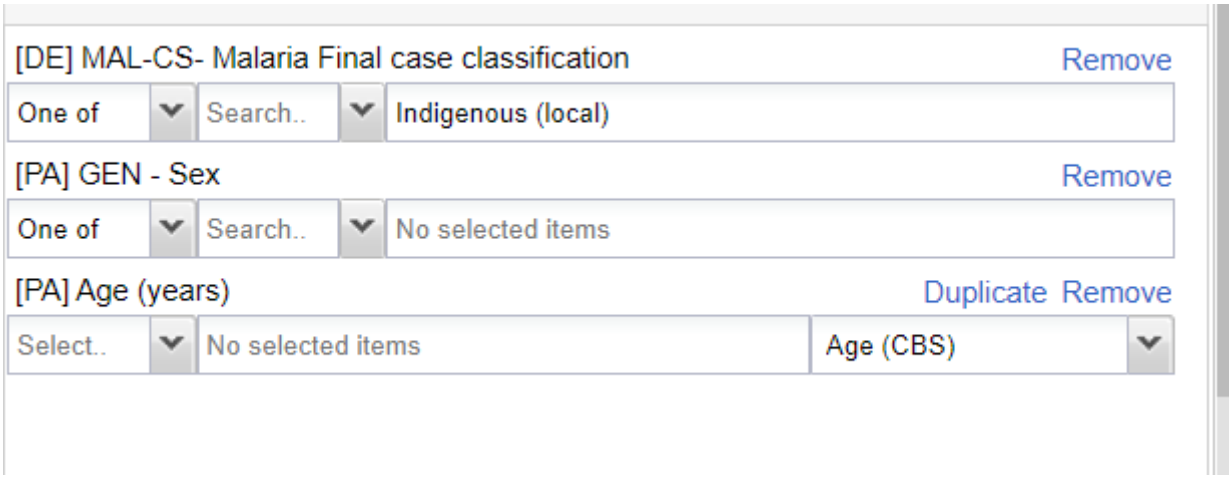
Next, hide any empty rows and n/a data using the table options.





Now you should see the the table following the layout we've intended.

Note that you can modify the way data that is collected through tracker (and event) programs is aggregated. You can demonstrate this by changing the legend for the Age attribute to Age (CBS) and updating the table.



2024 - La						
MAL-CS- Malaria Final case classification	Indigenous (local)			Imported		
Age (years) / GEN - Sex	Female	Male		Female	Male	
0-5				3	2	5
5-15	2	2	4	1	4	5
15-25	1	1	2	1	2	3
25-35	2	3	5	4	2	6
35-45	2	2	4	1	5	6
45-65				1	6	7
Total	7	8	15	11	21	32

You will see all the totals are the same; however the disaggregation of the data is different as the data has been seperated by new categorizations.

Exercise 2

Compare event vs enrollment analytics

Create a table using the following inputs:

- Table Style : Pivot Table, Output Type : Enrollment
- Program : Electronic Immunization Registry
- Stage : Immunization
- Data: GEN - Sex
- Periods : This year
- Org Units : Country

The table should look like this

Organisation unit	Lao PDR		Total
GEN - Sex / Period	2024		
Female	239	239	239
Male	222	222	222
N/A	2	2	2
Total	463	463	463

This table represents the total number of individuals, seperated by sex, that are enrolled in the electronic immunization registry program.

Modify the output type to event and update the table.

Organisation unit	Lao PDR		Total
GEN - Sex / Period	2024		
Female	540	540	540
Male	530	530	530
N/A	5	5	5
Total	1 075	1 075	1 075

The values change by quite a bit, so why does this occur?

The event output is counting all of the events in the electronic immunization registry program, seperated by sex, not the enrollments. An enrollment can consist of multiple events. This output would therefore not be very useful if we wanted to count the # of unique individuals that have been vaccinated. In that case, we should use enrollment as our output type.

The output type is therefore an important consideration when choosing the output type when making a pivot table in event reports, depending on what you want to count.

Exercise 3

Create a line list using an Electronic Immunization Registry.

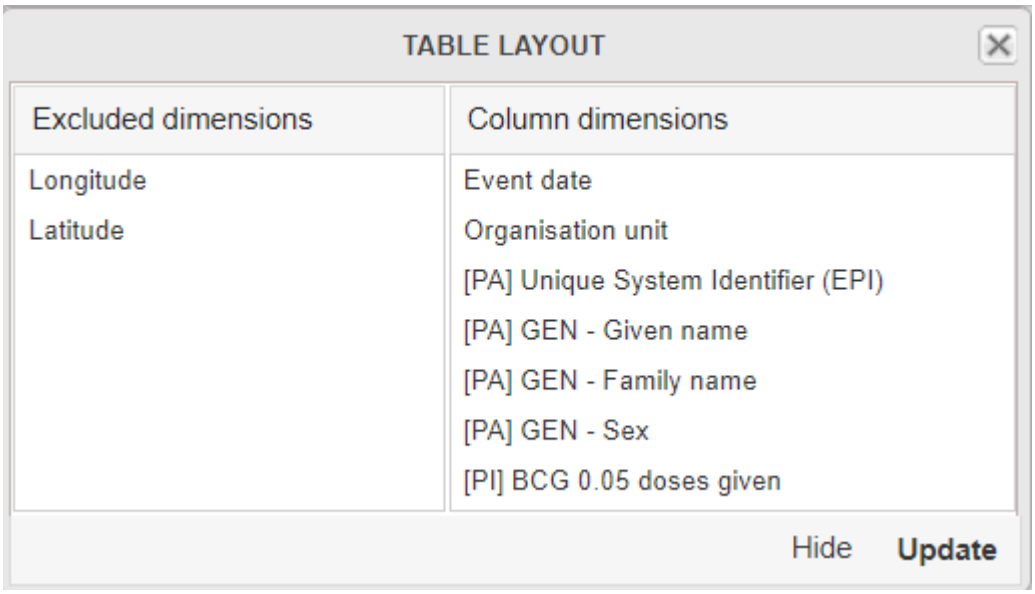
Open the event reports app.

In this exercise we will create a line list using an Electronic Immunization Registry.

Create a new report by going to Favorites -> New and select the following details

- Table Style : Line list, Output Type : Event
- Program : Electronic Immunization Registry
- Stage : Immunization
- Data
    - Given Name,
    - Family Name,
    - Unique System Identifier,
    - Sex
    - EIR - BCG 0.05 mL
- Period : This year
- Org Unit : Country

Before updating the table, open the layout and move the items around in a logical order, noting how this will affect the output of the table.

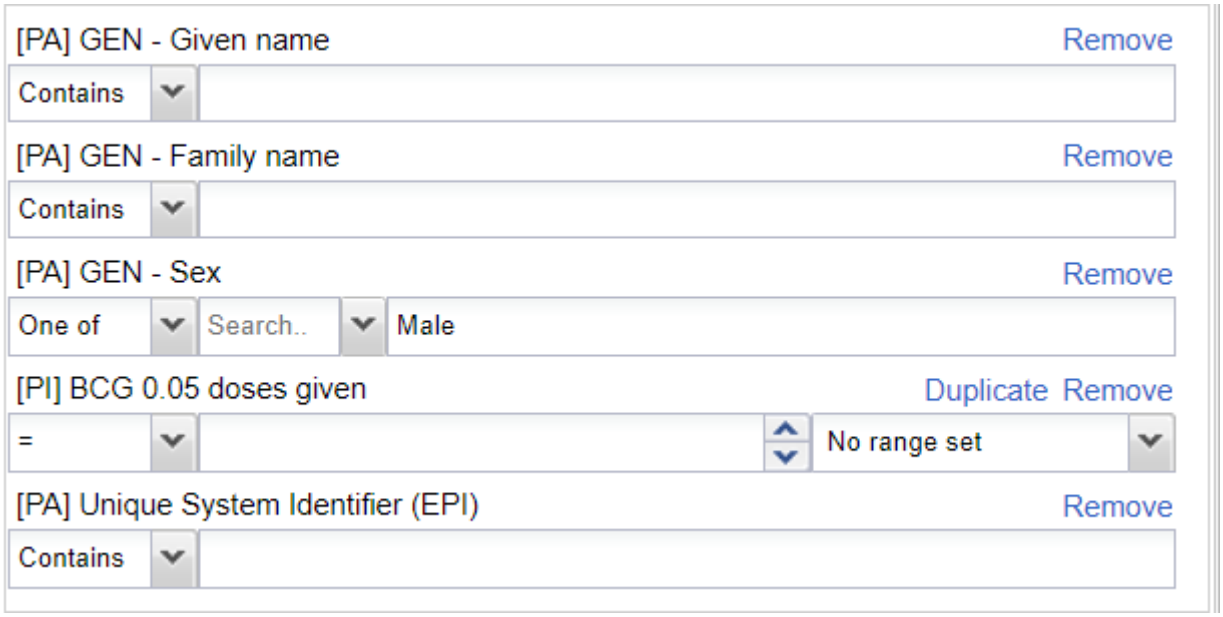


Proceed to update the table and discuss what is being shown.

The table should look like this after updating

#	Date of services given	Registration date	Incident date	Organisation unit	GEN - Sex	BCG 0.05 doses given	GEN - Given name	GEN - Family name	Unique System Identifier (EPI)
1	2024-11-14 00:00:00.0	2024-11-15 00:00:00.0	2023-11-15 00:00:00.0	0002 CH Mittaphap	Male	1	2321	223	EPI_21335
2	2024-09-20 00:00:00.0	2024-06-28 00:00:00.0	2023-06-28 00:00:00.0	0001 CH Mahosot	Male	0	Franklin	Solis	EPI_98523
3	2024-09-20 00:00:00.0	2024-05-27 00:00:00.0	2023-05-27 00:00:00.0	HC Bo-o	Male	0	Jonathan	Richmond	EPI_75298
4	2024-09-20 00:00:00.0	2023-06-02 00:00:00.0	2022-06-02 00:00:00.0	HC Thandindeng	Male	0	Edwin	Morton	EPI_12739
5	2024-09-19 00:00:00.0	2024-05-26 00:00:00.0	2023-05-26 00:00:00.0	HC Nakha	Male	0	Joseph	Vasquez	EPI_37469
6	2024-09-19 00:00:00.0	2023-12-20 00:00:00.0	2022-12-20 00:00:00.0	PPM Pakngum	Male	0	Gary	Brooks	EPI_14489
7	2024-09-18 00:00:00.0	2023-05-31 00:00:00.0	2022-05-31 00:00:00.0	PPM Naxaythong	Male	0	Mark	Phillips	EPI_82502
8	2024-09-16 00:00:00.0	2024-06-24 00:00:00.0	2023-06-24 00:00:00.0	HC Nabong (Sinxai 2)	Male	0	Thomas	King	EPI_66175
9	2024-09-16 00:00:00.0	2024-06-24 00:00:00.0	2023-06-24 00:00:00.0	HC Xiangletha (Sinxai 1)	Male	0	Matthew	Chapman	EPI_21729
10	2024-09-15 00:00:00.0	2024-07-22 00:00:00.0	2023-07-22 00:00:00.0	HC Pakton	Male	0	Paul	Greer	EPI_25970
11	2024-09-14 00:00:00.0	2023-12-15 00:00:00.0	2022-12-15 00:00:00.0	HC Nabong (Sinxai 2)	Male	0	Jeffrey	Turner	EPI_32537
12	2024-09-14 00:00:00.0	2024-05-21 00:00:00.0	2023-05-21 00:00:00.0	HC Nabong (Sinxai 2)	Male	0	Christopher	Kemp	EPI_79804
13	2024-09-14 00:00:00.0	2024-05-21 00:00:00.0	2023-05-21 00:00:00.0	HC Pakton	Male	0	Colin	Johnson	EPI_13466

Modify the filters to see how the line list is updated



You will only see the data which meets this criteria

#	Date of services given	Registration date	Incident date	Organisation unit	GEN - Sex	BCG 0.05 doses given	GEN - Given name	GEN - Family name	Unique System Identifier (EPI)
1	2024-11-14 00:00:00.0	2024-11-15 00:00:00.0	2023-11-15 00:00:00.0	0002 CH Mittaphap	Male	1	2321	223	EPI_21335
2	2024-09-20 00:00:00.0	2024-06-28 00:00:00.0	2023-06-28 00:00:00.0	0001 CH Mahosot	Male	0	Franklin	Solis	EPI_98523
3	2024-09-20 00:00:00.0	2024-05-27 00:00:00.0	2023-05-27 00:00:00.0	HC Bo-o	Male	0	Jonathan	Richmond	EPI_75298
4	2024-09-20 00:00:00.0	2023-06-02 00:00:00.0	2022-06-02 00:00:00.0	HC Thandindeng	Male	0	Edwin	Morton	EPI_12739
5	2024-09-19 00:00:00.0	2024-05-26 00:00:00.0	2023-05-26 00:00:00.0	HC Nakha	Male	0	Joseph	Vasquez	EPI_37469
6	2024-09-19 00:00:00.0	2023-12-20 00:00:00.0	2022-12-20 00:00:00.0	PPM Pakngum	Male	0	Gary	Brooks	EPI_14489
7	2024-09-18 00:00:00.0	2023-05-31 00:00:00.0	2022-05-31 00:00:00.0	PPM Naxaythong	Male	0	Mark	Phillips	EPI_82502
8	2024-09-16 00:00:00.0	2024-06-24 00:00:00.0	2023-06-24 00:00:00.0	HC Nabong (Sinxai 2)	Male	0	Thomas	King	EPI_66175
9	2024-09-16 00:00:00.0	2024-06-24 00:00:00.0	2023-06-24 00:00:00.0	HC Xiangletha (Sinxai 1)	Male	0	Matthew	Chapman	EPI_21729
10	2024-09-15 00:00:00.0	2024-07-22 00:00:00.0	2023-07-22 00:00:00.0	HC Pakton	Male	0	Paul	Greer	EPI_25970
11	2024-09-14 00:00:00.0	2023-12-15 00:00:00.0	2022-12-15 00:00:00.0	HC Nabong (Sinxai 2)	Male	0	Jeffrey	Turner	EPI_32537
12	2024-09-14 00:00:00.0	2024-05-21 00:00:00.0	2023-05-21 00:00:00.0	HC Nabong (Sinxai 2)	Male	0	Christopher	Kemp	EPI_79804
13	2024-09-14 00:00:00.0	2024-05-21 00:00:00.0	2023-05-21 00:00:00.0	HC Pakton	Male	0	Colin	Johnson	EPI_13466

Save the line list.

Exercise 4

Create a line list program using Input : Event

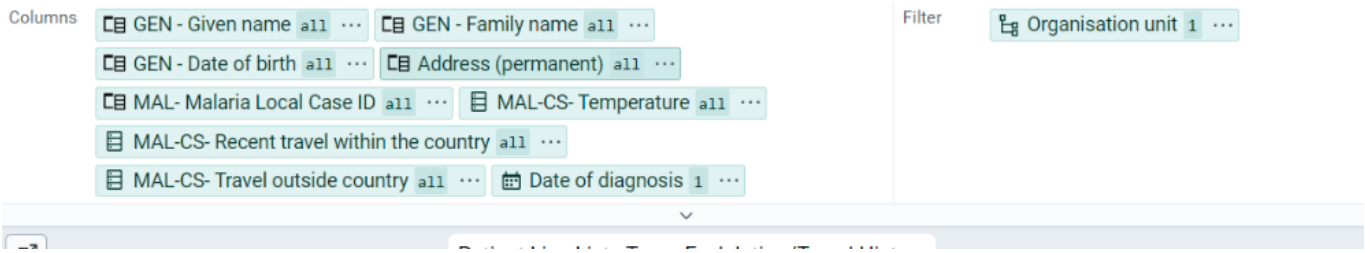
Perform this exercise in the line listing app.

In this exercise we will create a line list using the Malaria case notification, investigation and response program.

In this case we will be using

- Input : Event
- Select Program : Malaria case notification , investigation and response Select Stage: Diagnosis and treatment
- Program Dimension: For this we will select the following program dimensions
    - Given Name
    - Family Name
    - Date of Birth
    - Local Case ID
    - Temperature
    - Recent travel within the country
    - Travel outside the country
- Select OU: 01 Vientiane Capital
- Enrollment date: Last 3 months

Your Dimensions should be assigned to the columns and the organisation unit to the filter.



Click on update. You will see the line list for a single stage.

Exercise 5

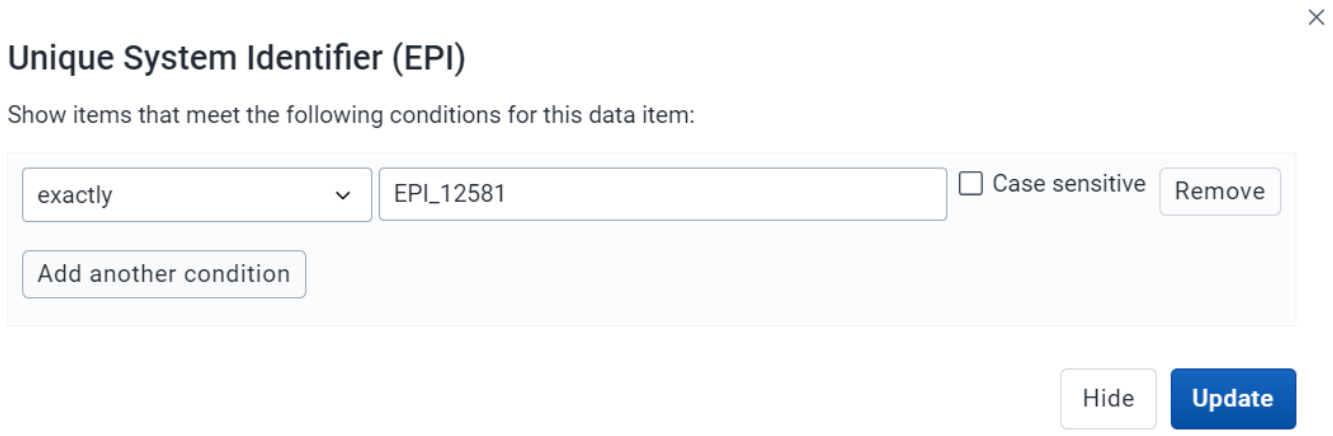
Create a list type event report for a repeatable stage using the Electronic Immunization Registry

Perform this exercise in the line listing app.

Create an line list with the following inputs:

- Input : Event
- Program : Electronic Immunization registry, Stage : Immunization
- Program Dimension :
    - Unique System Identifier (EPI) : EPI_12581
    - Given Name
    - Family name
    - Diagnosed with HIV and severe immunodeficiency
- Registration Date : This Year
- Org Unit : 0001 CH Mahosot

To make sure you get a specific record you need to Select EPI number and enter the ID (EPI_12581) to be used as a filter, as shown in the screenshot.



This should pull up the respective information for the two events that we saw when we reviewed this record in tracker capture

The table should look like this

EIR - HIV Summary (Event)

Organisation unit name	Unique System Identifier (EPI)	GEN - Given name	GEN - Family name	EIR - Diagnosed with HIV and severe Immunodeficiency
0001 CH Mahosot	EPI_12581	Brent	Hicks	No
0001 CH Mahosot	EPI_12581	Brent	Hicks	No
0001 CH Mahosot	EPI_12581	Brent	Hicks	No
0001 CH Mahosot	EPI_12581	Brent	Hicks	No

Modify the output so you are not filtering by any Unique System ID and update the report. Try sorting the data by surname. Scroll through the report; you should see several repeated events displayed on this report.

EIR - HIV Summary (Event) - Edited

Organisation unit name	Unique System Identifier (EPI)	GEN - Given name	GEN - Family name	EIR - Diagnosed with HIV and severe Immunodeficiency
0001 CH Mahosot	EPI_46342	Wesley	Rogers	No
0001 CH Mahosot	EPI_46342	Wesley	Rogers	No
0001 CH Mahosot	EPI_46342	Wesley	Rogers	No
0001 CH Mahosot	EPI_02283	Diane	Miller	No
0001 CH Mahosot	EPI_27863	Carlos	Jefferson	No
0001 CH Mahosot	EPI_27863	Carlos	Jefferson	No
0001 CH Mahosot	EPI_27863	Carlos	Jefferson	No
0001 CH Mahosot	EPI_27863	Carlos	Jefferson	No
0001 CH Mahosot	EPI_32761	Stephen	Griffin	No
0001 CH Mahosot	EPI_15220	John	Bryant	No
0001 CH Mahosot	EPI_14255	Maria	Smith	No
0001 CH Mahosot	EPI_14255	Maria	Smith	No
0001 CH Mahosot	EPI_14255	Maria	Smith	No
0001 CH Mahosot	EPI_02547	Allison	Stein	No
0001 CH Mahosot	EPI_02547	Allison	Stein	No

Update the report using enrollment as the output type.

As a reminder, here are the selections to make

- Input : Enrollment
- Program : Electronic Immunization registry, Stage : Immunization
- Program Dimension :
    - Unique System Identifier (EPI)
    - Given Name
    - Family name
    - Diagnosed with HIV and severe immunodeficiency
- Registration Date : This Year
- Org Unit : 0001 CH Mahosot

When we make this update, the number of records shown changes. This occurs because enrollment type reports only use the most recent event within a program stage for their output.

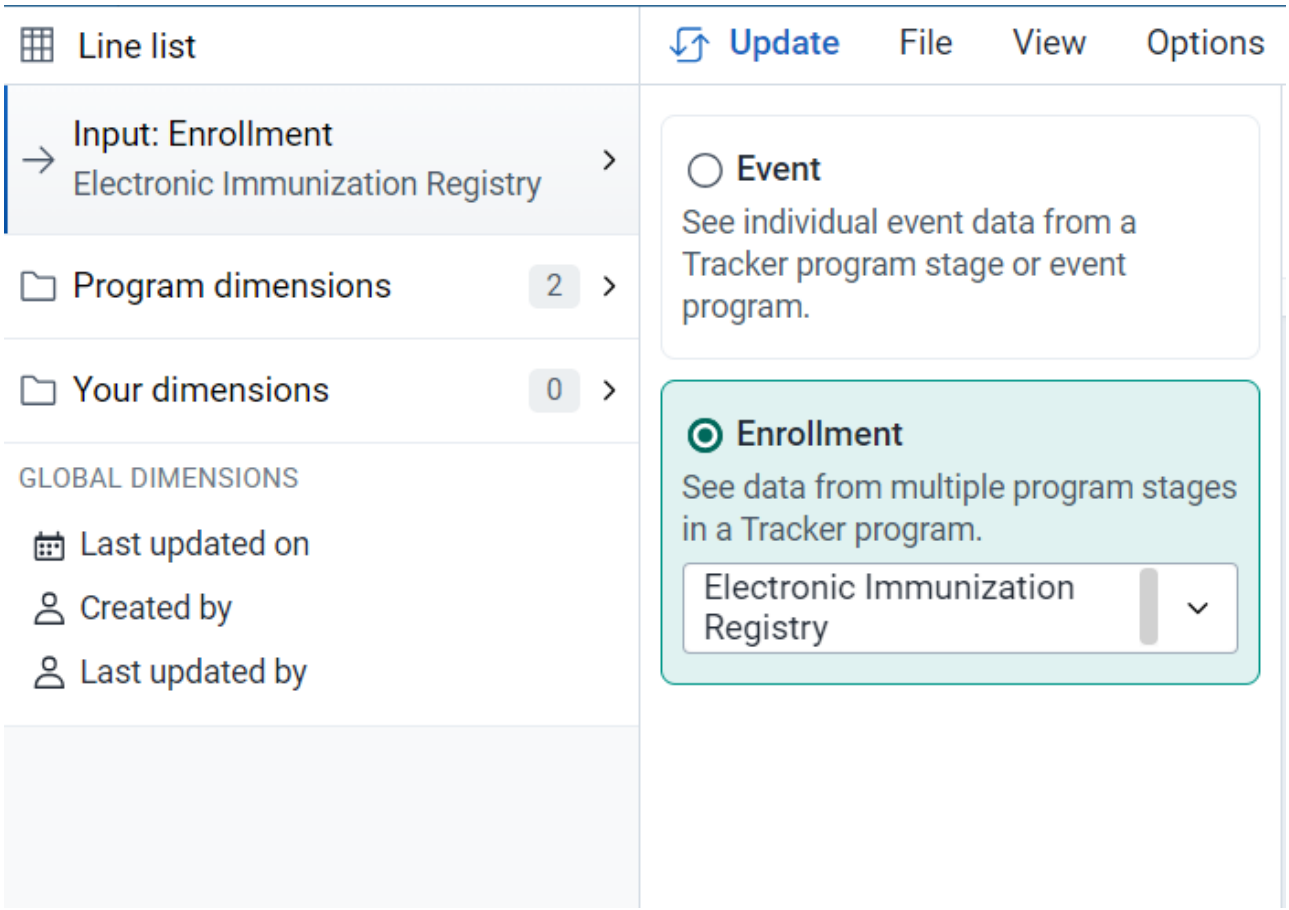
Exercise 6

Create a line list program using repeated event data linked together

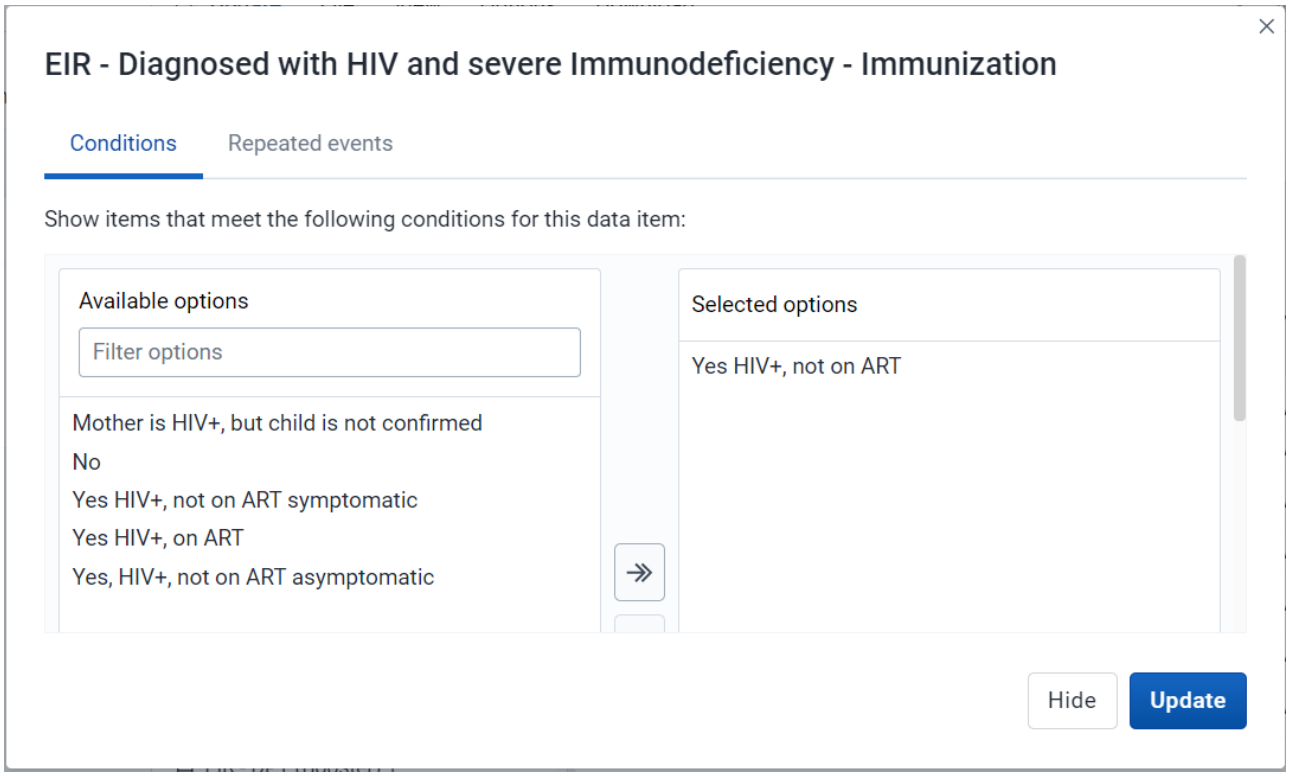
Perform this exercise in the line listing app.

Follow these steps to create this line list. (clear the table by going to File-> New to get started.)

- Input - Select Enrollment
- Program - Electronic Immunization registry



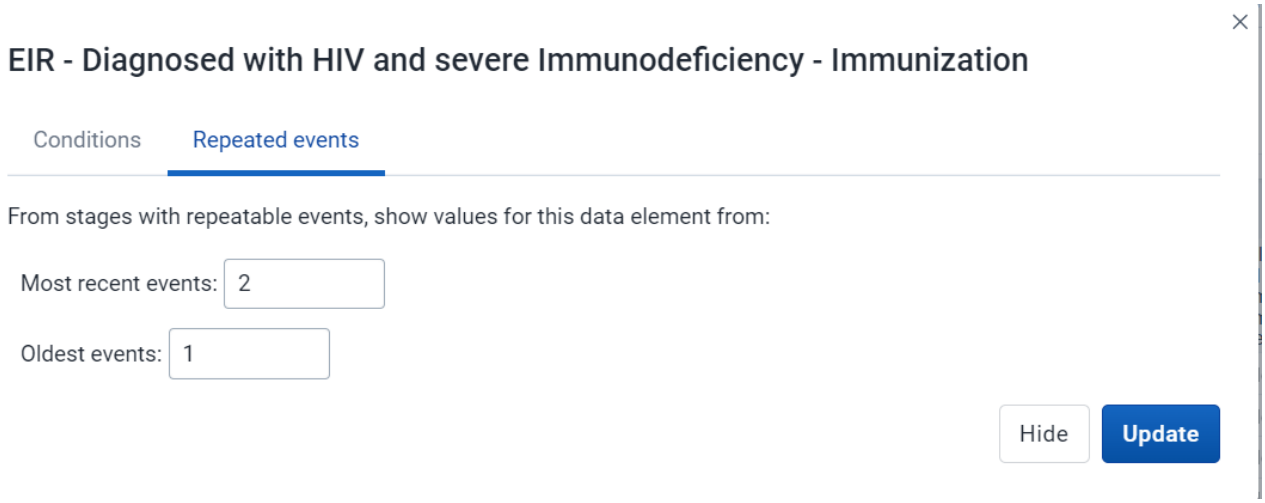
- Program Dimensions
    - Family name
    - Given name
    - Data Element "Diagnosed with HIV and severe immunodeficiency," where you will be able to see conditions and Repeated event tabs.
    - Filter - Select Yes HIV+,not on ART as your filter in the conditions tab.



- Click on the Repeated Events tab and select the values for the most recent and oldest events

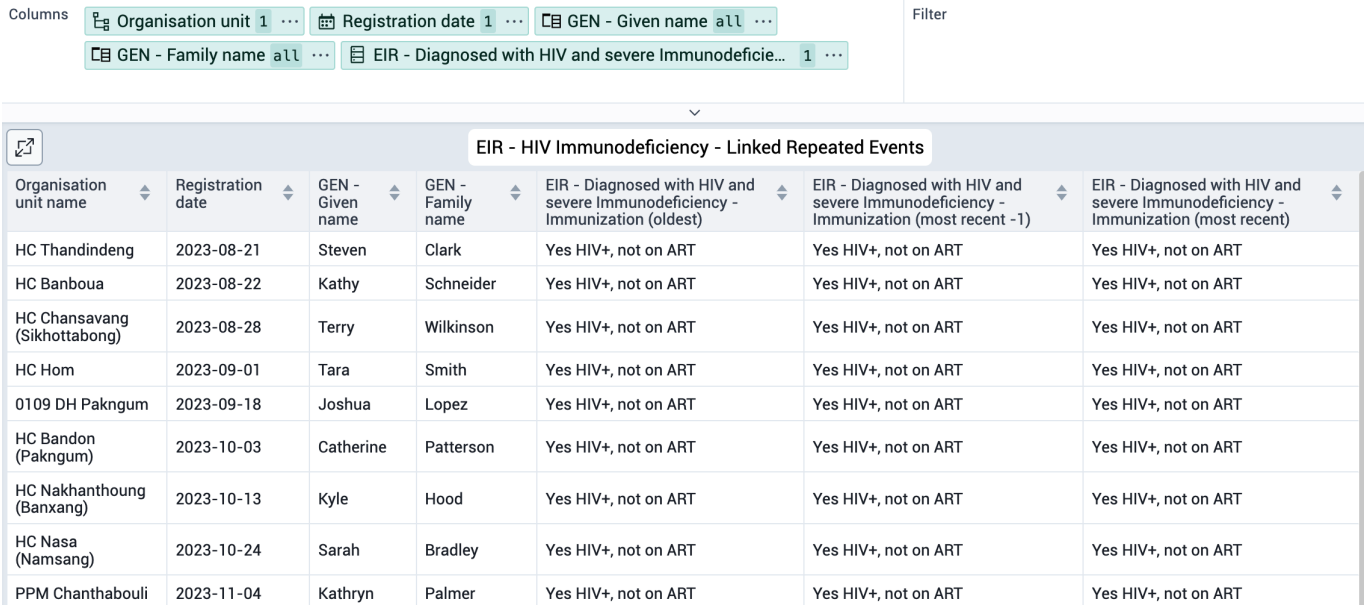
In this case we are selecting

- Most recent events : 2
- Oldest events : 1



- Period : Date of Registration: Last 12 months
- OU : user org unit

Once you Click on update, you will see the below observation.



EIR - HIV Immunodeficiency - Linked Repeated Events

Organisation unit name	Registration date	GEN - Given name	GEN - Family name	EIR - Diagnosed with HIV and severe Immunodeficiency - Immunization (oldest)	EIR - Diagnosed with HIV and severe Immunodeficiency - Immunization (most recent -1)	EIR - Diagnosed with HIV and severe Immunodeficiency - Immunization (most recent)
HC Thandindeng	2023-08-21	Steven	Clark	Yes HIV+, not on ART	Yes HIV+, not on ART	Yes HIV+, not on ART
HC Banboua	2023-08-22	Kathy	Schneider	Yes HIV+, not on ART	Yes HIV+, not on ART	Yes HIV+, not on ART
HC Chansavang (Sikhottabong)	2023-08-28	Terry	Wilkinson	Yes HIV+, not on ART	Yes HIV+, not on ART	Yes HIV+, not on ART
HC Hom	2023-09-01	Tara	Smith	Yes HIV+, not on ART	Yes HIV+, not on ART	Yes HIV+, not on ART
0109 DH Paknguм	2023-09-18	Joshua	Lopez	Yes HIV+, not on ART	Yes HIV+, not on ART	Yes HIV+, not on ART
HC Bandon (Paknguм)	2023-10-03	Catherine	Patterson	Yes HIV+, not on ART	Yes HIV+, not on ART	Yes HIV+, not on ART
HC Nakhanthoung (Banxang)	2023-10-13	Kyle	Hood	Yes HIV+, not on ART	Yes HIV+, not on ART	Yes HIV+, not on ART
HC Nasa (Namsang)	2023-10-24	Sarah	Bradley	Yes HIV+, not on ART	Yes HIV+, not on ART	Yes HIV+, not on ART
PPM Chanthabouli	2023-11-04	Kathryn	Palmer	Yes HIV+, not on ART	Yes HIV+, not on ART	Yes HIV+, not on ART

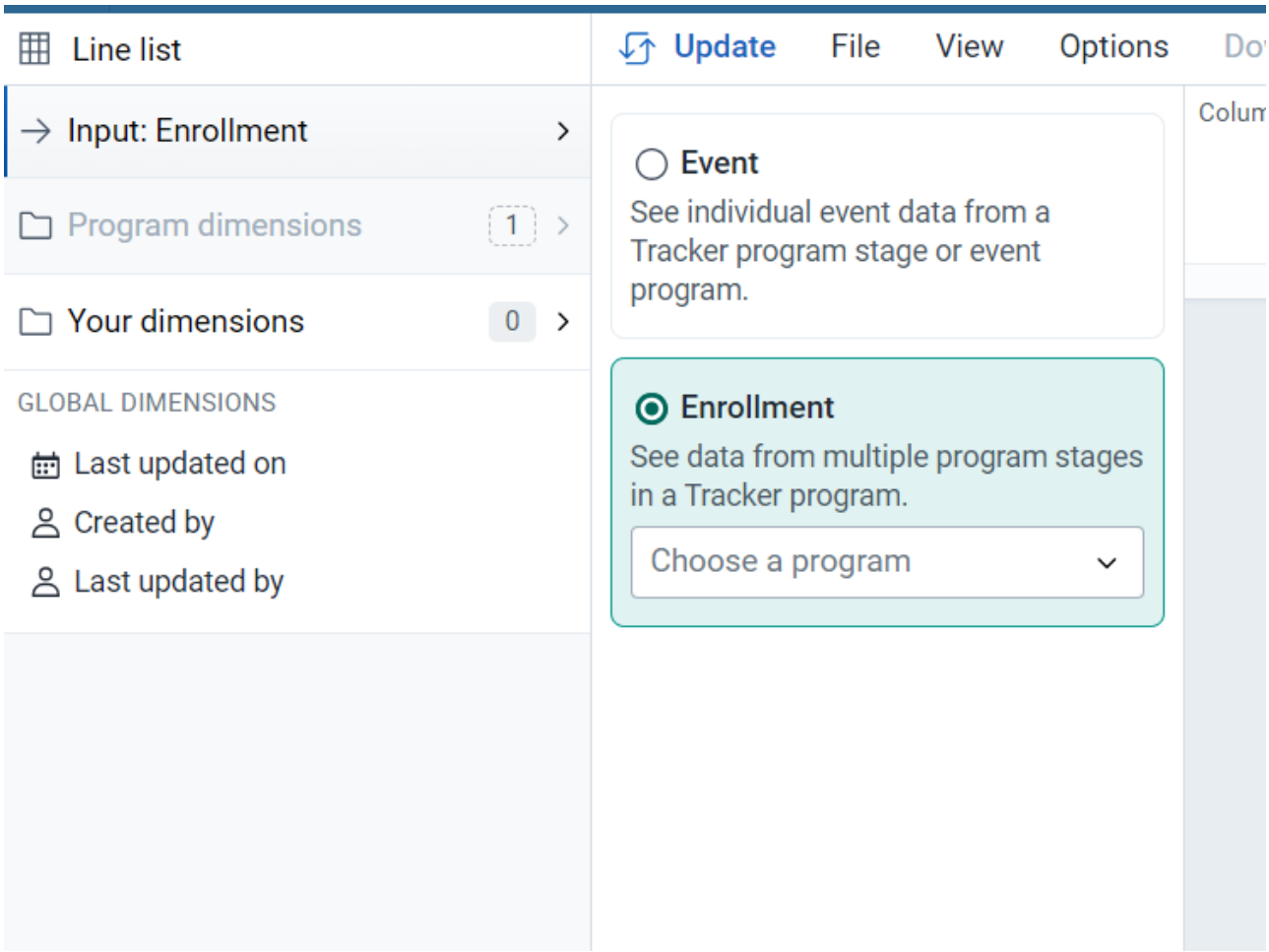
Exercise 7

Create a line list program using Input : Enrollment

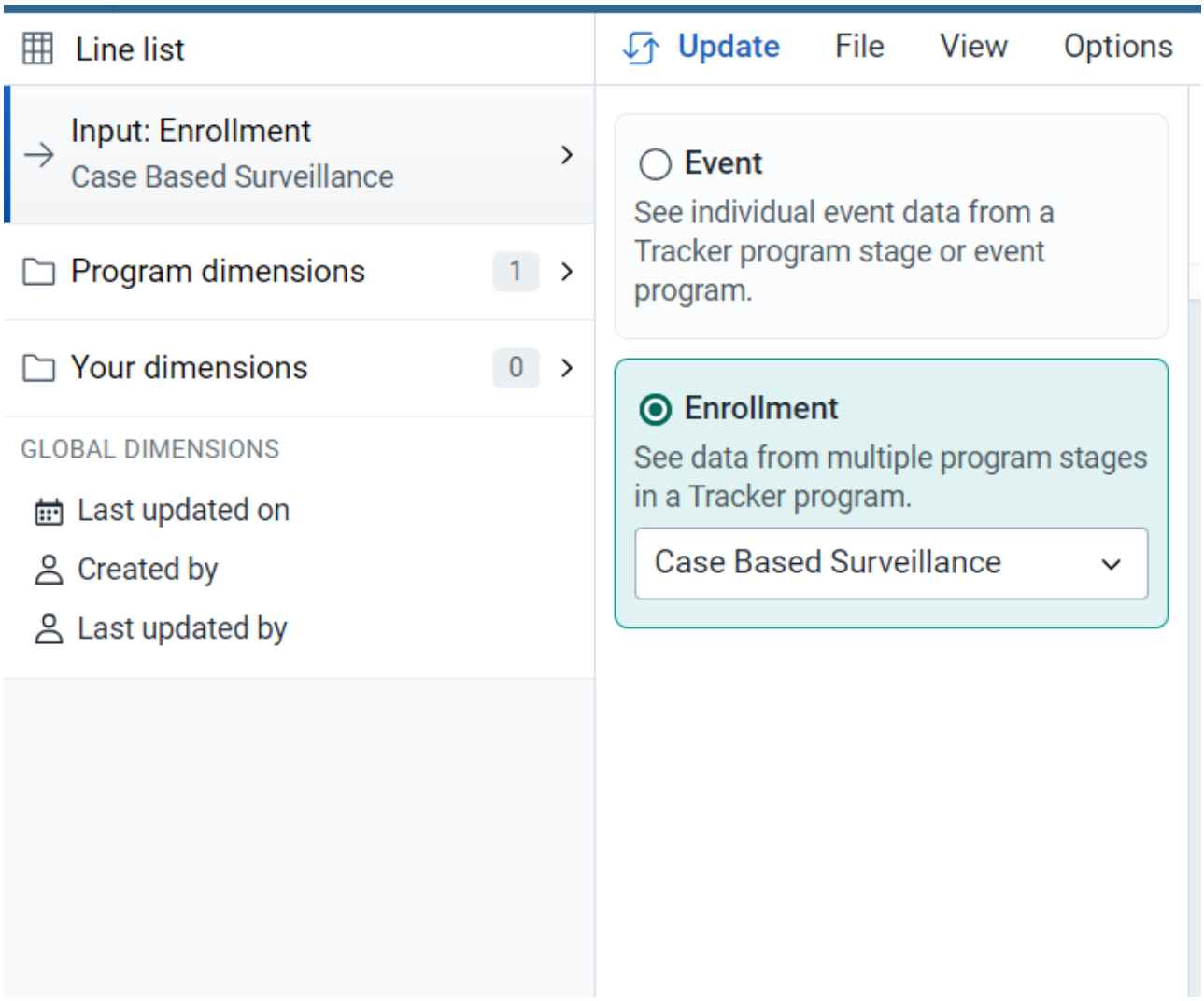
Perform this exercise in the line listing app.

Follow the steps to create this line list

- Input - Enrollment



- Program: Case based Surveillance



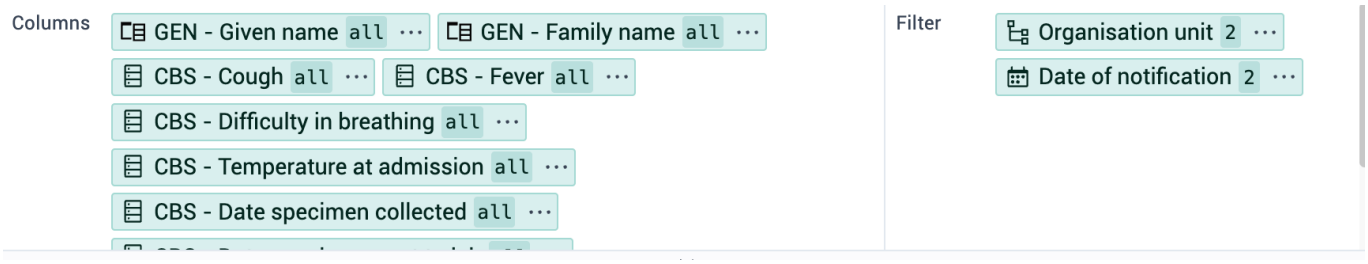
- OU : Lao PDR, Facility - Level 3
- Period - Date of notification: This Month and Last 3 Month
- Data elements- Stage 1 : Diagnostic and clinical information
    - Cough
    - fever
    - Difficulty in breathing
    - Temperature at admission

  Stage 2: Lab Request

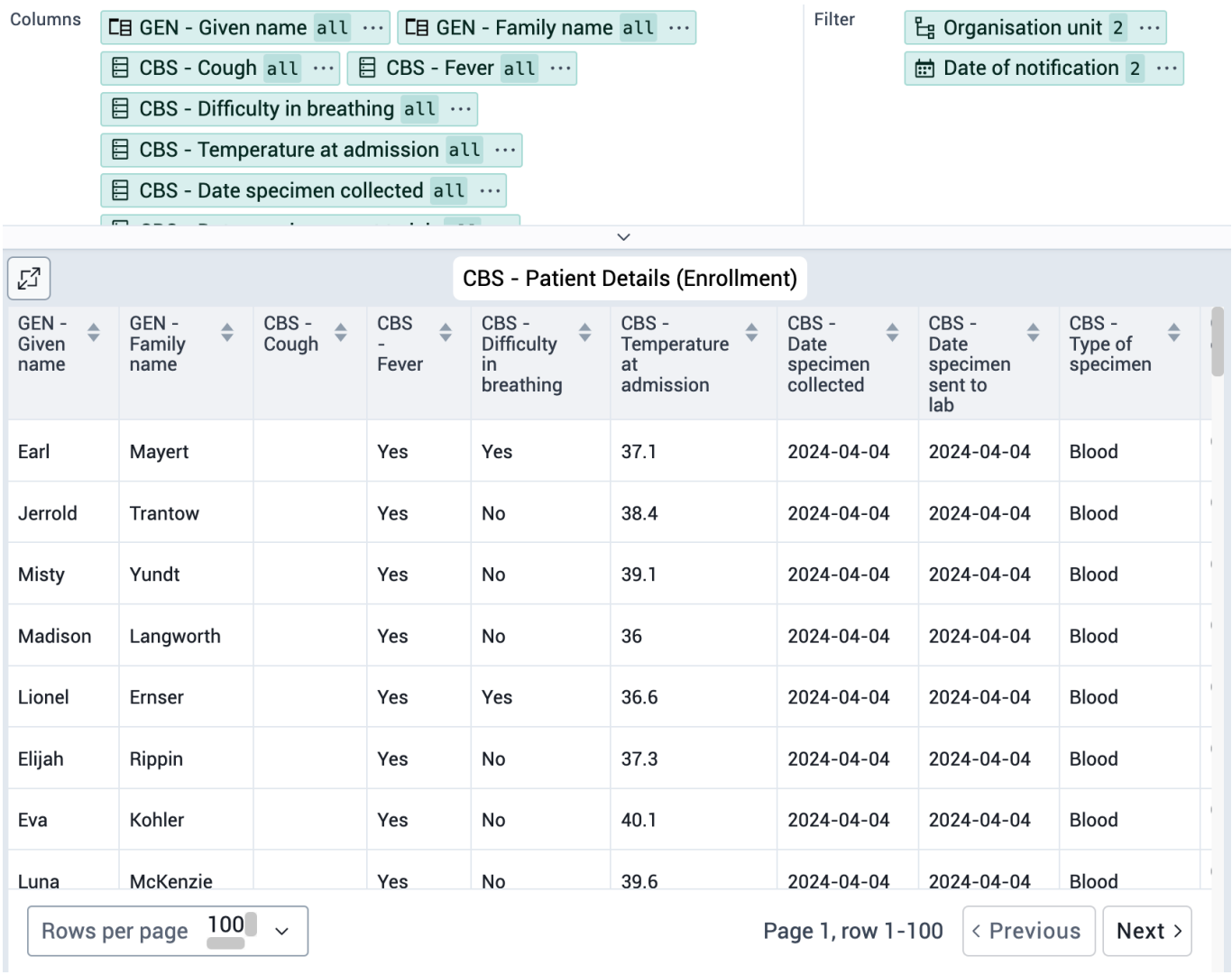
    - Date Specimen collected
    - Date Specimen sent to laboratory
    - Type of Specimen

  Stage 4: Final Classification

    - Final classification



Click on Update



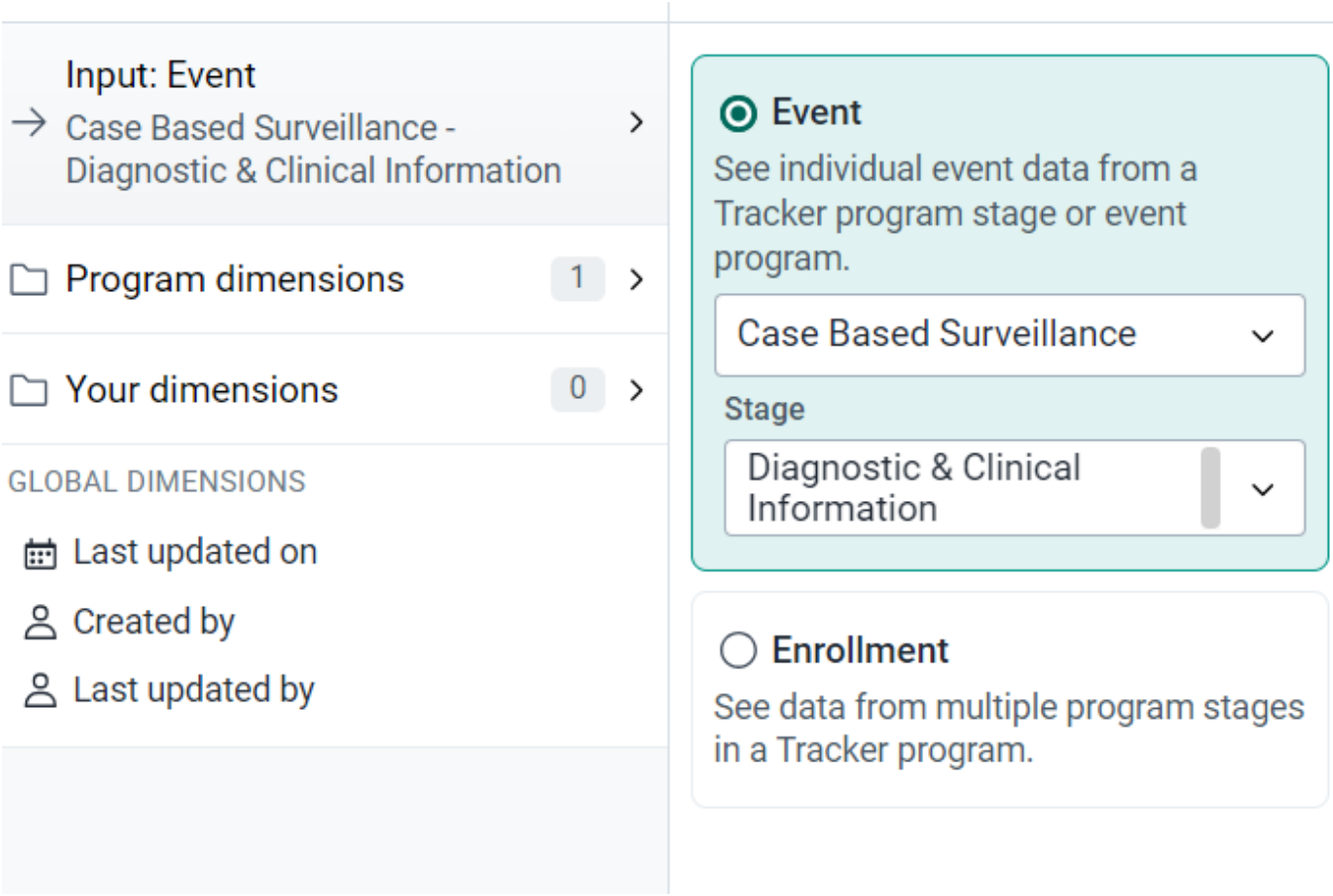
Exercise 8

Perform this exercise in the line listing app.

Create a line list program using legends

Follow these steps to create this line list.

- Input : Event
- Program : Case-based Surveillance
    - Stage: Diagnostic and Clinical Information

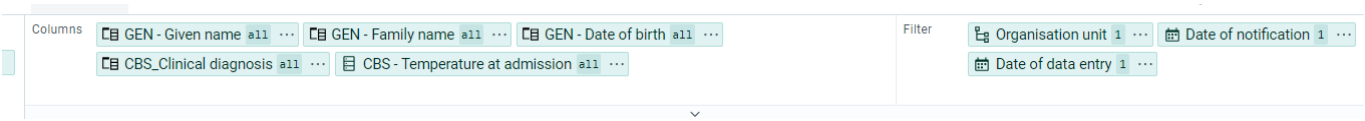


In the program dimensions tab Select the Attributes:

- Given Name
- Family Name
- Date of Birth
- CBS_Clinical Diagnosis

Select Data Elements:

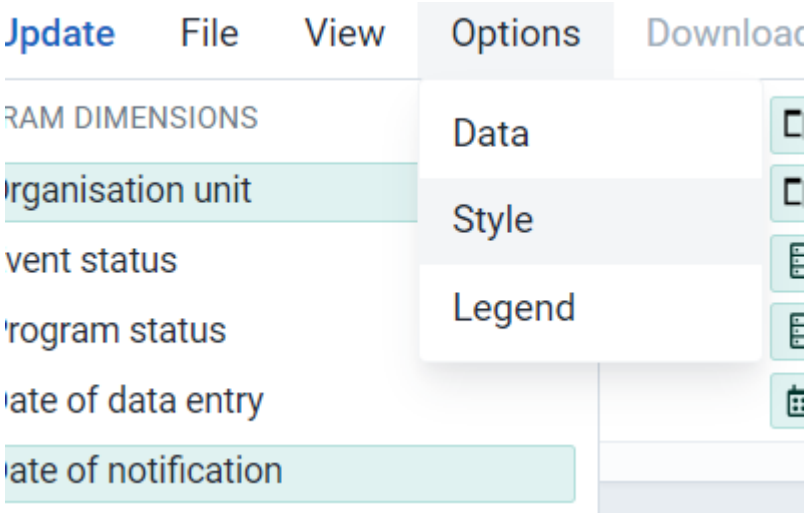
- Temperature at Admission

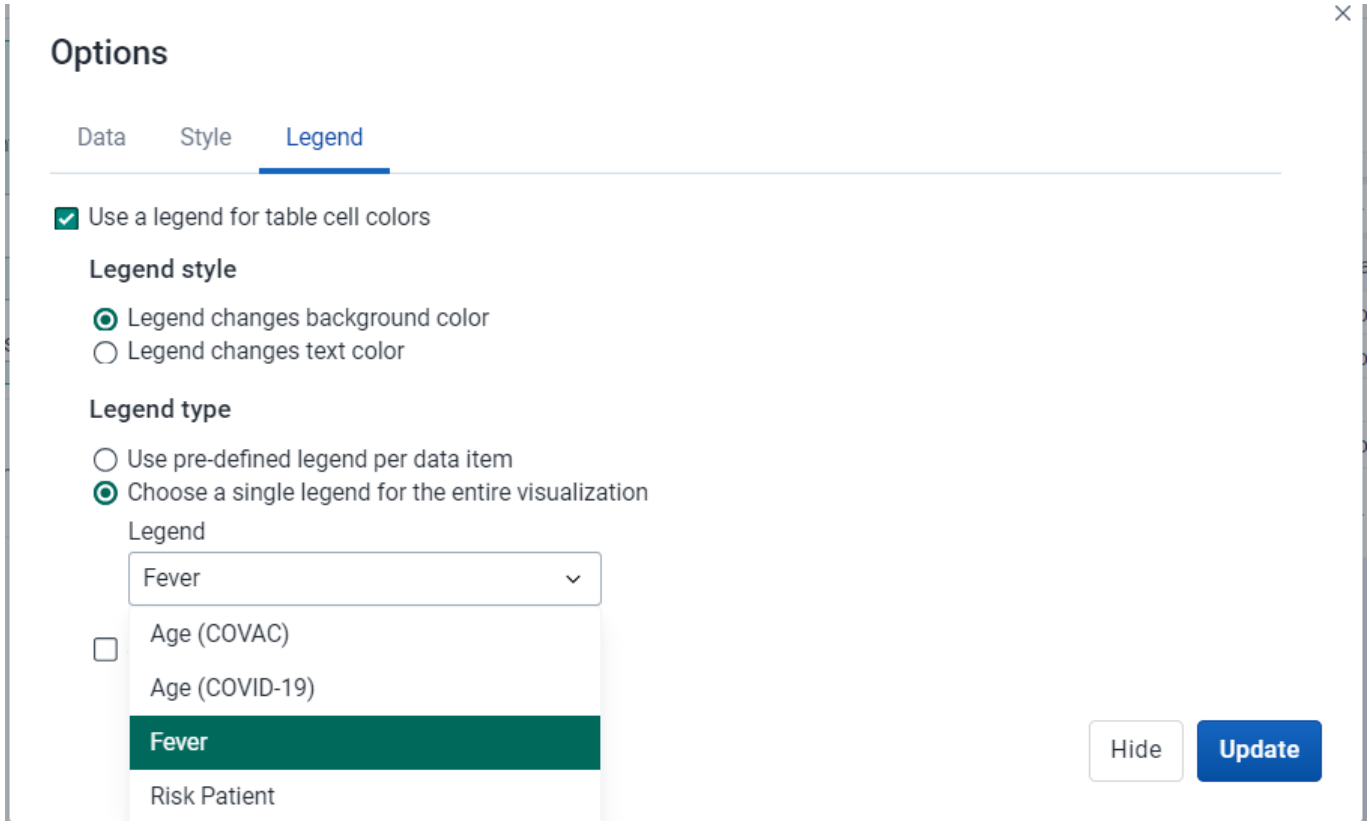


- Organization unit 0201 DH Phongsali
- Period - Date of notification Last 3 months

Options > Go to Legend

- Enable use a legend for table cell colors
- Legend style: Legend changes backgroung colour
- Legend type: Choose a single legend for the entire visualization
- Legend : Select pre-defined legend set "Fever"





Click on Update to see the below table

GEN - Given name	GEN - Family name	GEN - Date of birth	CBS_Clinical diagnosis	CBS - Temperature at admission
Demond	Okuneva	2020-08-03	MEN-Meningitis	40.8
Hazle	Heathcote	2021-05-11	MEN-Meningitis	40.4
Viviane	Rempel	2023-04-07	MEN-Meningitis	39.6
Chaya	Kassulke	2019-12-11	MEN-Meningitis	39.6
Alysha	Hintz	2022-03-28	MEN-Meningitis	39.4
Hertha	Jenkins	2021-12-19	MEN-Meningitis	39.3
Alexys	Oberbrunner	2021-08-27	MEN-Meningitis	39.3
Sandy	Jacobs	2021-08-16	MEN-Meningitis	39
Krystina	Hauck	2020-09-06	MEN-Meningitis	38.9
Alena	Simonis	2020-01-14	MEN-Meningitis	38.9
Stephon	Ziemann	2021-06-16	MEN-Meningitis	38.9
Josie	Auer	2023-02-12	MEN-Meningitis	38.6
Ericka	Nolan	2023-01-18	MEN-Meningitis	37.9
Everette	Anderson	2020-01-09	MEN-Meningitis	37.8
Tracey	Sawayn	2020-10-15	MEN-Meningitis	37.1
Layla	Bailey	2020-07-04	MEN-Meningitis	36.7
Jerod	Casper	2023-04-11	MEN-Meningitis	35.4
Gina	Kerluke	2021-09-12	MEN-Meningitis	35.3
Cydney	Rohan	2021-01-22	MEN-Meningitis	35.2
Terrell	Muller	2022-02-12	MEN-Meningitis	35

You can also see the legend key is you select show legend key on the side bar.