

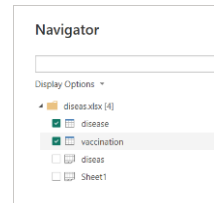
Exercise: Data Modeling and Visualizations for Disease Dataset

[Download the data](#)

You are employed as a data analyst with the Health Department. You have assembled important disease information which you would like all your department staff to be aware of. The data is currently in a excel file[diseases], but you feel that it would be easier for the staff to read and assimilate in the form of a Power BI report. You will need to create a Power BI report which focuses on an analysis of the disease data broken down by state and year.

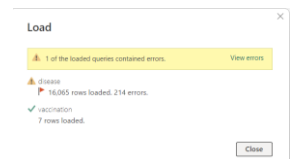
Setup Instructions

1. In Power BI Desktop, choose Get Data from excel workbook.
2. select the two tables from the file. Make sure you select the tables(disease and vaccination) object not the sheets object.
3. Click load



Transforming the Data

- 1- As the [population] column contains errors, use the PowerQuery to change the NA that causes the error to zero and run the column quality for the entire column and ensure its error free.
- 2- Close and apply.



Task #1: Formatting

Use the formatting choices in the Column Tools ribbon to make these formatting changes:

1. Format the numbers in the 'count' column with a comma separator.
2. Format the numbers in the 'population' column with a comma separator.

Task #2: Data Modeling

Ensure there is a 1:M relationship between the Disease table and the Vaccination Years table.



Task #3: Check the Impact of Vaccination [report page : vaccinations]

Create a visualization to show the impact of vaccination on the spread of diseases.

1. Create a Line Chart with 'Year' on the X-axis and 'Count' of cases on the Y-axis.
2. Add slicer with the disease¹ and limit it to one selection
3. use a card the display the selected disease vaccination year
4. Add x constant line to indicate the introduction of the vaccine
5. Observe the trend before and after the vaccination year to analyze the impact.
6. Use the disease.jpg image as a wallpaper, make it fill.
7. Remove the background of the visuals



Task #4: create a new report page [history]

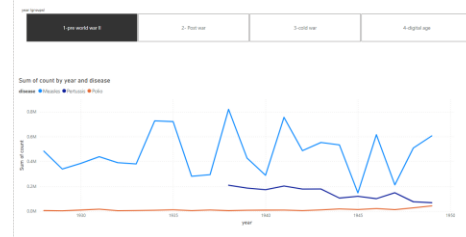
Create year groups to analyze trends over different periods.

1. Create groups of the years² into the following ranges:

- 1928-1949: Pre-World War II
- 1950-1969: Post-war economic
- 1970-1989: Cold War
- 1990-2011: the digital age

2. use the group as a slicer tiles

3. create a line chart with x as year , count as Y and legend the diseases and filter the visual the top 3 disease by value sum of count



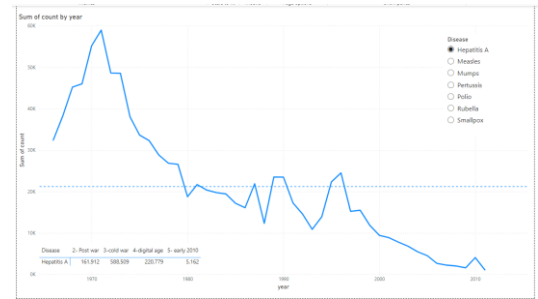
¹ Use disease from the vaccination year table because of the default cross filter direction

² Use year from disease table

Task #5: create a new page report [matrix]

Visualization #1

Create a matrix the distribution of cases of diseases across the year groups , place it bottom of the canvas. Remove the total columns and rows.



Visualization #2

Line chart with x as year and count as y and Add Y average line

Visualization #3

Sync the slicer from page one

Task #6: Adding Borders and Formatting

Add borders around each visualization and space them in a balanced way on the page. Feel free to do some formatting for the visualizations.

Task #7: Save

Rename the report page Disease Information. Save the file as Disease_Data_Report. The file is automatically given a .pbix file extension.