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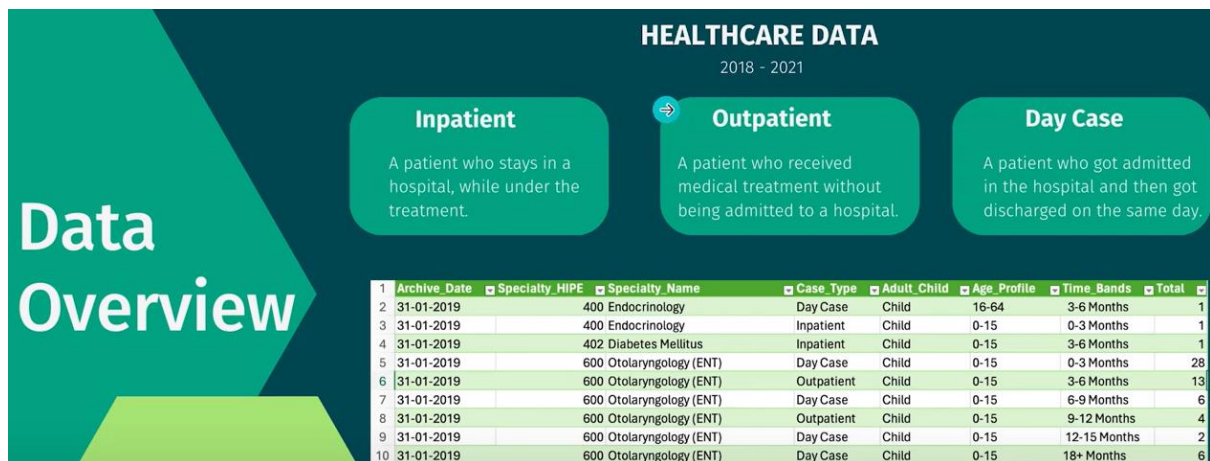
Batch Date – 2025

Course Name – Power BI

Power BI Project: Patient Wait List Analysis

Overview

This project aims to provide an in-depth analysis of Healthcare Data using the power of Power BI. In this comprehensive Patient Wait List Analysis Dashboard, we've harnessed the potential of various chart types such as donut charts, stacked column charts, line charts, multi-row cards, cards, slicers, and metrics to bring you a visually insightful representation of our healthcare statistics.



Project Goals

1. Track current status of patient waiting list
2. Analyse historical monthly trend of waiting list in Inpatient & outpatient categories
3. Detailed Speciality level and age profile analysis

This project consists of 2 pages.

1. Summary Page
2. Detailed View Page

Data Scope

2018-2021

Metrics Required:

1. Average & Median waiting List (I have used median metrics to handle outliers present in the dataset)
2. Current Total Wait list

Steps covered to complete this project:

1. Data Cleaning & Processing in Power BI: In this project, I started by importing raw Health care data into Power BI. Before I could visualize and analyse the data, cleaning and preparation of data is required. This involved identifying and handling missing values, correcting data types, and removing duplicates. For this purpose I used Power BI's data transformation capabilities, particularly Power Query.

2. Power BI Dashboard Setup: Once the data was cleaned and processed, I set up the foundation for the Health care analytics dashboard. This included creating a new Power BI report and adding various visuals, which would collectively form the dashboard.

3. Import Data in Power BI: The next step was to import the cleaned Health care data into Power BI. This involved connecting to the data source (e.g., Excel, SQL database) and loading the data into the Power BI environment.

4. Power Query in Power BI: Power Query is a crucial tool in this project. I used it to transform and shape the data further. This included merging multiple data sources, applying advanced data transformations, and creating custom columns to derive insights.

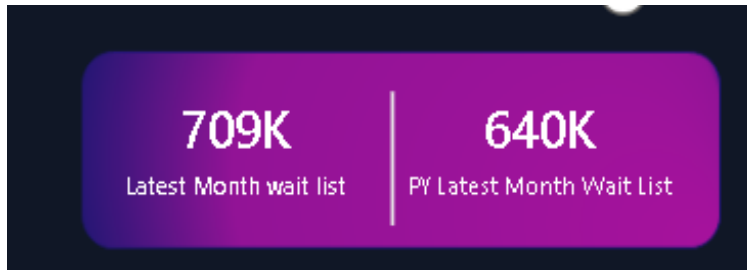
5. DAX in Power BI: DAX (Data Analysis Expressions) played a significant role in the project. I used DAX formulas to create calculated columns and measures. For instance, I could calculate total wait list of patients, latest month wait list. Previous year latest month wait list, Average waiting list, Avg/median waiting list, median waiting list etc.

6. Measures and Calculations in Power BI: Within Power BI, DAX is used to define measures and calculations. Measures are dynamic calculations that respond to user interactions and slicer selections. This allowed us to provide real-time insights based on user needs.

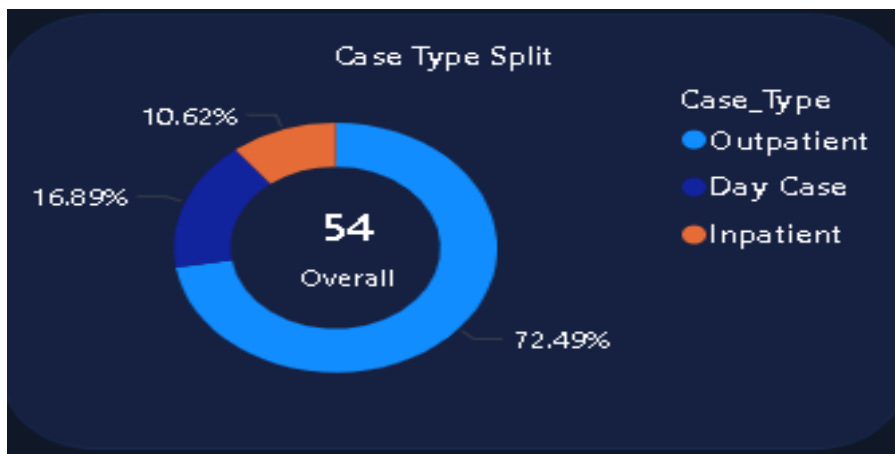
7. Charts in Power BI: Charts and visuals are at the heart of data visualization. I have used various types of charts, such as bar charts, line charts, and pie charts, to represent Health care metrics visually. This will help users to understand trends and patterns.

8. Filters and Slicers in Power BI: To enhance interactivity, I implemented three filter to analyse the data according to date, case type and speciality name These tools allowed users to select specific criteria, departments, time periods, or any other relevant data points. The visuals automatically adjusted to reflect the user's selections.

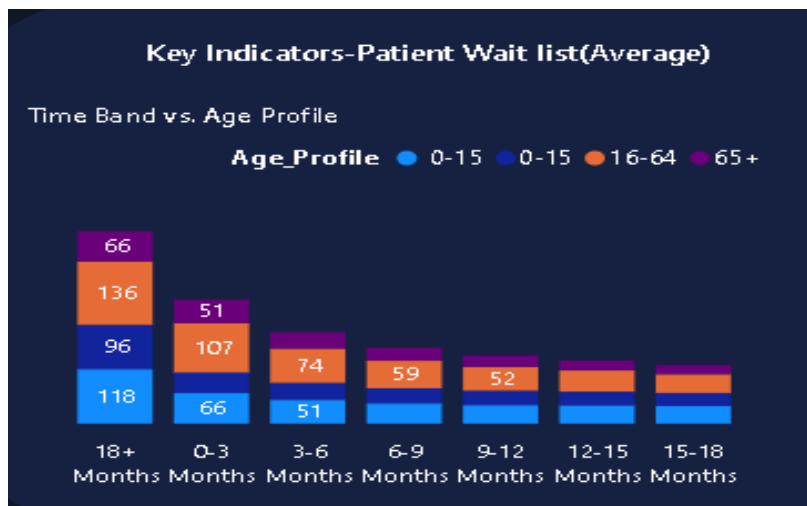
9. Dashboard in Power BI: The dashboard itself is a collection of interconnected visuals, charts, and tables. It presented a comprehensive view of Health care analytics, enabling users to explore and gain insights at a glance.



1. This is my first visual in the form of card which shows the count of the total waiting list for the current month and waiting list of last year for the same month so that we can compare how we are performing in the current month in reference to last year same month. I have made this visual dynamic by using dax function so that it can always show the latest month even the data get updated. I have created a measure for this to showcase the dynamic result. I have sum the total waitlist column and applied filter on top of that and that filter is based on the Archive Date column that will retrieve the maximum date present in the data. (Latest Month wait list = $\text{CALCULATE}(\text{SUM}('All Data'[Total]), 'All Data'[Archive_Date] = \text{MAX}('All Data'[Archive_Date])) + 0$) and for previous year I have used different measure to do the comparison (PY Latest Month Wait List = $\text{CALCULATE}(\text{SUM}('All Data'[Total]), 'All Data'[Archive_Date] = \text{EDATE}(\text{MAX}('All Data'[Archive_Date]), -12)) + 0$)



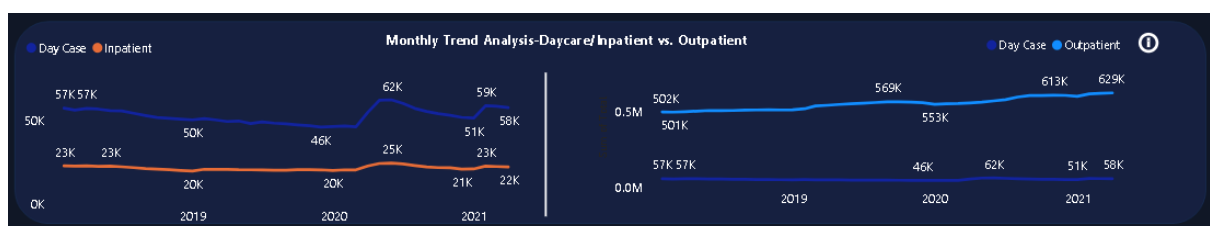
2. This is my second visual in the form of pie chart which shows distribution of wait list according to the case type. From this chart we can see the maximum patients in the wait list are the from the outpatient category.



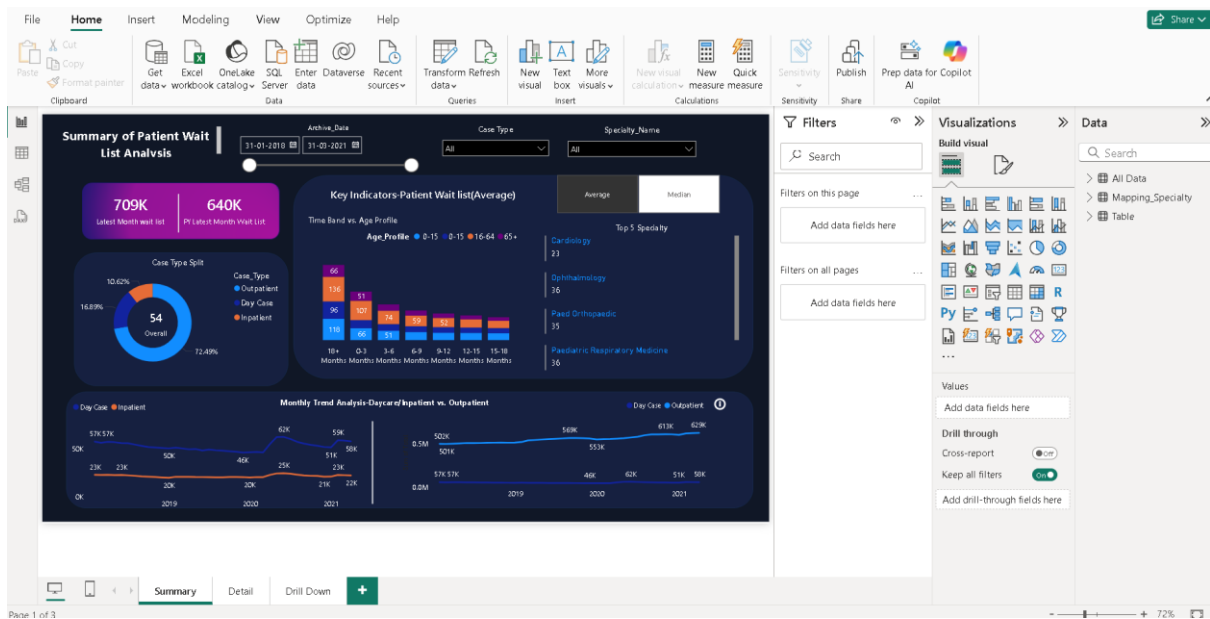
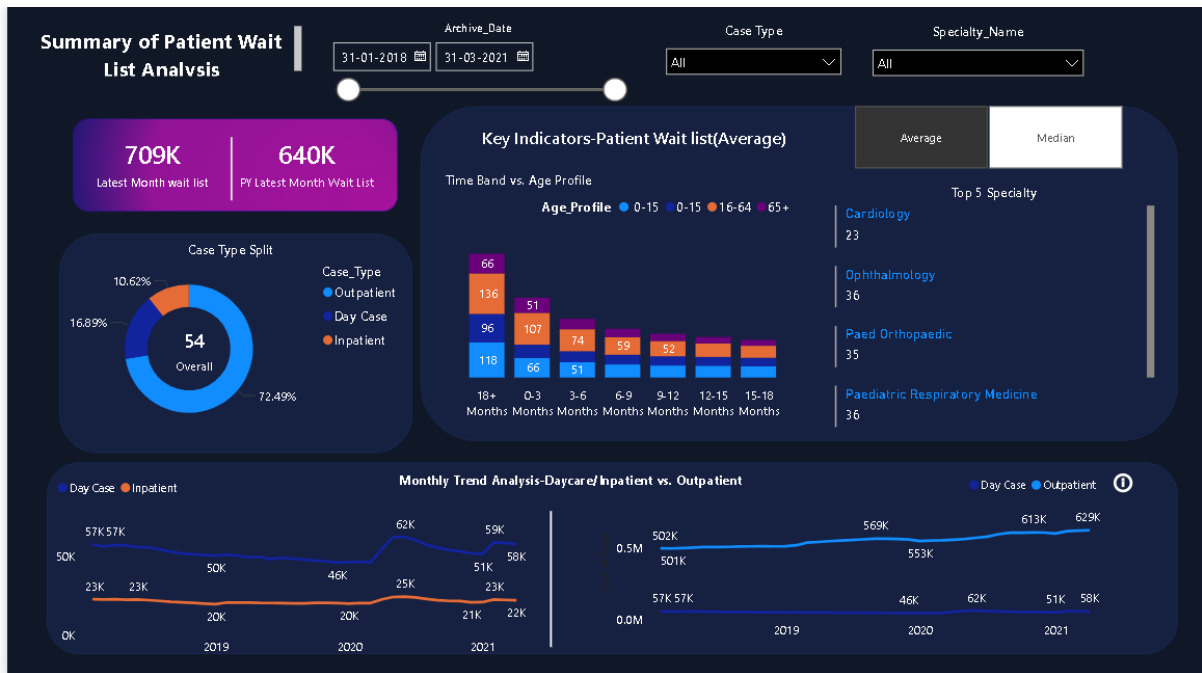
- This is my third visual in the form of stacked column chart which showcase average patient waiting list according to time bands and age profile. From this chart we can see patients from the age group between 16-64 falls under average patient waiting list.



This is my fourth visual in the form of multi row card which shows patients wait list from top 5 speciality. Here we can see patients from Pain Relief department is having the maximum wait list.

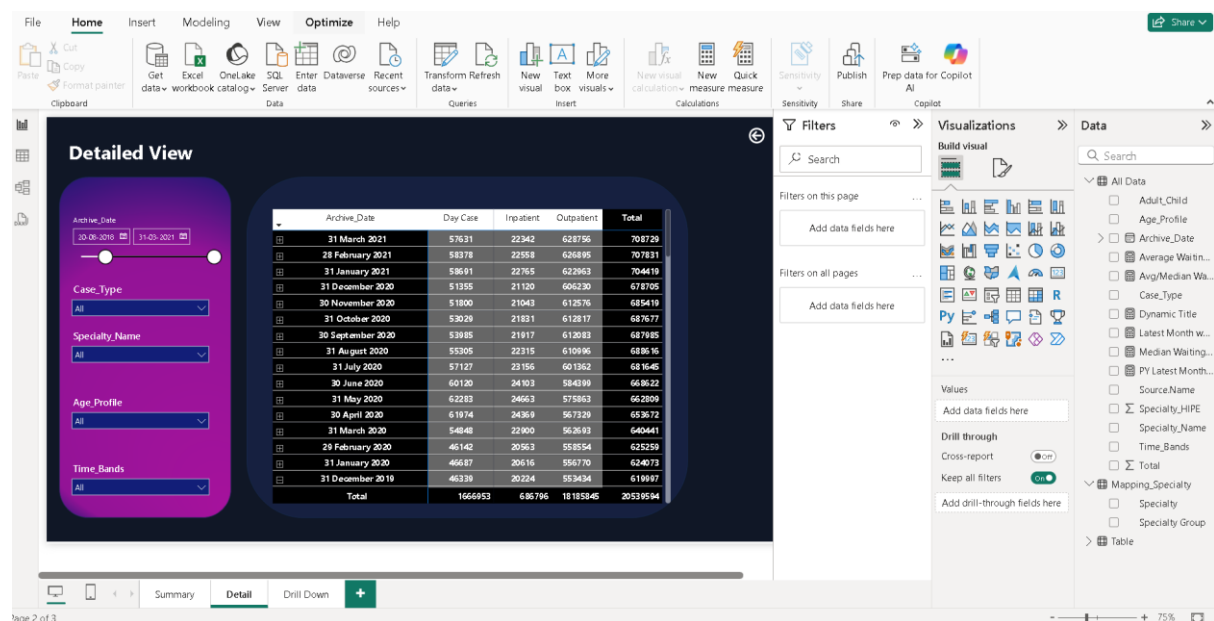


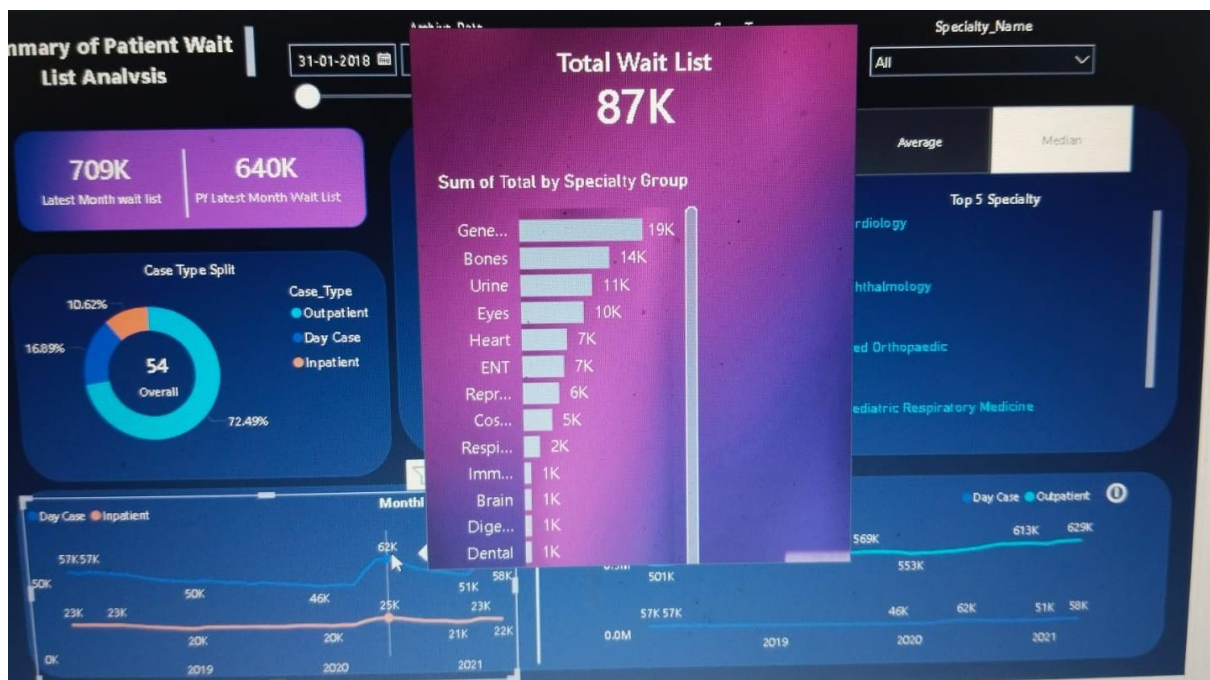
This is my fifth visual which will show case total patient wait list for a particular category and this is Monthly Trend Analysis . Here I have divided line chart between two parts. First one is day case from the Inpatient category and second part is from outpatient category.





This is the second page of my dashboard for the detailed analysis of the project. It contains 4 important filters based on Archive date, Case type, Age Profile and Time bands and accordingly it shows the total number of patient's waiting list.





This is my third page of the dashboard. This is basically very important feature to enhance the interactivity. In the first page(summary page) of my dashboard, for the last visual I have made a custom tool tip with a popup window which will show a split of speciality for that particular month and specifically I have used speciality group which I have used in my data set. In this page I have used a table which contains speciality group and sum of total then I have converted the same table to stacked bar chart and I have also used a card which showcase total number of wait list for that particular month. Now when you to the summary page hover over the last visual it will show all the details in a page like pop up window.