

Introduction:

The Healthcare Data Analysis Dashboard on Power BI offers an in-depth examination of patient health data spanning from 2018 to 2021. Divided into two main sections — “Summary” and “Detailed view” — this report utilizes visualizations and DAX calculations to unveil critical trends and key performance indicators (KPIs), enabling healthcare providers to make informed decisions and optimize patient care strategies. The dataset that is taken here is from an imaginary hospital that includes waiting period for a patient to meet a doctor corresponding to the speciality department.

Data Collection:

The dataset comprises various attributes including patient demographics, medical conditions, admission details, and more. It's a synthetic dataset designed for educational and non-commercial use, ensuring privacy and compliance. The data cleaning is done using Microsoft Excel, removing incomplete records and irrelevant columns to enhance analysis accuracy.

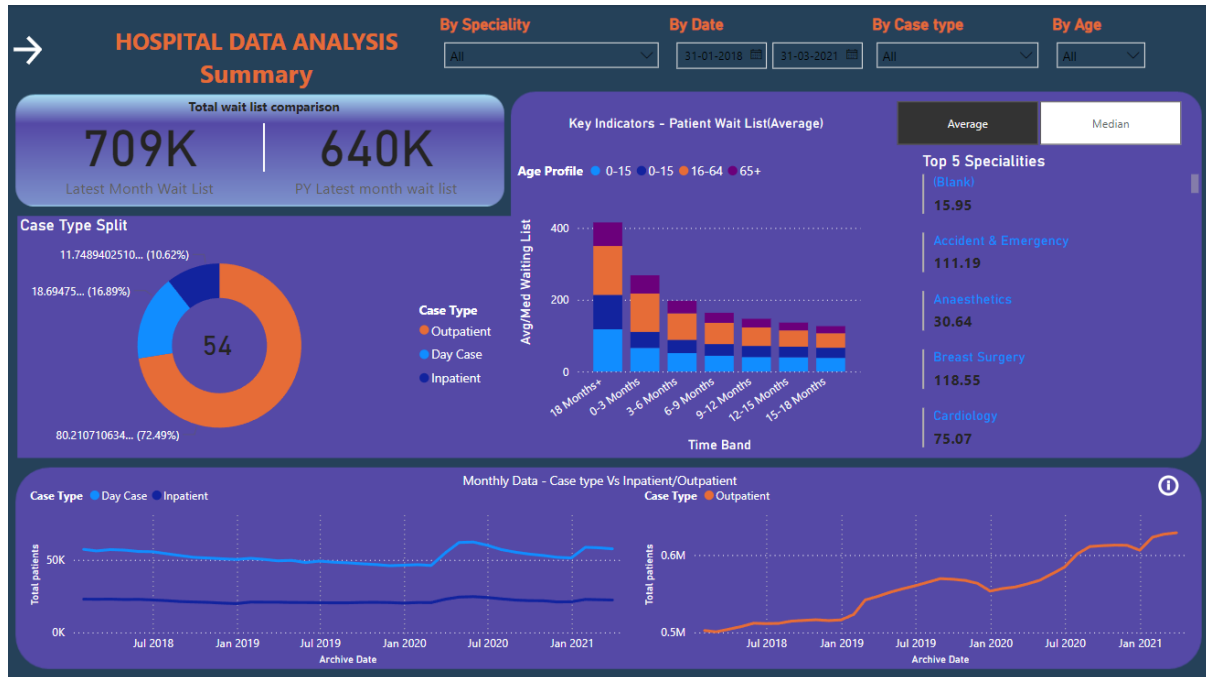
Data Preparation for Analysis using Power BI:

- **Creating Separate Tables:** A Date table is created by clubbing the synthetic data to facilitate temporal analysis, linked with the main dataset. Additionally, “Mapping speciality” table is prepared for visualisations.
- **Creating measures:** New calculations are measured to calculate Average waiting time, Median waiting time that facilitates calculation to be made easily. . Various KPIs are calculated using DAX expressions such as Count, Distinct Count to name a few.
- **Drilldown:** Drilldown is used to create a tooltip when the end user navigates through the charts.

Analysis and Visualizations for the Report:

The report is structured into two sections for clarity:

1. Summary page:



2. Detailed page:

The detailed view dashboard provides a granular look at hospital data. It includes filters for Specialty, Date, Case Type, Age, and Time band. A table displays the data for each month, showing the number of Day Case, Inpatient, and Outpatient cases, along with the total number of cases.

Detailed View

Filters: By Specialty (All), By Date (31-01-2018 to 31-03-2021), By Case Type (All), By Age (All), By Time band (All)

Archive Date	Day Case	Inpatient	Outpatient	Total
31 January 2018	57267	22937	502482	582686
28 February 2018	56180	22859	500800	579839
31 March 2018	57095	22963	504111	584169
30 April 2018	56731	22683	507507	586921
31 May 2018	55795	22801	511904	590500
30 June 2018	55617	22397	511415	589429
31 July 2018	54244	21912	511675	587831
31 August 2018	52911	21278	514585	588774
30 September 2018	51725	20993	515547	588265
31 October 2018	51287	20714	516363	588364
30 November 2018	50760	20229	515360	586349
31 December 2018	50324	19880	516162	586366
31 January 2019	51087	20940	523225	595252
28 February 2019	50345	20860	541899	613104
31 March 2019	49367	20852	546630	616849
30 April 2019	49655	20640	551965	622260
31 May 2019	48156	20609	556411	625176
30 June 2019	49168	20503	560251	629922
31 July 2019	48395	20412	564829	633636
31 August 2019	47984	20406	569498	637888
30 September 2019	47314	20671	568769	636754
31 October 2019	46771	20740	567221	634732
30 November 2019	46010	20584	563410	630004
31 December 2019	46339	20224	553434	616997
Total	2059882	845348	21735739	24640969

DAX functions used in the report:

- **Average**

Average Waiting List = `AVERAGE(All_Data[Total])` – This DAX function was used to get average of waiting waiting list Total of all patients.

- **Median**

Median Waiting List = `MEDIAN(All_Data[Total])` – This DAX function was to get the median of the total waiting list of all patients.

- **CALCULATE**

1. Latest Month Wait List =

`CALCULATE(SUM(All_Data[Total]),All_Data[Archive_Date]=MAX(All_Data[Archive_Date]))+0` – This DAX function is used to calculate the Latest month waiting list.

2. PY Latest month wait list =

`CALCULATE(SUM(All_Data[Total]),All_Data[Archive_Date]=
EDATE(MAX(All_Data[Archive_Date]),-12))+0` -This DAX function is used to calculate the previous month waiting list from current month at any given time.

- **SWITCH**

Dynamic Title = `SWITCH(VALUES('Table'[Calc Method]),"Average","Key Indicators - Patient Wait List(Average)","Median","Key Indicators - Patient Wait List(Median)")` – This DAX function is used to create a switch between Average and Median data.