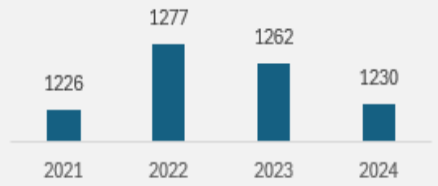
Hospital Dashboard and Data Analysis Using Excel

Hospital Dashboard

sum of admission

Total Admissions



Years (admission_date)

4
Average Length of Stay

8.5
Avg of Patient Satisfaction Score

60
Avg hours worked by staff per week

3,84,78,20,565
Total Revenue

Hospital_Name

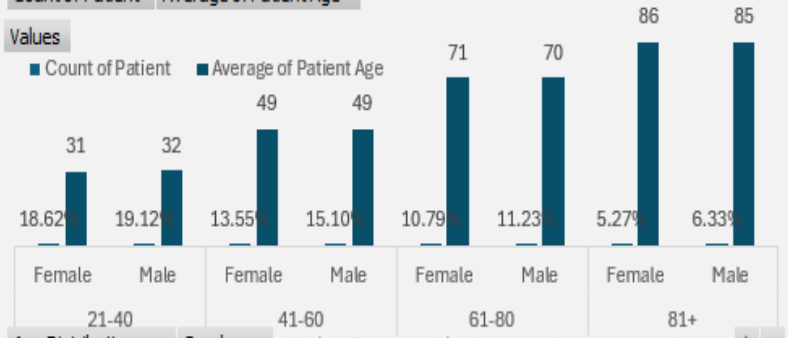
- Care First Hospital
- City Hospital
- Community Care
- Cure Medical Center
- General Clinic

diagnosis

- Kidney Disease
- Migraine
- Pneumonia
- Pregnancy
- Stroke

Count of Patient | Average of Patient Age

Values

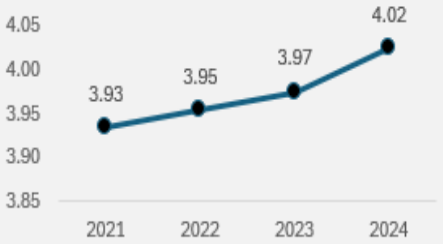


Age Distribution | Gender

Patient Demographics Summary by avg age and Gender

Avg Length of Stay

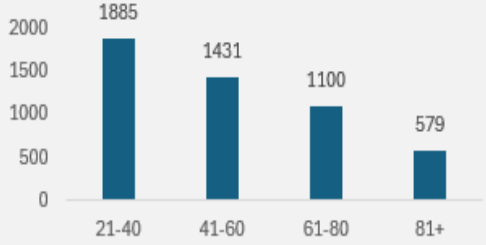
Avg Length of Stay



Years (admission_date)

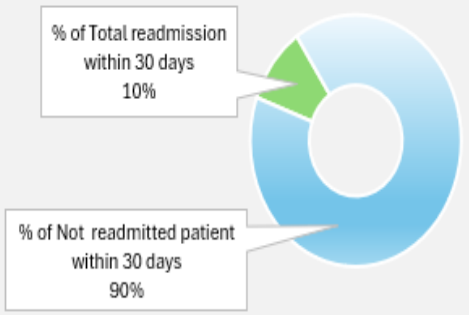
Count of Patient_Age

Patient Age Distribution



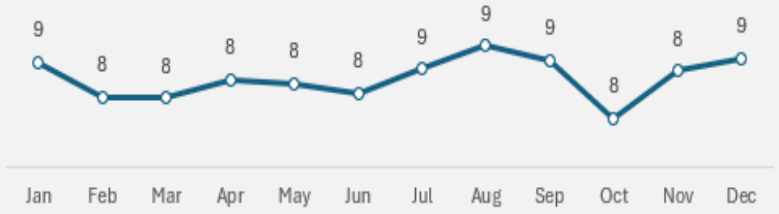
Age Distribution

Readmission Rates



Avg of Patient Satisfaction Score

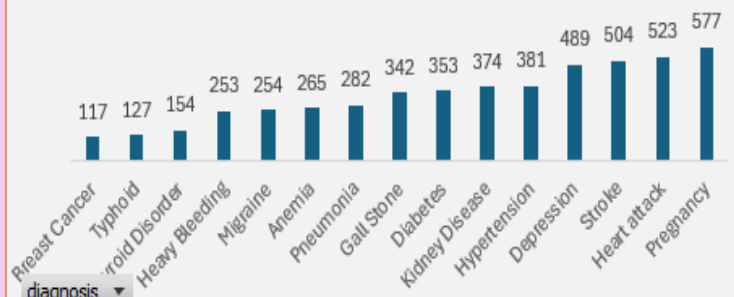
Avg of Patient satisfaction score by month



Months (admission_date)

Count of Patient

Diagnosis Frequency



diagnosis

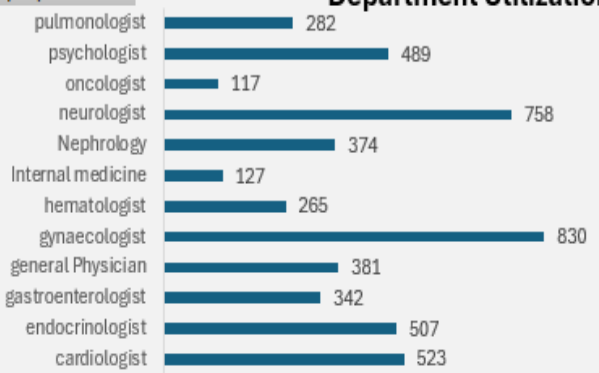
Count of admission_date

Monthly Admissions Trend

Months (admission_date)

Count of Patient by department

Department Utilization



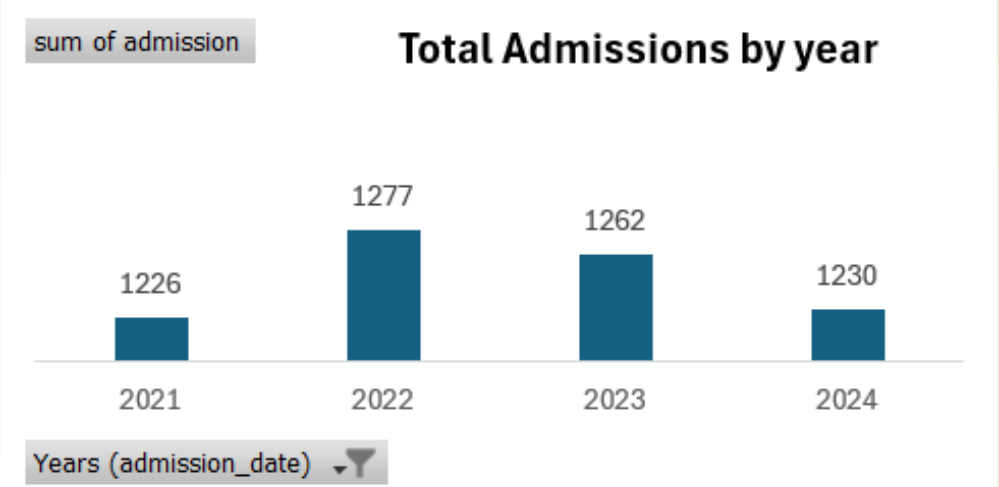
Department

INSIGHTS

1. Calculate the total number of patient admissions in a year.

year	sum of admission
2021	1226
2022	1277
2023	1262
2024	1230

Total Admissions	4995



Total Revenue	3,84,78,20,565

3,84,78,20,565 Total Revenue

- The overall trend from **2021 to 2024** shows relatively **stable** admission, with a **peak in 2022**.
- Admission from 2021 to 2022 showing a growth of **4.2%.**
- The fluctuations suggest **minor shifts** but no drastic changes over the four-year period.
- **Total admission** in 4 Year **4995** and **total revenue 3,84,78,20,565.** The **average revenue per admission** over the four years is **770,487.**

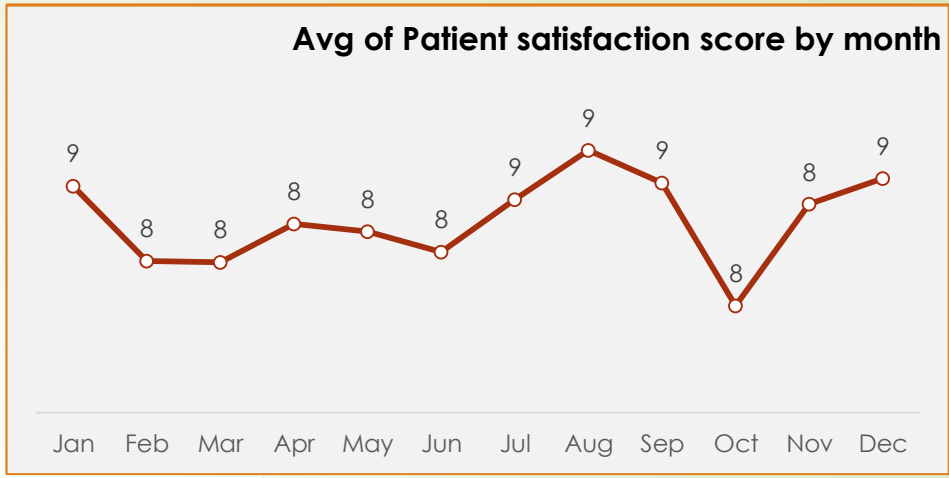
2. Determine the average length of stay for patients and Analyze patient satisfaction scores over Doctor ,Treatment and time.

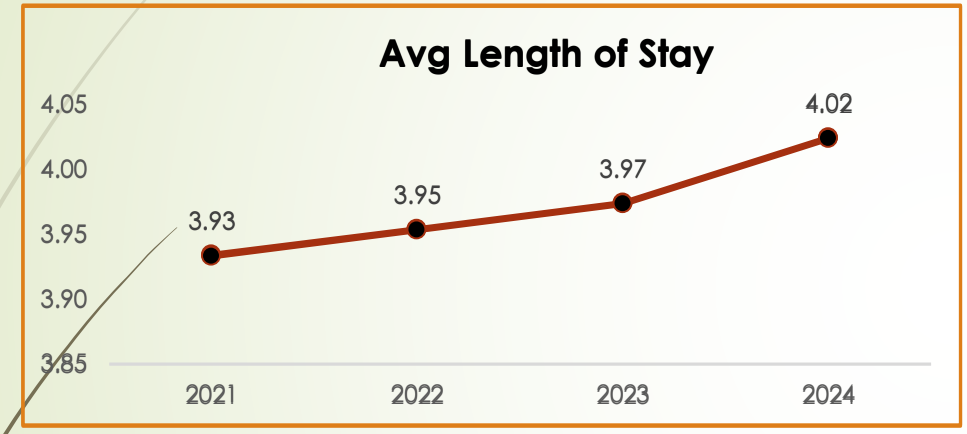
Avg Length of Stay	4

4
Avg Length of Stay

Avg of Patient Satisfaction Score	8.5

8.5
Avg of Patient Satisfaction Score





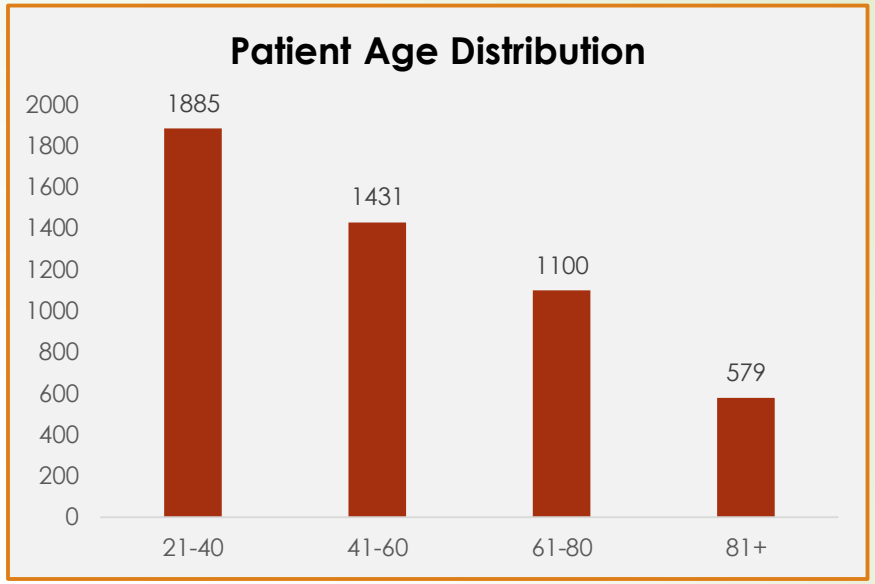
year	Avg Length of Stay
2021	3.93
2022	3.95
2023	3.97
2024	4.02
Grand Total	**3.97**

Month	Avg of Patient Satisfaction Score
Jan	9
Feb	8
Mar	8
Apr	8
May	8
Jun	8
Jul	9
Aug	9
Sep	9
Oct	8
Nov	8
Dec	9

- **Average length of stay** is increasing **2.24% from 2021 to 2024** and patient satisfaction score 8.5 **remains stable** .so we can improve in some potential areas such as **Discharge process, wait times, post-Discharge services.** They will help to **decrease** the average length of stay and **increase** patient satisfaction.
- A score of **8.5/10** suggest that most patients are likely happy with the **quality of care** they received. It could reflect well on factors such as **staff professionalism, facility cleanliness and comfort, efficiency in care delivery ,overall patient experience.**

3. Analyze the age distribution of patients.

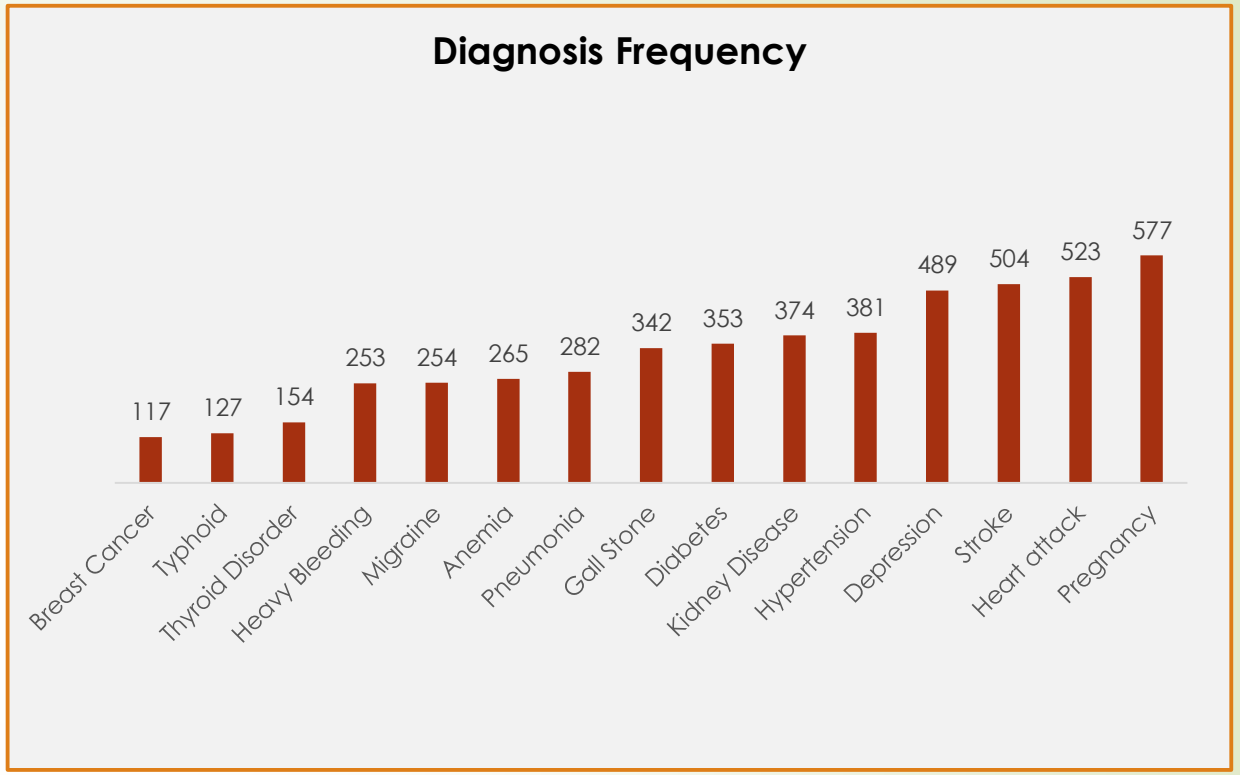
Patient Age Distribution	Count of Patient_Age
21-40	1885
41-60	1431
61-80	1100
81+	579



- The largest group of patients is aged **21-40 years(1885),** followed by **41-60 years(1431).** These younger patients likely account for routine care and elective surgeries. Moreover , the **61-80(1100)** and **81+(579)** age group represent a growing segment needing complex, age-related care.
- The Hospital should focus on tailored programs for chronic disease management and geriatric care to meet these age-specific needs.

4. Identify the most common diagnoses among patients.

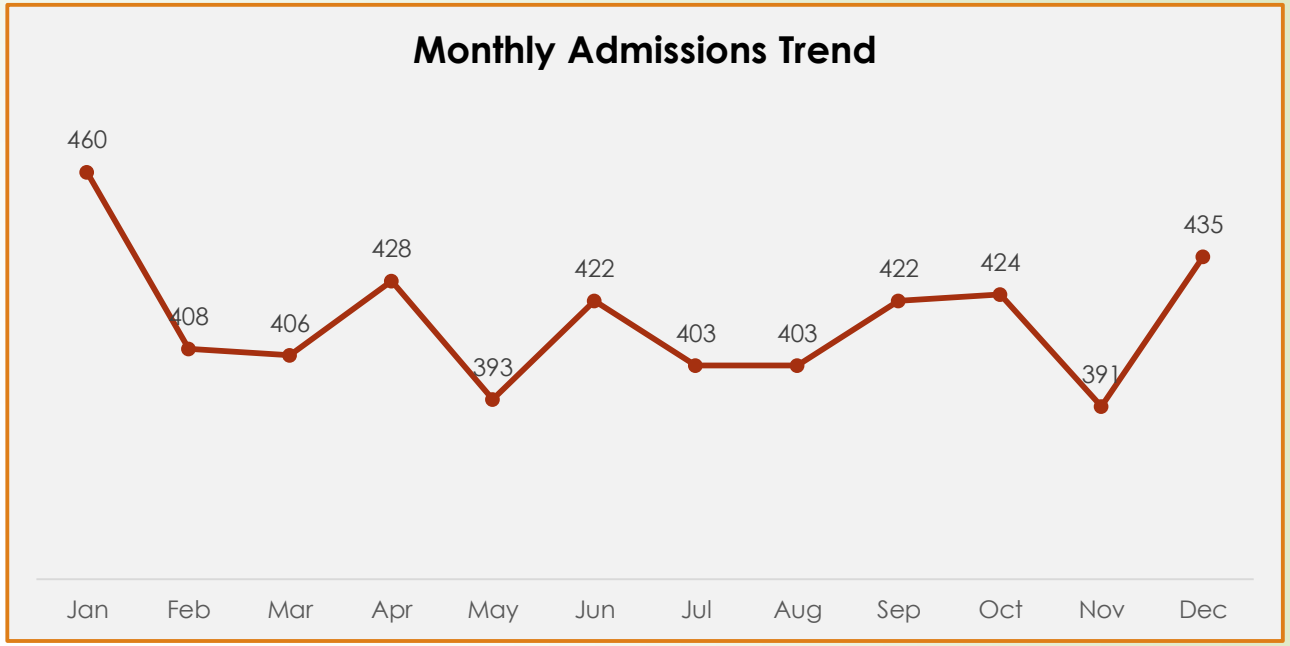
Diagnosis Frequency	Count of Patient
Breast Cancer	117
Typhoid	127
Thyroid Disorder	154
Heavy Bleeding	253
Migraine	254
Anemia	265
Pneumonia	282
Gall Stone	342
Diabetes	353
Kidney Disease	374
Hypertension	381
Depression	489
Stroke	504
Heart attack	523
Pregnancy	577



- From the **2021-2024** data, **Pregnancy (577 patients)** is the **most common diagnosis**, indicating a **strong need for maternity care, prenatal services , and postnatal support.**
- **Heart Attack (523 patients), Stroke (504 patients),** and **Hypertension (381 patients)** highlight the prevalence of **cardiovascular care**.
- Chronic conditions like **Diabetes (353 patients)** and **Kidney Disease (374 patients)** require ongoing management.
- **Depression (489 patients)** shows the demand for **mental health services.**
- **Gall Stones (342 patients)** and **Pneumonia (282 patients)** indicate a need for gastrointestinal and infection care, while **Breast Cancer (117 patients)** requires continued focus on **oncology services**.

5. Track the number of admissions on a monthly basis.

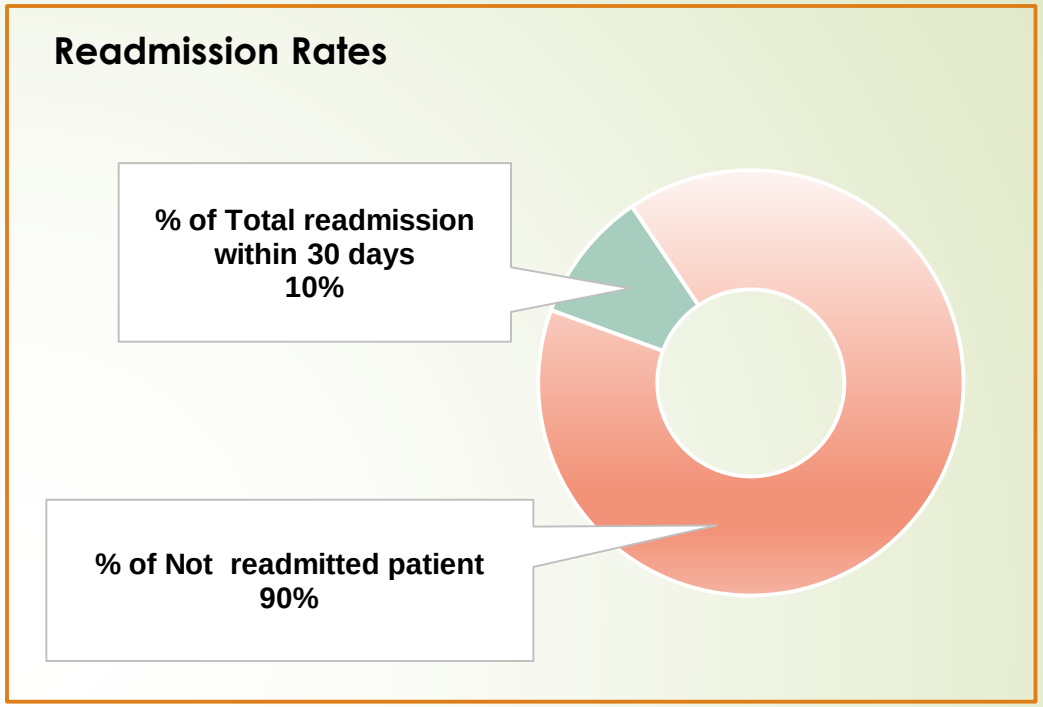
Month by Admission	Count of admission
Jan	460
Feb	408
Mar	406
Apr	428
May	393
Jun	422
Jul	403
Aug	403
Sep	422
Oct	424
Nov	391
Dec	435



- Monthly admissions from **2021 to 2024** show **stable trends** with a slight increase **in January (460)** and **December (435)**, likely due to **seasonal** factors.
- **May (393)** and **November (391)** have the lowest counts, while mid-year months **(June to September) remain steady**, around **403-422**.
- Overall, the **data reflects consistent hospital utilization**, with minor seasonal fluctuations but no major peaks or drops in admissions, suggesting balanced capacity and resources throughout the year.

6. Calculate the percentage of patients who are readmitted within 30 days.

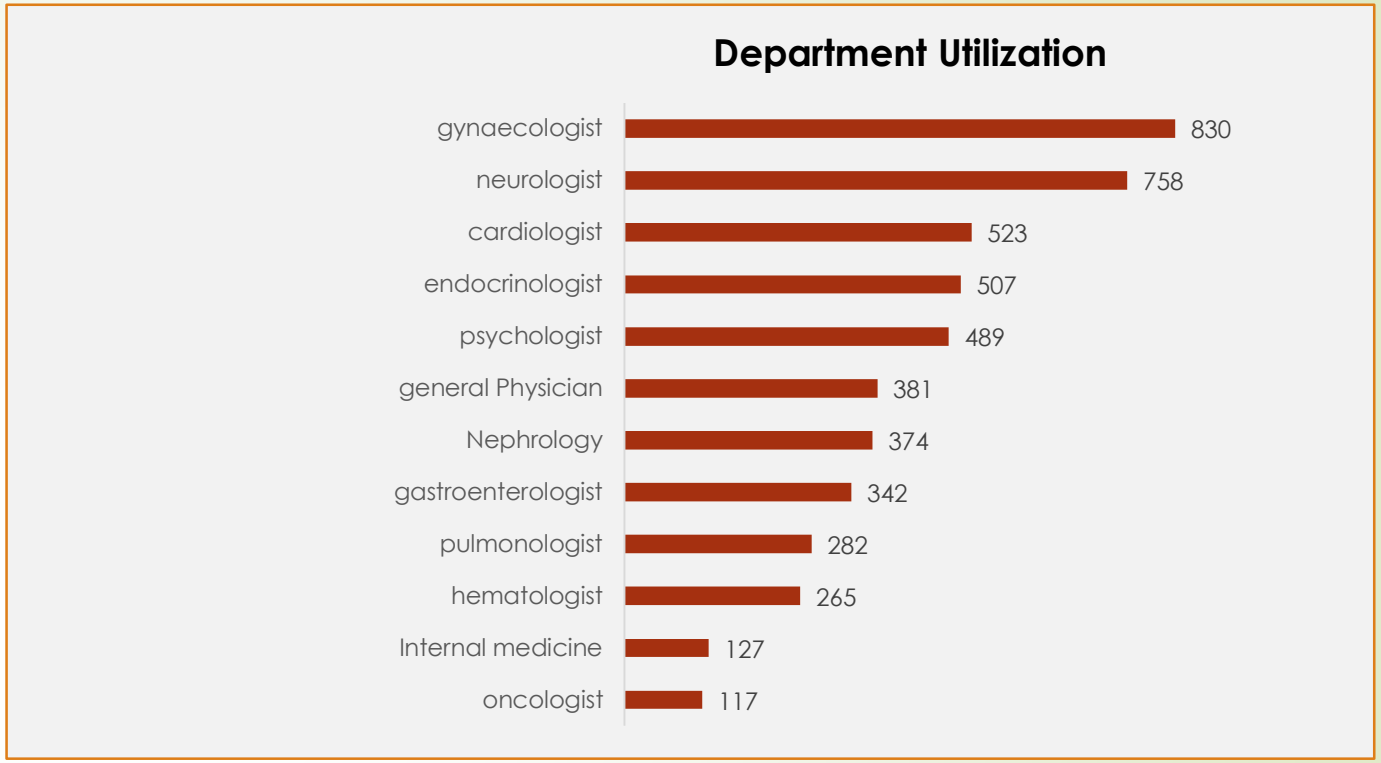
Total Admission	4995
Total readmission within 30 days	500
Not readmitted patient	4495
% of Total readmission within 30 days	10.01%
% of Not readmitted patient	89.99%



- The data reflects that the hospital is effective in providing **comprehensive care** during a patient's first admission, resulting in **few readmissions** within 30 days, which indicates **good patient management** and **successful treatment outcomes** during the first hospital stay.

7. Analyze the number of admissions by department.

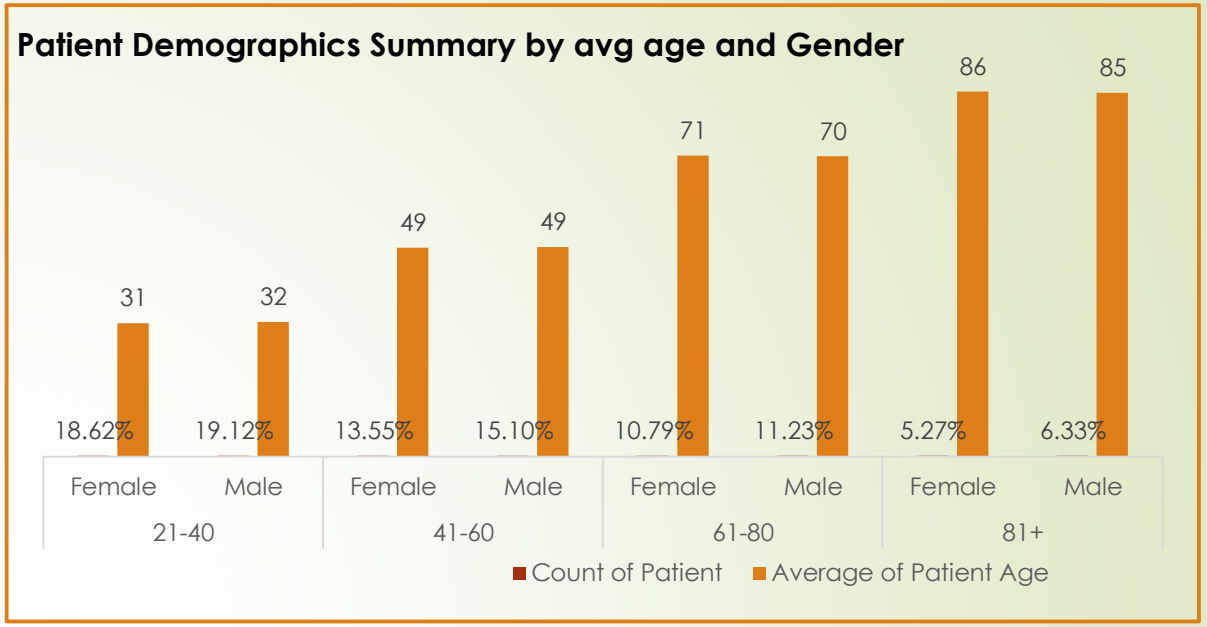
Department	Count of Patient by department
oncologist	117
Internal medicine	127
hematologist	265
pulmonologist	282
gastroenterologist	342
Nephrology	374
general Physician	381
psychologist	489
endocrinologist	507
cardiologist	523
neurologist	758
gynaecologist	830



- The analysis of **department utilization** highlights **Gynecology(830), Neurology(758),** and **Cardiology(523)** show the highest utilization, reflecting the need for strong **maternal, neurological,** and **cardiac care.**
- There's also a growing need for **mental health** and **chronic disease management** services, with **Endocrinology(507), Nephrology(374),** and **Psychology(489)** being key departments. While **Oncology(117)** has fewer admissions, specialized cancer care remains essential.
- The hospital should focus resources on these high-demand areas while maintaining specialized services for less frequent conditions.

8. Summarize patient demographics (age, gender) in a single report.

Age Distribution	Gender	Count of Patient	Average of Patient Age
21-40	Female	18.62%	31
	Male	19.12%	32
41-60	Female	13.55%	49
	Male	15.10%	49
61-80	Female	10.79%	71
	Male	11.23%	70
81+	Female	5.27%	86
	Male	6.33%	85



9. Determine average hours worked by staff per week.

Average of hours worked by staff per week
60

60

Avg hours worked by staff per week

- The hospital sees a **wide range of patients** across different **age groups**, with a **strong representation of Younger Patients (21-40 years)** make up the **largest** portion of admissions, likely due to **preventive care** or **maternity-related** services and a **growing need for elderly care**.
- The hospital should consider **tailoring services** to the **specific needs of each age group**, such as **maternity care** for younger patients and **geriatric care** for the elderly.
- There may also be opportunities to focus more on **chronic disease management** for the middle age group (41-60 years) and **age-related health concerns** for the elderly (61+ years).

Conclusions

- **Focus on Chronic and Elderly Care**: As the **elderly** and **middle-aged** groups are a significant portion of admissions, the hospital should focus on **chronic disease management, geriatrics**, and **cardiovascular care**.
- **Expand Mental Health Services**: The high **psychological care** utilization suggests a need to expand **mental health services** to address the growing demand for **mental health and psychological support**.
- **Strengthen Maternity and Neurological Care**: Given the **high demand in Gynecology and Neurology,** the hospital should continue to **prioritize maternity care, neurological treatments, and stroke rehabilitation.**
- **Optimize Outpatient Services**: With a low **readmission rate**, the hospital appears to be effective in managing patients on an outpatient basis. Focus should continue on enhancing **preventive care** and early **intervention programs**.
- **Resource Allocation Based on Department Utilization**: Department utilization data suggests high activity in **Gynecology, Neurology**, and **Cardiology,** which should be prioritized for **resource allocation, staffing,** and **service development**.
- By addressing these areas, the hospital can continue to improve **care delivery**, **optimize resource use**, and meet the evolving needs of its diverse patient population.


Thank
you