

# Healthcare Dashboard Analysis: Insights & Recommendations

## 1. Average Treatment Cost by Department

Cardiology has the highest average treatment cost at 413,703, followed by Orthopedics (383,166) and Pediatrics (380,518). Emergency has the lowest at 236,916. High costs in Cardiology suggest complex procedures and resource-intensive treatments. The disparity in costs may indicate opportunities for efficiency improvements in high-cost departments.

## 2. Readmission Rate by Department

Pediatrics shows the highest readmission rate at 21%, while Emergency has the lowest at 11%. Cardiology, Orthopedics, and Neurology all stand at 15%, and Oncology at 13%. High pediatric readmissions may highlight the need for improved follow-up care, discharge planning, or patient education. Moderate rates in other departments suggest systemic issues in post-treatment monitoring.

## 3. Patient Gender Distribution

The dataset shows a slight female majority: 55% female and 45% male. This balance indicates that gender-related disparities are minimal in this dataset. However, care plans may still benefit from gender-sensitive considerations, especially in departments like Cardiology and Oncology.

## 4. Average Length of Stay by Age Group

Length of stay increases with age. Patients aged 0-19 have the shortest stays (~300), while those aged 60+ stay the longest (~800). This is expected due to increased comorbidities in older populations. However, the significant gap suggests a need for specialized geriatric care to reduce prolonged hospitalization.

## 5. Correlation & Recommendations

By correlating the data, we observe that departments with higher costs (e.g., Cardiology) do not necessarily have the highest readmission rates. This indicates that high expenditure may support quality care, but areas like Pediatrics still suffer from high readmission despite moderate costs. This imbalance suggests an issue with pediatric aftercare rather than resource allocation.

Recommendations:

- Implement stronger pediatric follow-up programs to address the high readmission rate.
- Review cost structures in Cardiology and Orthopedics to identify efficiency opportunities.
- Develop targeted geriatric care programs to shorten length of stay for older patients.
- Monitor cross-department practices to identify strategies that balance cost-efficiency with quality outcomes.