# Identifying Key Drivers of Readmission Among Diabetes Patients

A Data-Driven Analysis of Diabetes Readmissions 1999-2008

Young Adults (20-30) Show the Highest 30-Day Readmission Rate

- Patients aged 20-30 had the highest 30-day readmission rate (14%).

- This suggests younger patients may face unique challenges managing diabetes post-discharge.

- Further analysis is needed to understand whether lifestyle factors, treatment adherence, or comorbidities contribute to higher readmissions in this age group.
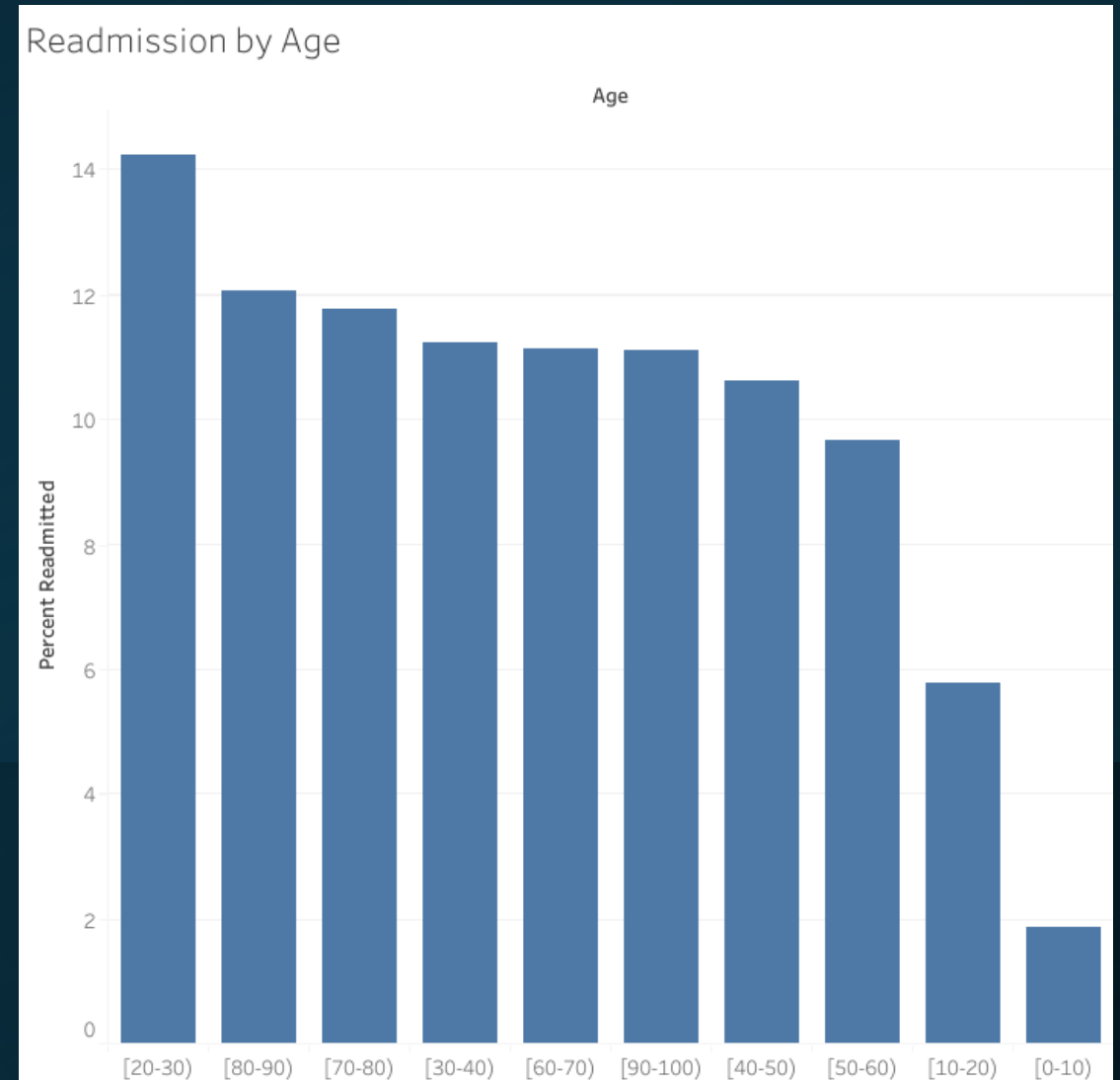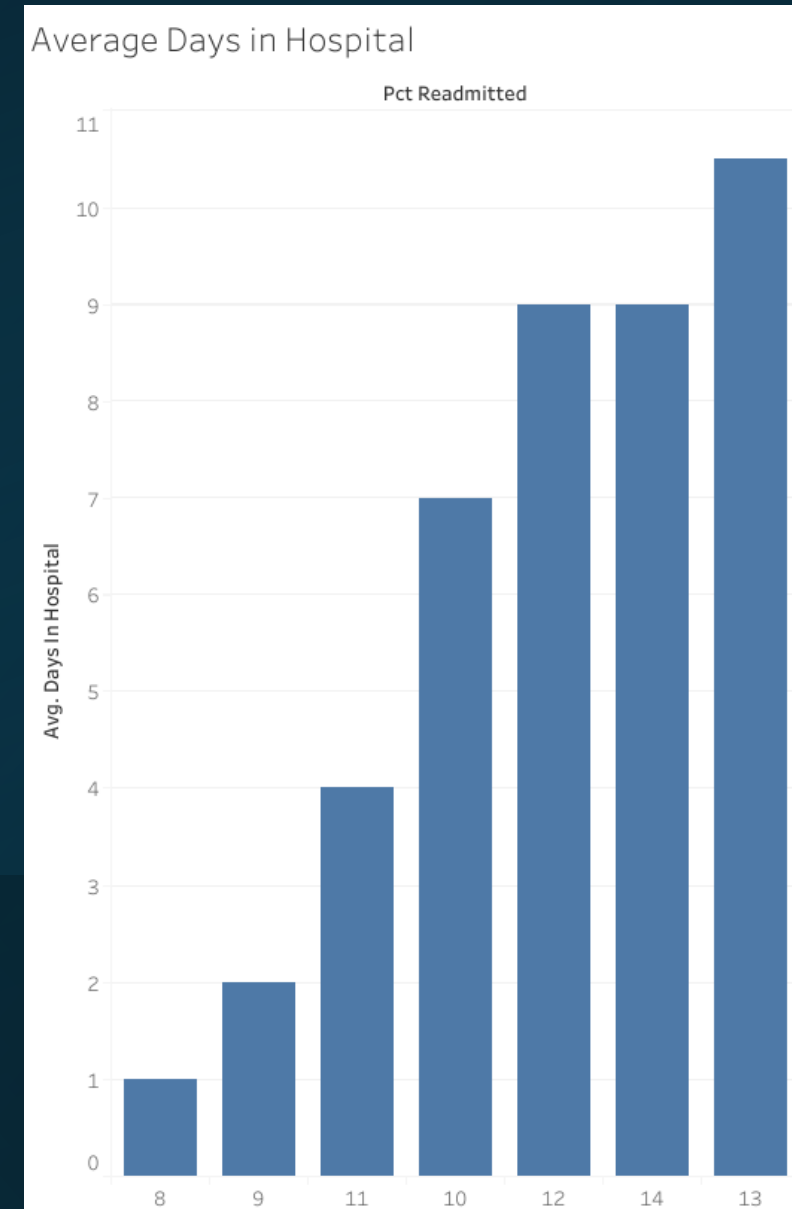

Readmission by Age

Readmission Rates Are Similar Across Gender

- Females: 11.2%

- Males: 11.1%

- Gender does not appear to be a strong predictor of readmission compared to age.


Readmission by Gender
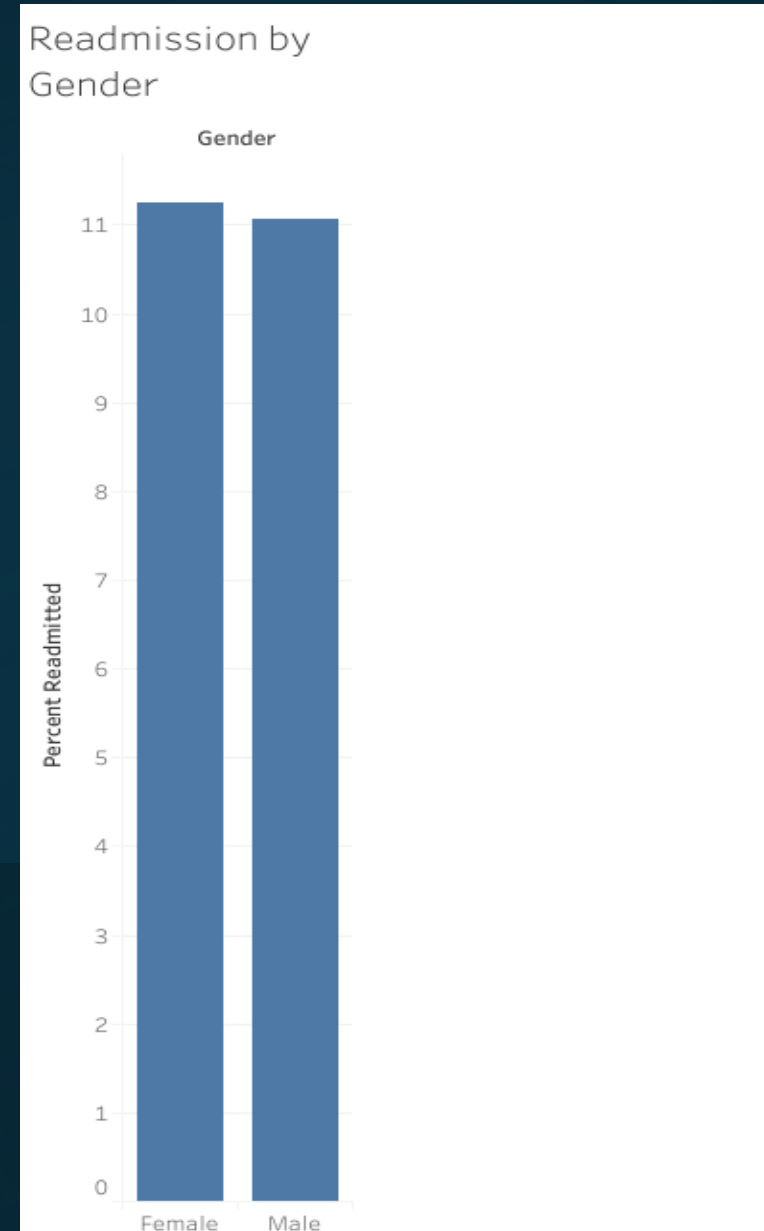
Longer Hospital Stays Are Linked to Higher Readmission Rates

- Patients with longer average hospital stays showed higher 30-day readmission rates.

- This may indicate more severe cases or complications leading to readmission.

- Potential area for intervention: enhanced discharge planning for patients with extended stays.

Average Days in Hospital
Pct Readmitted

Insulin Changes May Increase 30-Day Readmission Risk

- 13.5% of patients with insulin adjustments were readmitted within 30 days

- 10.5% of patients without adjustments were readmitted.

- This suggests that insulin adjustments may indicate unstable diabetes management or higher-risk patients.
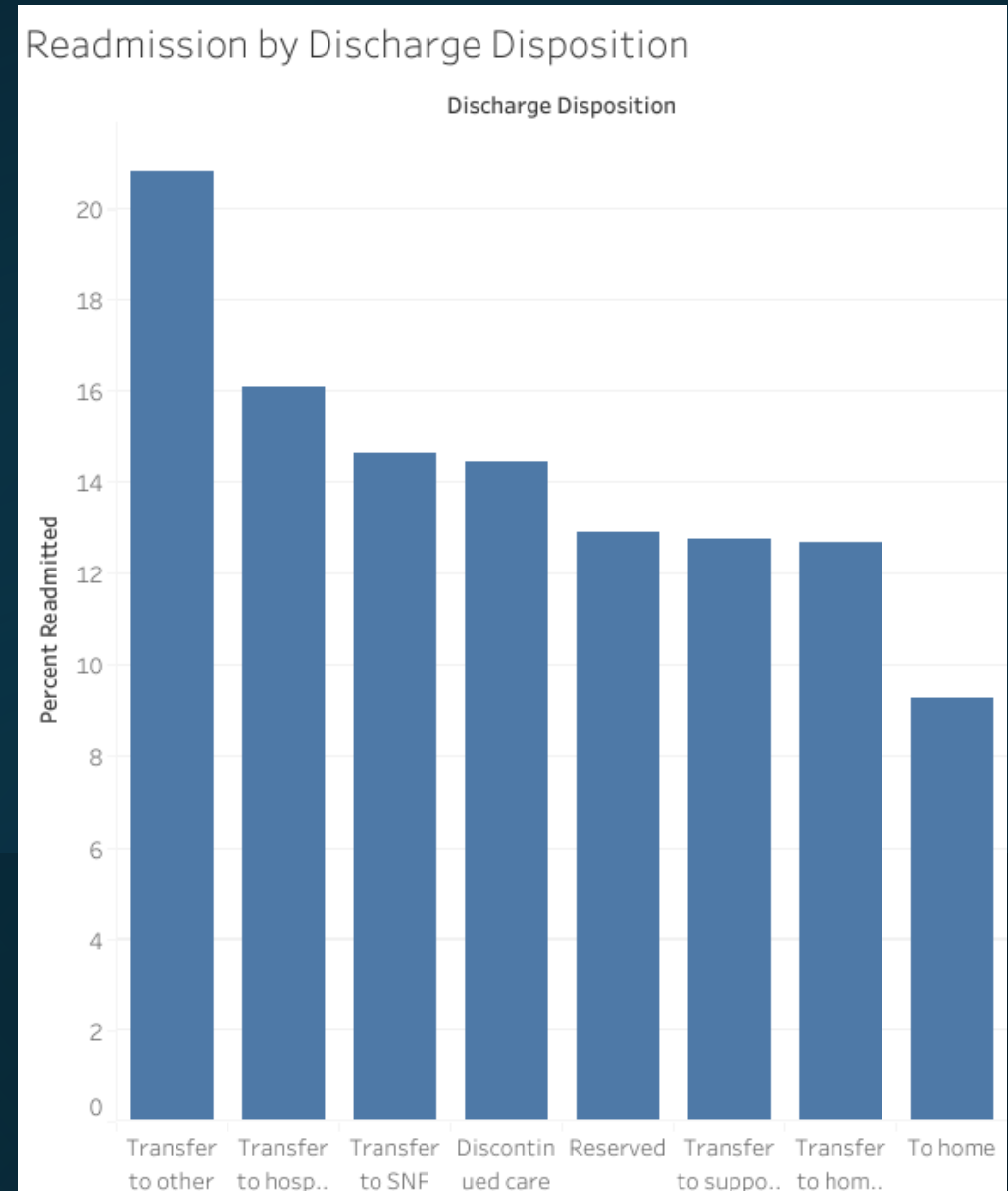

Insulin Adjusted Readmissions
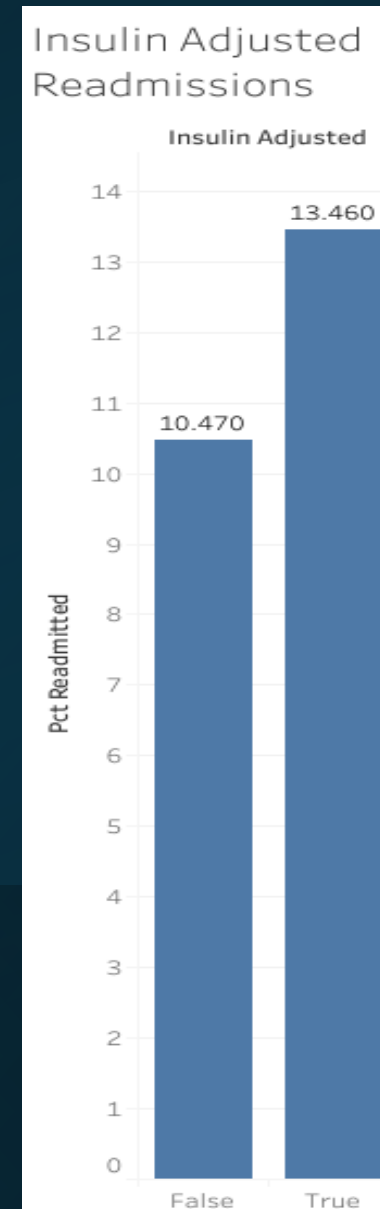
Certain Diagnoses Drive Higher 30-Day Readmission Rates

- Heart failure (ICD-9 428) accounts for the highest number of readmissions in our dataset.
- This indicates that patients with heart failure may require targeted post-discharge care to reduce readmissions.

Readmission by Primary Diagnosis
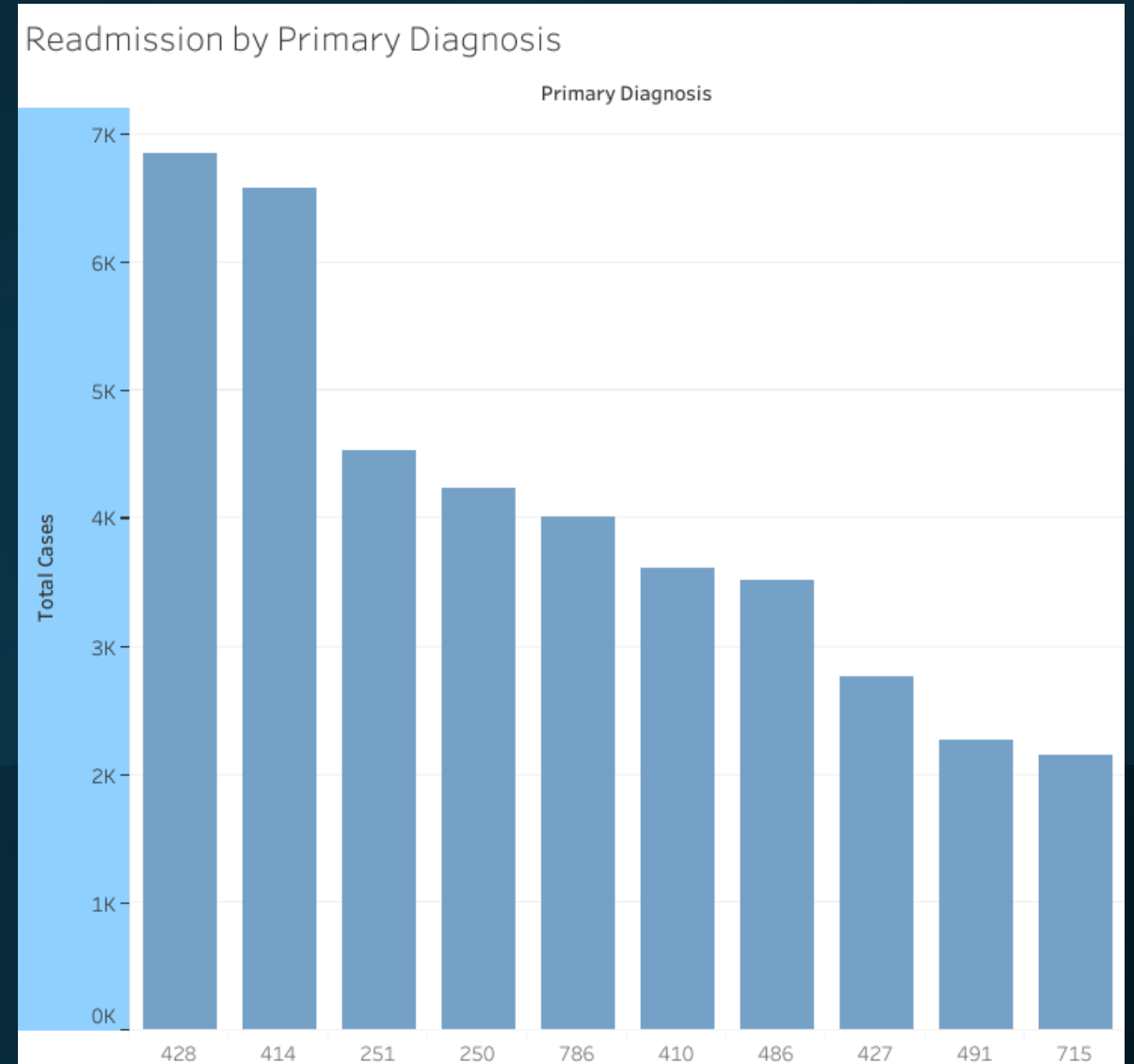
Discharge Destination: Cancer Centers Linked to Elevated Readmissions

- Patients discharged to a cancer center (Discharge Disposition 05) show the highest 30-day readmission rates.

- This reflects the complexity of care for oncology patients and the need for ongoing treatment or management of diabetes complications.

- The data highlights the importance of specialized post-discharge planning and follow-up for this patient group.

Readmission by Discharge Disposition

Source: https://archive.ics.uci.edu/ml/datasets/Diabetes+130-US+hospitals+for+years+1999-2008

Conclusions and Insights

- Young adults (20-30) had the highest 30-day readmission rates, highlighting a need for targeted follow-up in this group.

- Heart failure (ICD-9 428) is the most common diagnosis driving readmissions, suggesting specialized care for these patients may reduce readmissions.

- Discharge to cancer centers is associated with high readmission rates, reflecting complex care needs in oncology patients.

- Gender differences are minimal; focus should be on age, diagnosis, and hospital stay length rather than gender-based interventions.

- Patients with longer hospital stays and those receiving insulin adjustments are at higher risk.

Source: https://archive.ics.uci.edu/ml/datasets/Diabetes+130-US+hospitals+for+years+1999-2008