

An Examination of Social Determinants of Health and their Association with Preventable and Urgent Readmissions in Pediatric Acute Care Cardiology

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Background

- Hospital readmissions are costly, often preventable, and associated with both medical and socioeconomic factors.
- The **primary objective** of this study was to evaluate the relationship between **social determinants of health (SDOH)** and **readmission** to a pediatric acute care cardiology unit.
- Secondary objectives** included analysis of **preventable or urgent readmissions** to identify potential themes and interventions to address most common causes.

Methods

- This single-center, retrospective analysis reviewed **readmissions** to the acute care cardiology unit at Cincinnati Children's Hospital within **7 days** of discharge from 2019-2022.
- A **preventability score** and **urgency metrics** were assigned to each readmission, and multivariable logistic regression was used to calculate odds ratios and 95% confidence intervals to assess the relationship between **readmission status** and both individual- and community-level **social determinants of health**.
- The social determinants considered in this study included a deprivation index based on ZIP code, English language proficiency, race/ethnicity, sex, and insurance category.

Results

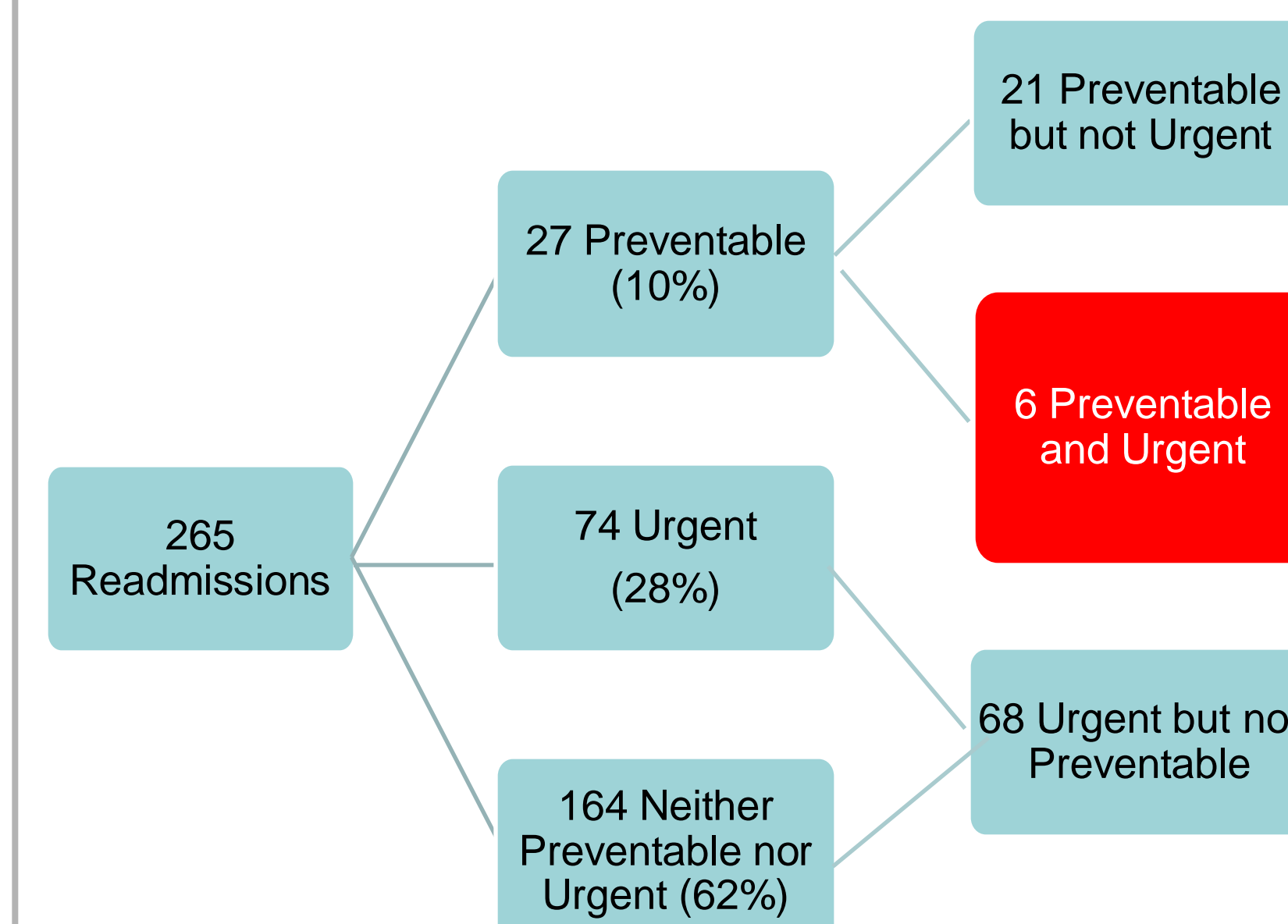


Figure 1. Out of 4100 total index admissions, there were 265 readmission encounters.

The median patient age was **9 months** and **41%** of patients had **single ventricle** physiology.

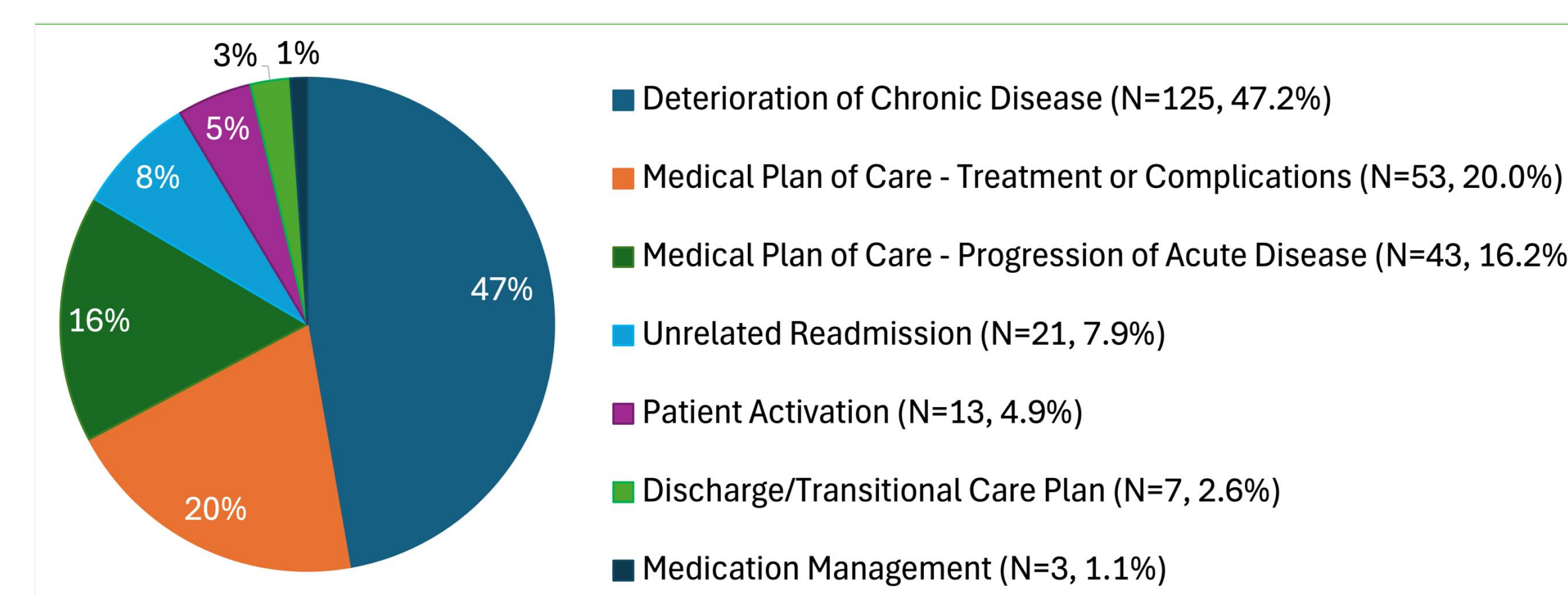


Figure 2. Reasons for readmission by frequency.

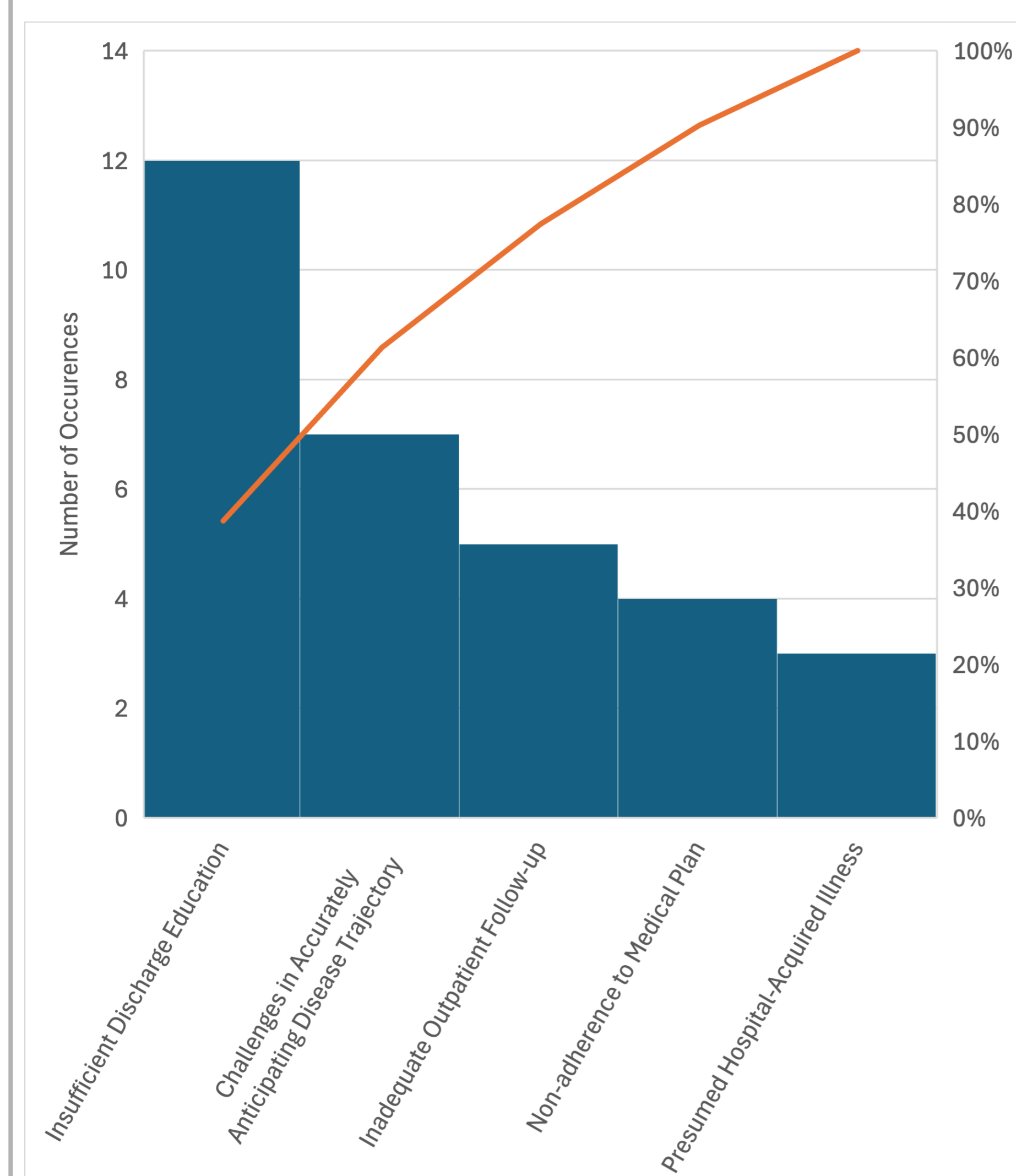


Figure 3. Pareto chart of reasons for preventable readmissions.

- Readmission length of stay** was significantly **longer** for **preventable** readmissions compared to non-preventable readmissions (9 days vs 4 days) and occurred closer to initial discharge date (3 days after discharge vs 4 days). Similarly, **urgent** readmissions were associated with a **longer readmission length of stay** (7.5 days vs 4 days).
- Social and medical characteristics** (chronological age, birth weight, gestational age, English-speaking status, race/ethnicity, sex, insurance category, index admission length of stay, deprivation index, single ventricle status, and presence of CHD diagnosis) were **NOT significantly associated** with **preventable or urgent readmission**.

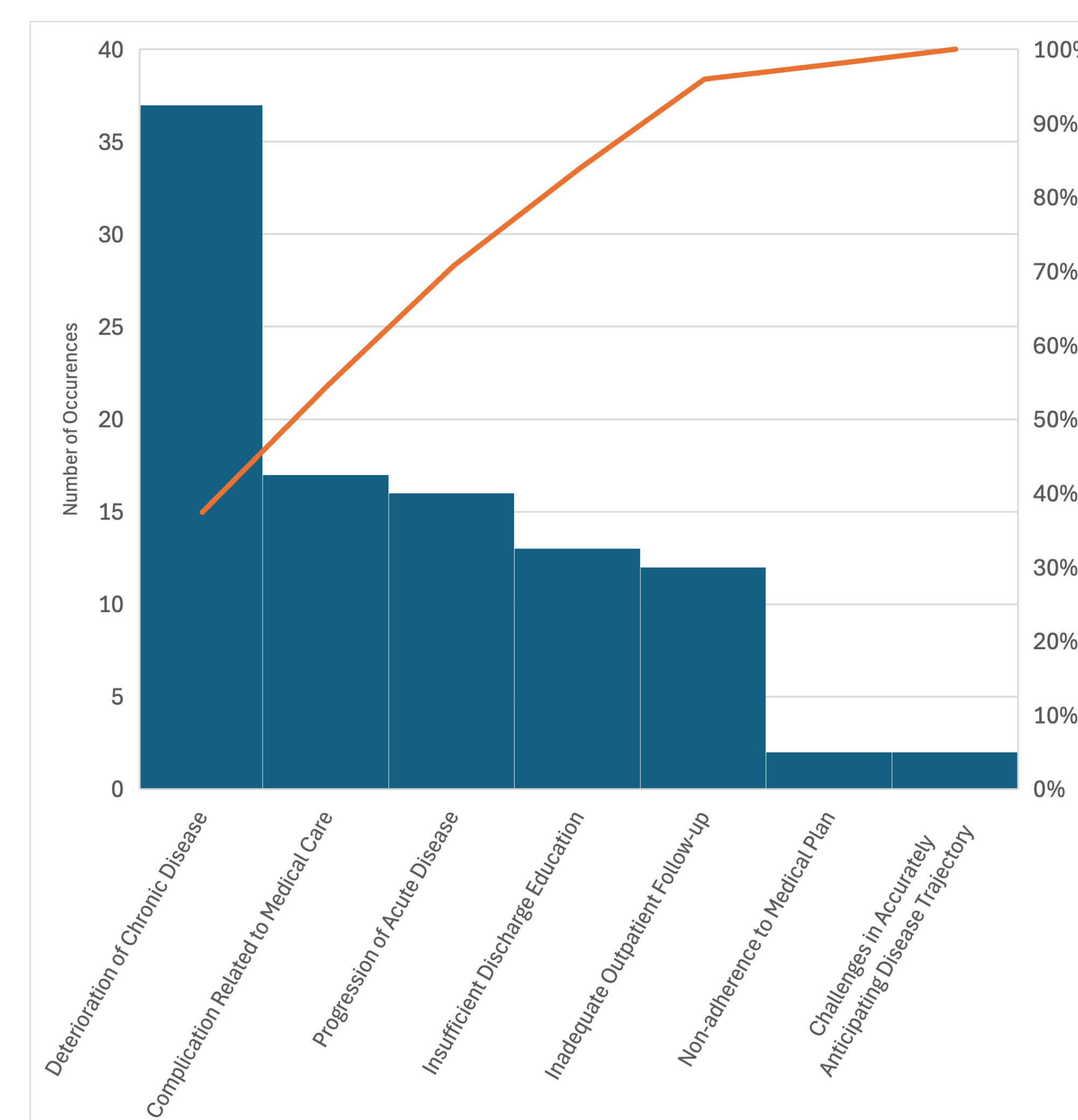


Figure 4. Pareto chart of reasons for urgent readmissions.

Conclusion

- Social determinants of health** were **NOT associated** with **preventable or urgent readmissions** to an acute care cardiology unit in children with cardiac disease.
- This may be partially due to our institution's **multidisciplinary care teams** and current strategies in place to ameliorate adverse social determinants of health.
- As the most common reason identified for **preventable readmission** was **insufficient discharge education**, however, clearly more work is needed to delineate what strategies are most effective for mitigating adverse social determinants of health for our complex patient population.



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