

Introduction

Inpatient cardiac monitoring plays an important role in detection of malignant arrhythmias by allowing for timely intervention. However, routine use during hospitalization can have various implications, including patient placement, increased costs and transportation delays. American Heart Association (AHA) and the American College of Cardiology (ACC) have outlined indications for inpatient cardiac monitoring to ensure appropriate use. We aim to identify instances of inappropriate cardiac monitoring use and improve utilization of this resource.^{1, 2}

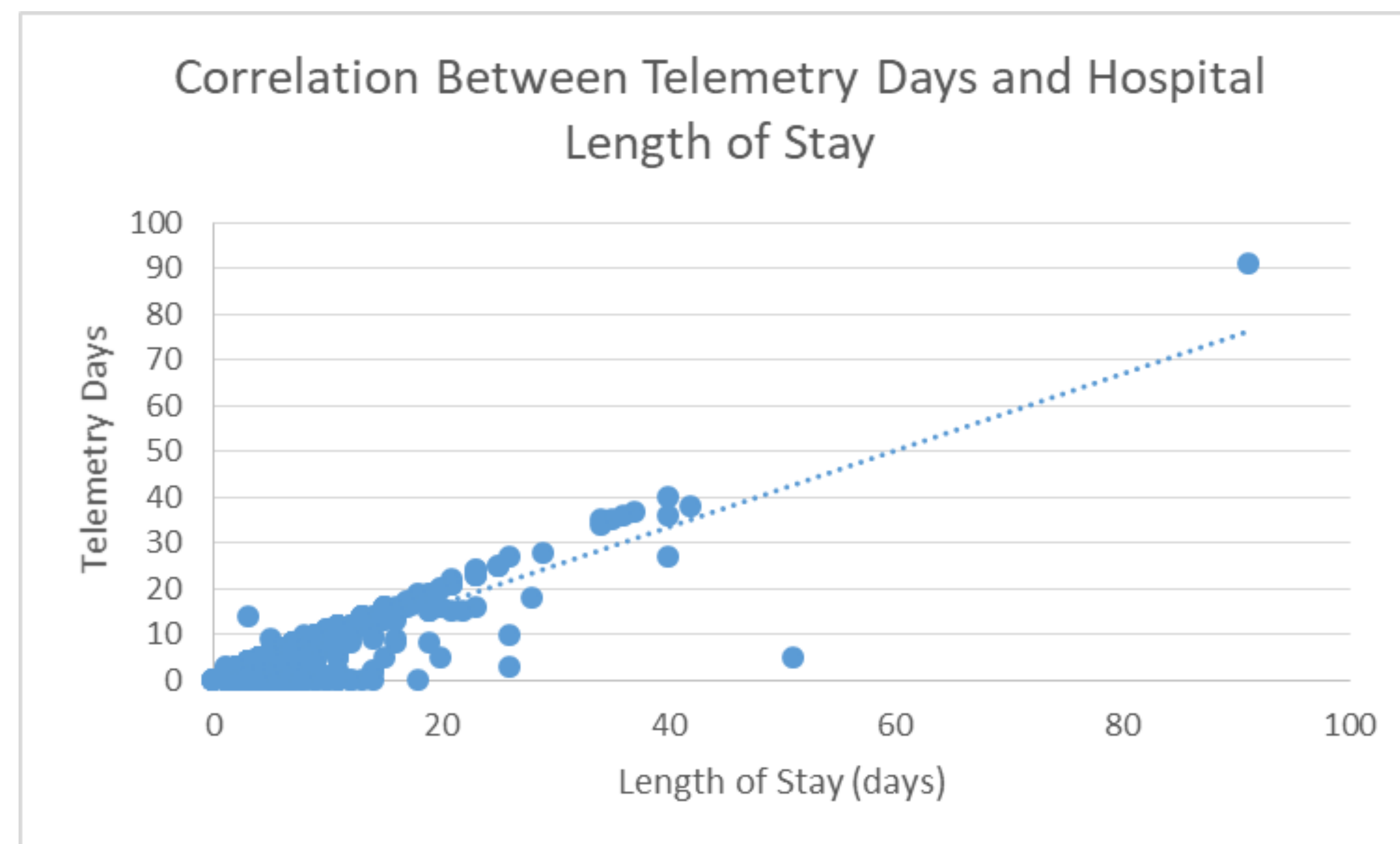
Methods

We performed a retrospective review of medical records for patients admitted to AHN's Internal Medicine Residency teaching teams (n=831) between May and August 2022. The Institutional Review Board of Allegheny Health Network (AHN) granted exemption to this quality improvement project. The objective was to assess whether patients met the criteria for cardiac monitoring according to the AHA/ACC 2017 guidelines. Additionally, we analyzed the duration of monitoring and discontinuation, and the overall length of stay for each patient. Descriptive statistics and Pearson coefficient were used to summarize the collected data.

Results

During the four-month period, we evaluated a total of 831 inpatient admissions, out of which 724 patients had telemetry ordered. Only 349 (48.2%) met an indication for telemetry per guidelines. Over 90% of these orders were placed within 24 hours of admission. Cardiac monitoring was discontinued within 24 hours of discharge in 81% (588/724) of cases, while 12% (89/724) were discontinued more than 48 hours prior to discharge. A significant correlation ($R = 0.899$) was noted between the number of telemetry days and length of stay.

Figure 1.



Discussion

In conclusion, we found that more than half of the patients did not have an indication for cardiac monitoring, based on the AHA/ACC criteria. The number of telemetry days showed a significant correlation to the actual length of stay. This raised concerns about the potential link between inappropriate orders, extended hospital stays, and increased costs to the medical system.

References

1. Sandau K, Funk M, Auerbach A, Barsness G, Blum K, Cyach M, Lampert R, May J, McDaniel G, Perez M, Sendelbach S, Sommargren C, and Wang P. Update to Practice Standards for Electrocardiographic Monitoring in Hospital Settings: A Scientific Statement From the American Heart Association. *Circulation*. 2017;136:e273–e344.
2. Funk M, Fennie KP, Stephens KE, May JL, Winkler CG, Drew BJ, The PULSE Site Investigators. Association of implementation of practice standards for electrocardiographic monitoring with nurses' knowledge, quality of care, and patient outcomes: findings from the Practical Use of the Latest Standards of Electrocardiography (PULSE) Trial. *Circ Cardiovasc Qual Outcomes*. 2017; 10:e003132.