

# Telemetry Monitoring, A Process Improvement Project to Improve appropriate Use: Nurse-Driven Telemetry Discontinuation Protocol (NDTP) (Cardiac Telemetry Reassessment)

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## PURPOSE

- Telemetry is commonly ordered and overused in the inpatient setting, prompting the creation of the American Heart Association (AHA) recommendations in 2004, which has since been followed up with multiple revisions.
- When our Telemetry Policy was due for renewal in late 2022, we found that the issue was not only the denial of payment for telemetry but also for the charging of telemetry monitoring even when the orders had expired.
- At its peak, data showed that our hospital system was overutilizing telemetry by 45%. On average, we kept patients 32 hours (1.3 days) longer on telemetry, relative to the 72-hour AHA Guidelines.
- From this, we decided to begin our journey of a nurse-driven telemetry discontinuation protocol (NDTP).

## POPULATION

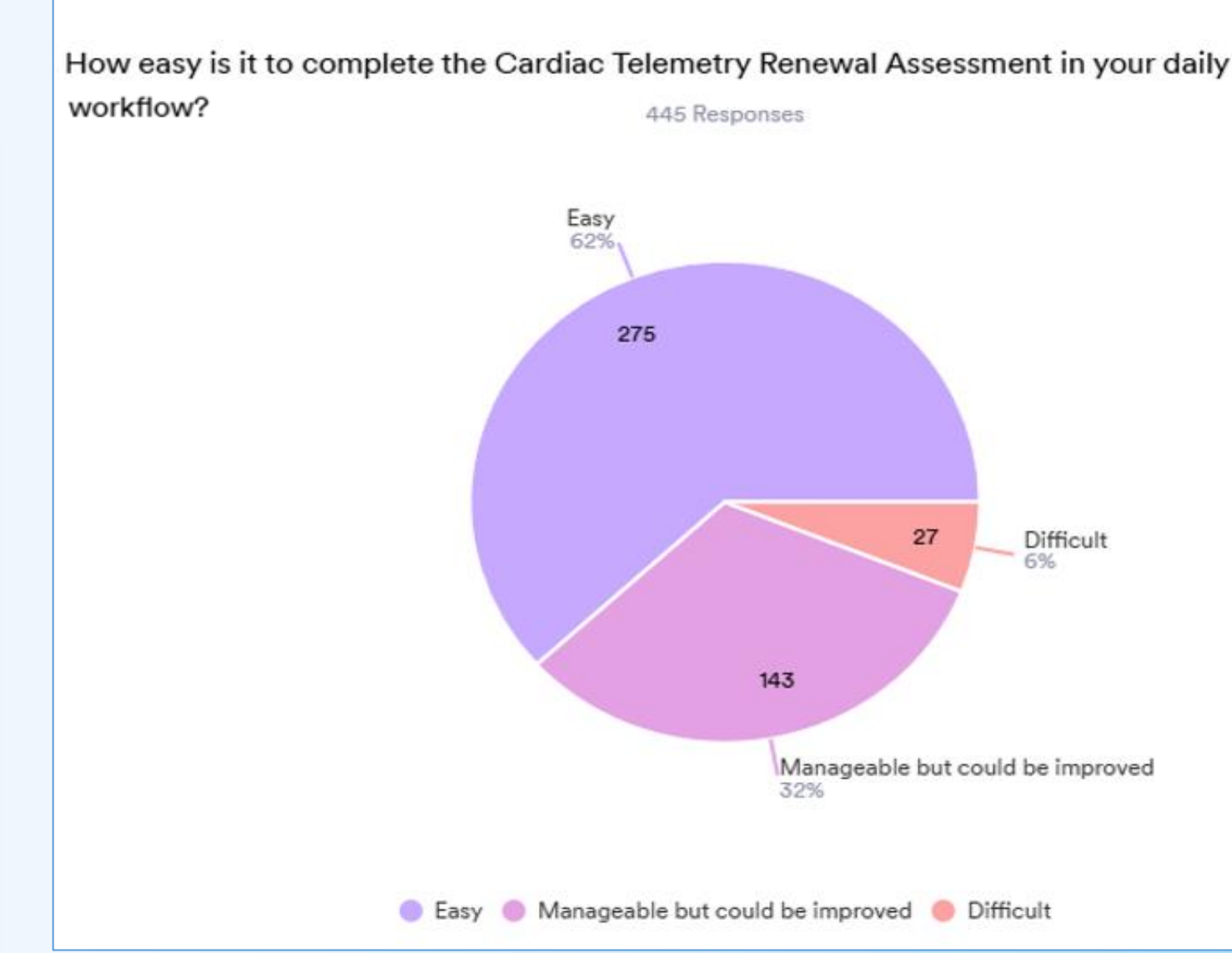
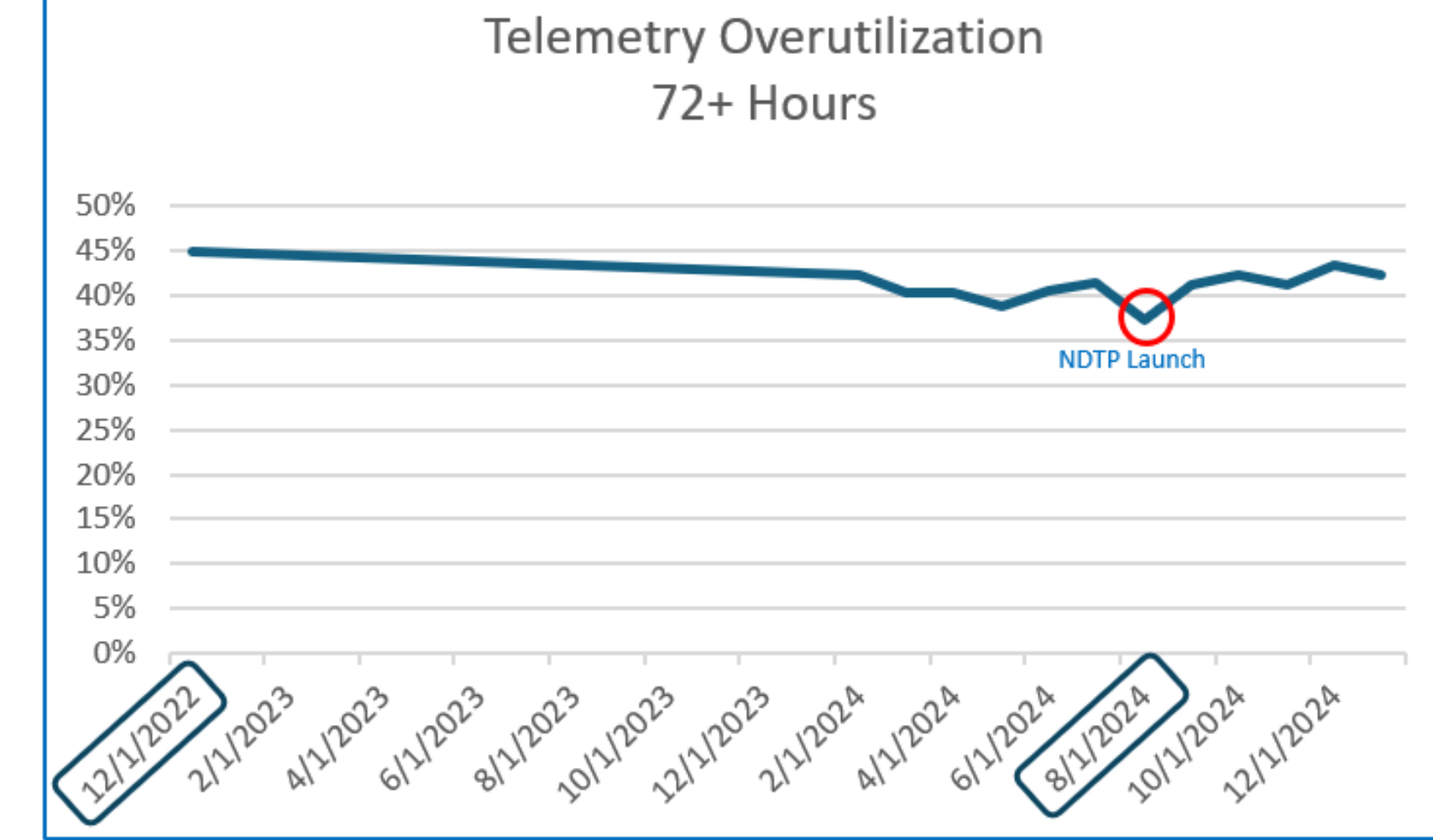
- The months long project focused only on patients who were on telemetry boxes and were being monitored remotely.
- It excluded patients in the intensive and intermediate care units as they are on hard-wired cardiac monitors.

## PRACTICE CHANGE IMPLEMENTED

- Providers:** We reviewed and improved the selection of orders by providers. Instead of an open-ended telemetry order, we provided two options: telemetry order for 24 or 48 hours, with a streamlined set of diagnoses based on AHA guidelines.
- Nursing:** Once an order is placed:
  - The nurse gets an alert that a telemetry order has been entered. So does the Telemetry Technician in the Central Monitoring Unit (CMU).
  - The nurse will go and obtain a telemetry box from the CMU, if the telemetry box is not picked up the Telemetry Technician will call to remind the nurse within 60 minutes.

## OUTCOMES

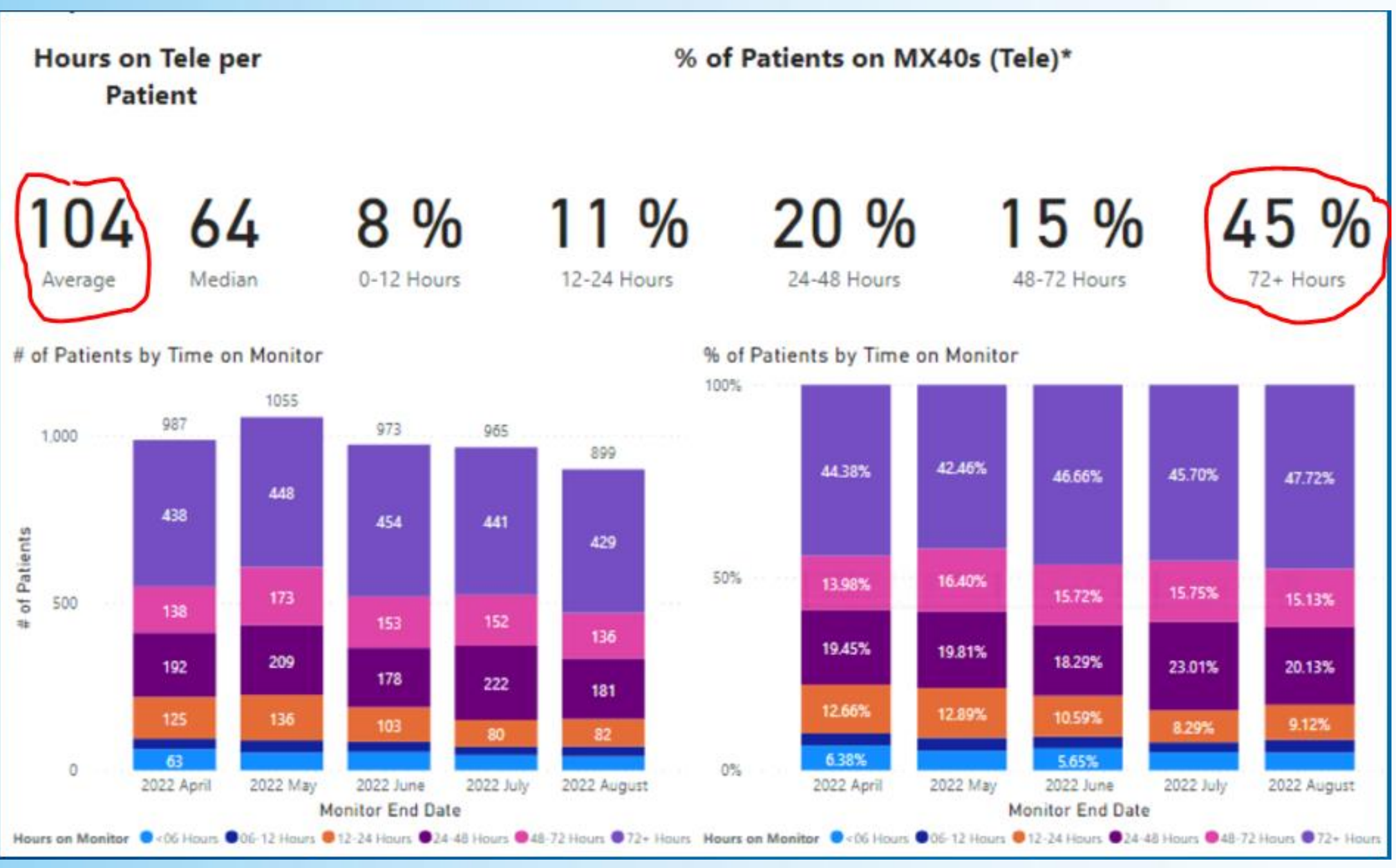
- There is a slight but appreciable downward trending of telemetry overutilization. The 42.35% outcome in January 2025, represents a 2.65% variance from the peak of 45% in 2022.



The NDTP is rather new, as it was implemented in Aug. 2024, but it has led to decreased LOS, improved flow in the ED, more availability of telemetry boxes and significant cost savings for the hospital system.

## CONCLUSION/IMPLICATIONS FOR PRACTICE

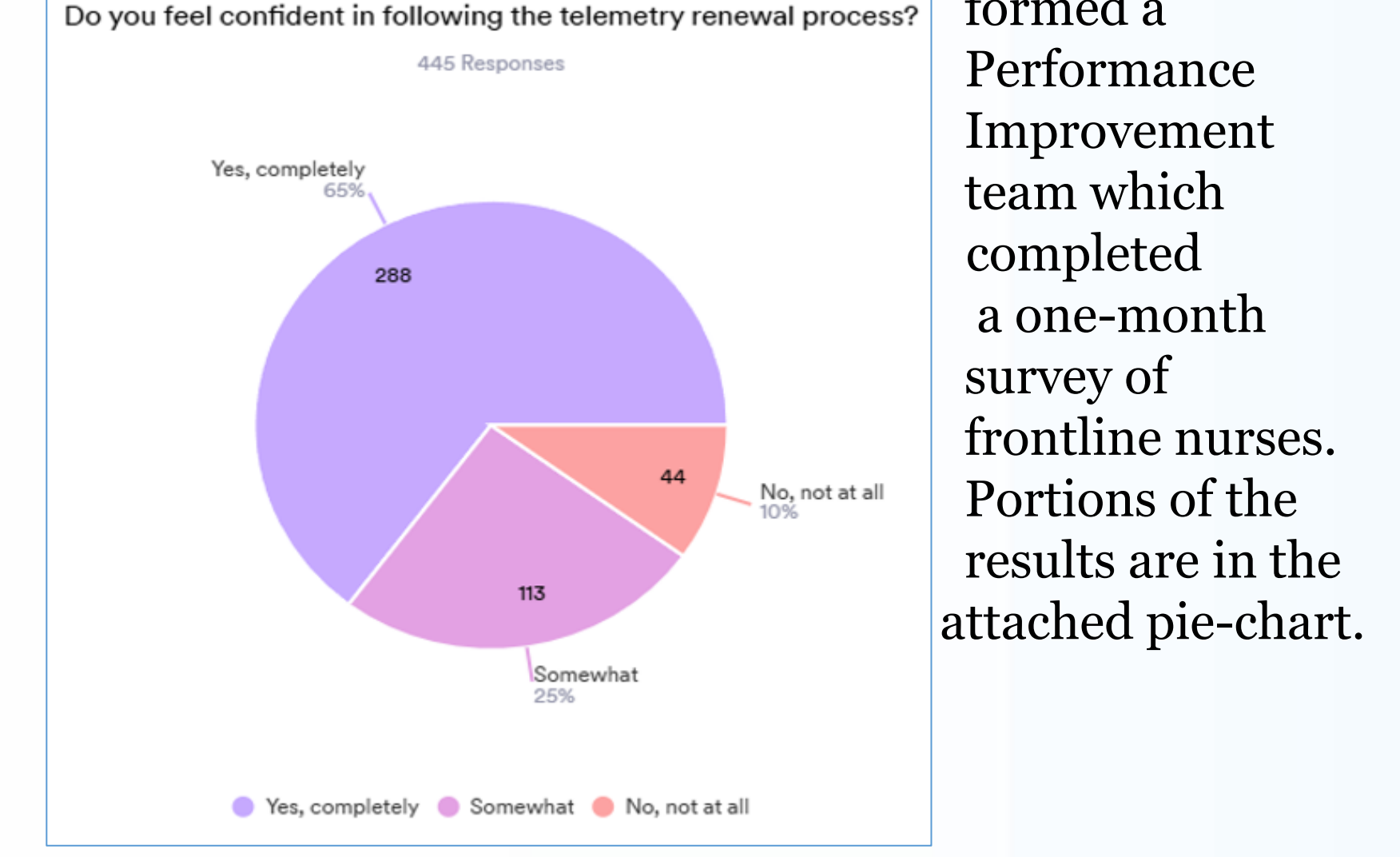
- Though the survey validates the confidence of the frontline nurses in the protocol as well as the ease of use and integration into their workflow, there are still opportunities to be addressed. The survey gave us quantifiable data, we plan on holding a series of virtual townhalls to address lingering concerns.
- We continue to encourage the use of the Expiring Telemetry Dashboard by the Charge Nurses to help identify expiring telemetry orders earlier, even before the built-in three-hour renewal assessment window opens.
- We are also planning to implement limited chart audits to help support our frontline nurses.



### Key features:

- The primary nurse gets an alert three hours before the telemetry order is due to expire. Within the three-hour lead time, the nurse will activate the protocol by clicking on the alert, which requires the nurse to answer five questions at the end of which the Cardiac Telemetry Renewal Assessment/NDTP (pictured below) guides the nurse to either continue or discontinue telemetry monitoring. No need to contact the provider.
- If the nurse misses the three-hour window, the NDTP will discontinue the order. The nurse is then required to contact the provider who may choose to enter a new order if longer telemetry monitoring is necessary.

- As part of the post go-live sustainability plan, we formed a Performance Improvement team which completed a one-month survey of frontline nurses. Portions of the results are in the attached pie-chart.



## BACKGROUND/SIGNIFICANCE

From the above study, we found strong correlations between telemetry overuse and:

- High patient census.
- The limited availability of telemetry boxes for admissions from the Emergency Department (ED) and downgrades from our Intensive Care Units (ICU).
- High length of stay (LOS) of patients in the ED due to patient flow bottleneck caused by the absence of "telemetry beds".
- Decreased "human experience" due to ED overcrowding from admitted patients and families waiting for telemetry bed assignments.
- Opportunity for the use of Lean Six Sigma methodologies to help reduce waste and contribute to cost reduction.
- Increased Telemetry Technicians to patient ratios which necessitates bringing in additional FTEs per shift.

### Cardiac Telemetry Renewal Assessment

- Has the patient had a change in rhythm or converted to Sinus Rhythm in the last 24 hours?  No  Yes (Review Strips)
- Within the last 24 hours, did patient report new or unstable chest pain?  No  Yes
- Is patient on continuous antiarrhythmic infusion?  No  Yes
- Is patient receiving treatment for electrolyte abnormality?  No  Yes
- Is patient pre or post cardiac procedure/surgery?  No  Yes

**Do Not Alter Results**

Nursing to  Extend Telemetry Order 24 Hours  Remove telemetry monitor when Cardiac Monitoring Telemetry Order completes

Cardiac Monitoring Telemetry - Ordered  
-- 04/04/2025 06:43:00 EDT Arrhythmia - AFib, Brady/Tachycardia, As per telemetry algorithm, 04/06/2025 06:43:00 EDT, 48 Hour Telemetry, Constant Indicator, Physician Stop, 04/04/2025 06:43:00 EDT

## REFERENCES



## ACKNOWLEDGEMENT

We sincerely acknowledge and thank the many professionals who contributed to the success of this project. Your hard work, dedication, and collaboration were invaluable. This Nurse-Driven Telemetry protocol would not have been possible without your collective efforts.