



# POSTER SESSION

## FALL 2023



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# Reducing Healthcare Facility-Onset *Clostridioides difficile* Infections Sparrow Specialty Hospital



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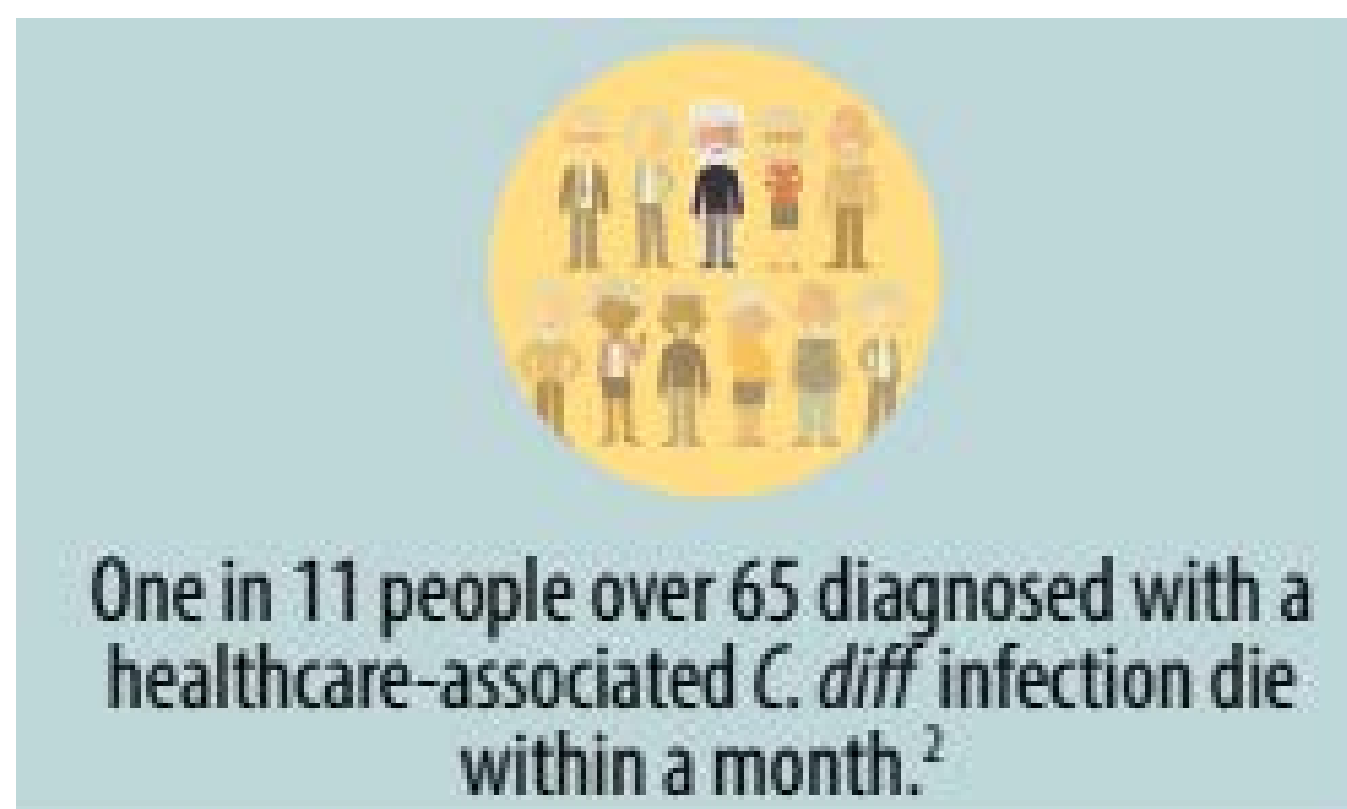
Christopher Stimson, BS, RN, CEN, TCRN

## Executive Summary

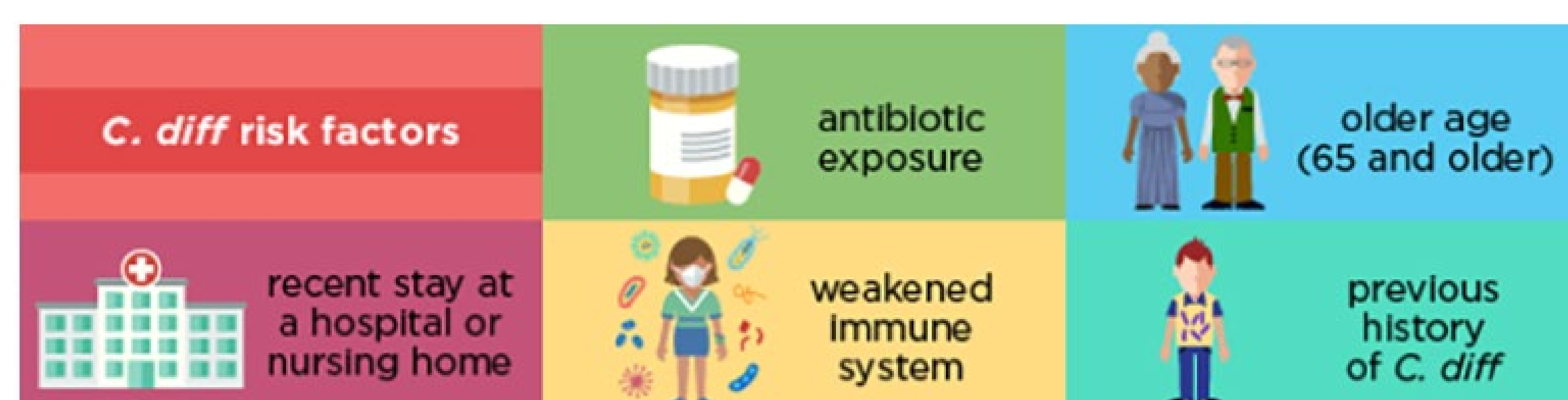
Sparrow Specialty Hospital's healthcare facility-onset (HO) *Clostridioides difficile* infection rate increased from 0 to 10.98 per 10,000 patient-days in quarter 3 of 2021. An algorithm was designed to help guide appropriate testing and the hospital was able to reduce over-reporting to sustain 0 HO infections for the following 21 months.

## Problem & Importance

- Clostridioides difficile* (*C. diff*) is a bacteria shed in feces that can cause life-threatening diarrhea and colitis.



- C. diff* is spread by contact with an infected person or a contaminated surface.



- These risk factors describe most of the Sparrow Specialty Hospital (SSH) patient population.

- SSH is a 30 bed, long term acute care hospital (LTACH).

## What We Measured

**Baseline 2021:** *C. diff* rate was 2.78 per 10,000 patient-days which included 3 healthcare facility-onset (HO) cases.

- HO *C. diff* is defined as a positive stool specimen collected greater than 3 days after admission.
- Quarters (Q1-4) are used for comparing rates throughout each year. They consist of four 3-month sections starting in January (i.e., Q1 is Jan. – Mar.)

**SMART Target:** Zero HO *C. diff* in 2022.

**Gap to Close:** Reduce HO *C. diff* rate by 100% for 2022.

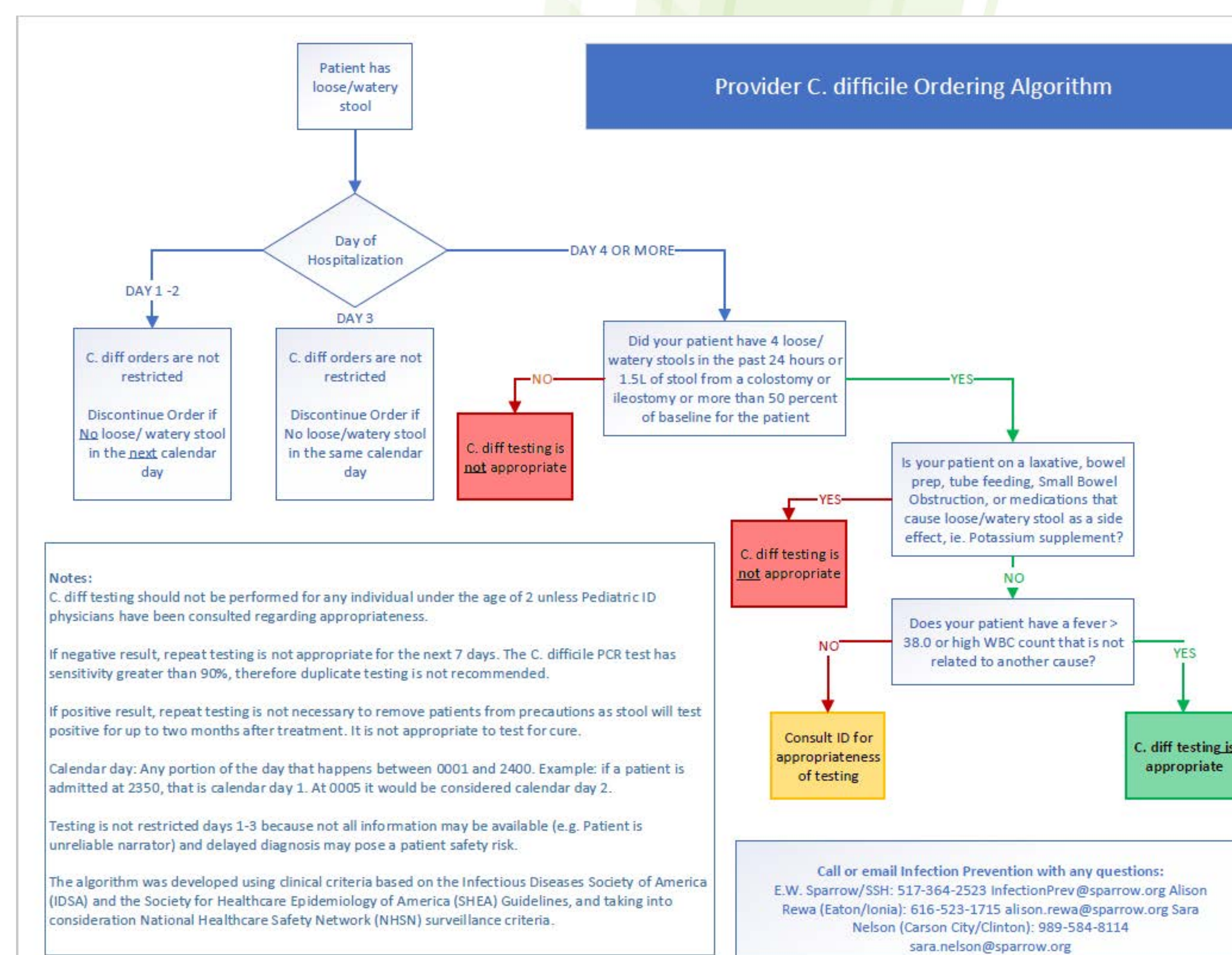
## Understanding the Current State

- With a *C. diff* rate of 2.78 per 10,000 patient-days in 2021, besides not meeting our goal, further concerning was:
  - In 2021, SSH went from a *C. diff* rate of 0 in Q1 and Q2 to 10.98 per 10,000 patient-days in Q3.
  - Multi-disciplinary deep dives with infection prevention (IP), nursing, and physician leadership on each *C. diff* case revealed all were instances of inappropriate testing.
- When the tests were ordered for the three Q3 *C. diff* cases:
  - 2/3 patients had been receiving laxatives.
  - 3/3 were receiving tube feeding.
  - 1/3 had less than 3 loose/watery stool.
  - 2/3 had *C. diff* identified prior to transferring to SSH.

## Interdisciplinary Analysis / Plan

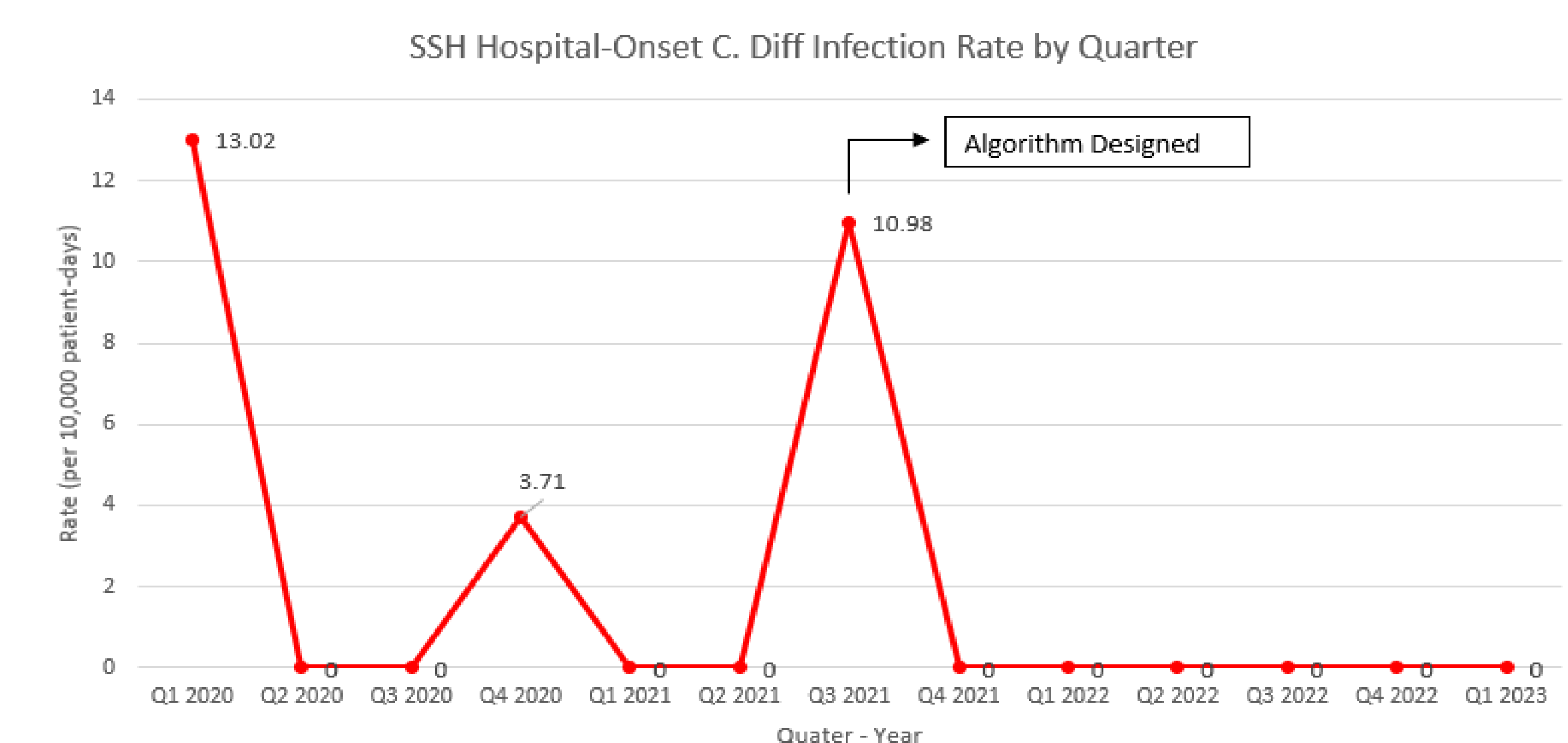
### ROOT CAUSE ANALYSIS: Plan, Do, Check, Act

- Plan:** Using what we learned from the *C. diff* case deep dives and using guidelines from the Society for Healthcare Epidemiology of America (SHEA) and the Infectious Disease Society of America (IDSA) in July/August 2021 we designed a *C. diff* testing algorithm to guide appropriate testing.
- Do:** Nursing and providers were educated on using the algorithm.
- Check:** IP audited *C. diff* orders for appropriateness, reaching out as needed.
- Act:** To improve compliance and reduce IP auditing workload, the algorithm was built into the order form with hard stops.



## Results & Outcomes Achieved

- HO *C. diff* rate decreased to zero which has been maintained for the past 21 months.
- 25 SSH *C. diff* orders were audited from September 2021-2022.
  - 14 were inappropriate and discontinued.
  - 11 were collected and negative.
    - 3 were appropriate testing.
    - 6 were inappropriate testing.
    - 2 were ordered and collected overnight or on weekends



## Sustain & Spread

- The algorithm was simultaneously implemented on all units of our acute care hospital.
- System-wide success was limited predictably due to the larger number of caregivers to educate and audit.
- IP, Infectious Disease, Laboratory, Pharmacy, and Information Technology discussed ways to improve compliance.
- Therefore, in June 2023, the algorithm was built into the *C. diff* order form with hard stops if testing is inappropriate.
- Placing *C. diff* orders has been restricted to providers only.
- Caregivers and providers were educated about these changes through a huddle helper that was emailed in a newsbreak and posted on our website.

## Keys to Success

- Clearly defining what is appropriate *C. diff* testing by creating an easy-to-follow algorithm.
- Enforcing compliance in a time efficient manner by building the algorithm into the *C. diff* order form.
- Aligning with key strategies of SSH by:
  - Improving performance of reportable *C. diff* metrics by reducing over-reporting caused by asymptomatic *C. diff* colonization.
  - Improving antimicrobial stewardship, patient outcomes, and hospital expenditures.





# UTILIZATION OF A DISCHARGE LOUNGE:

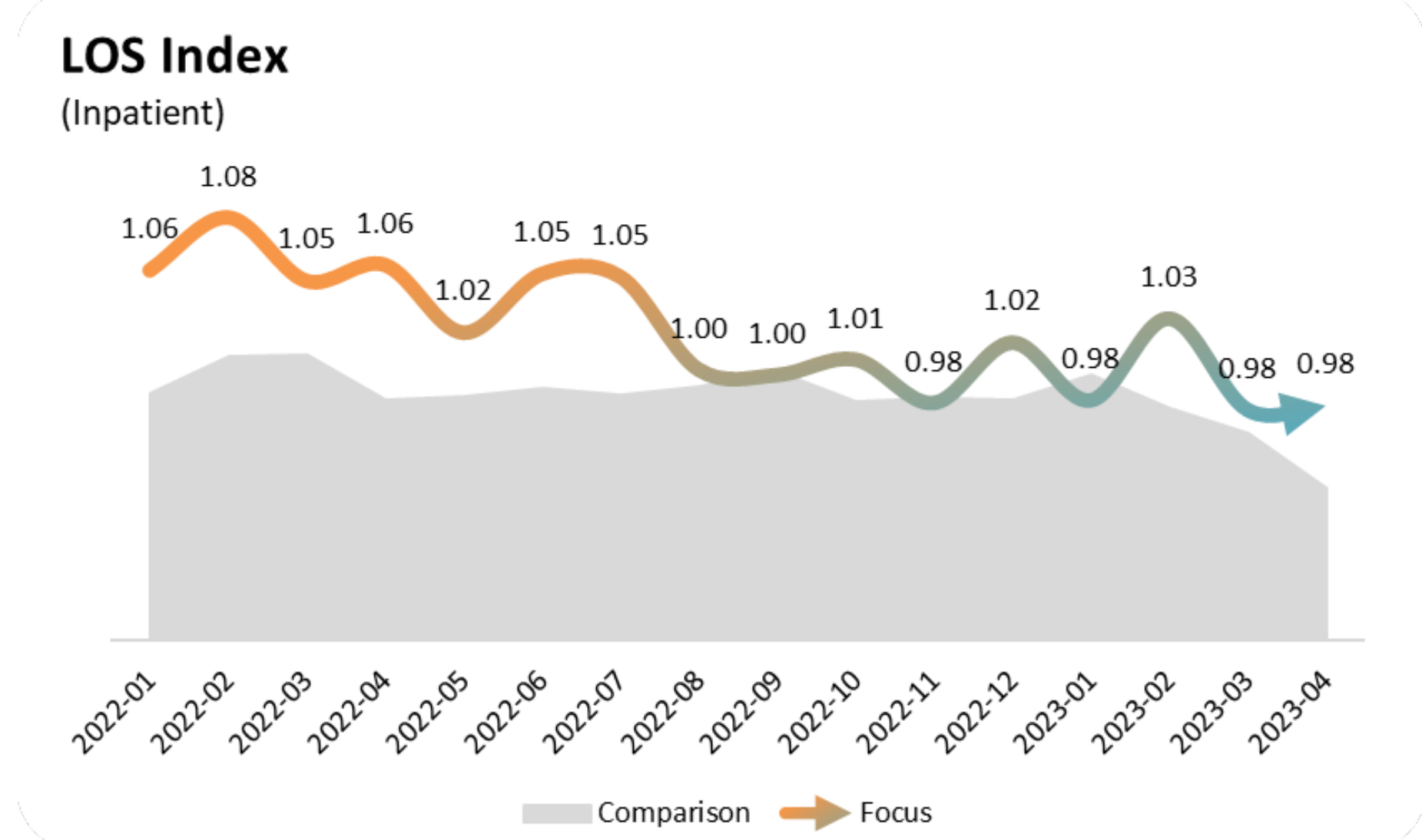
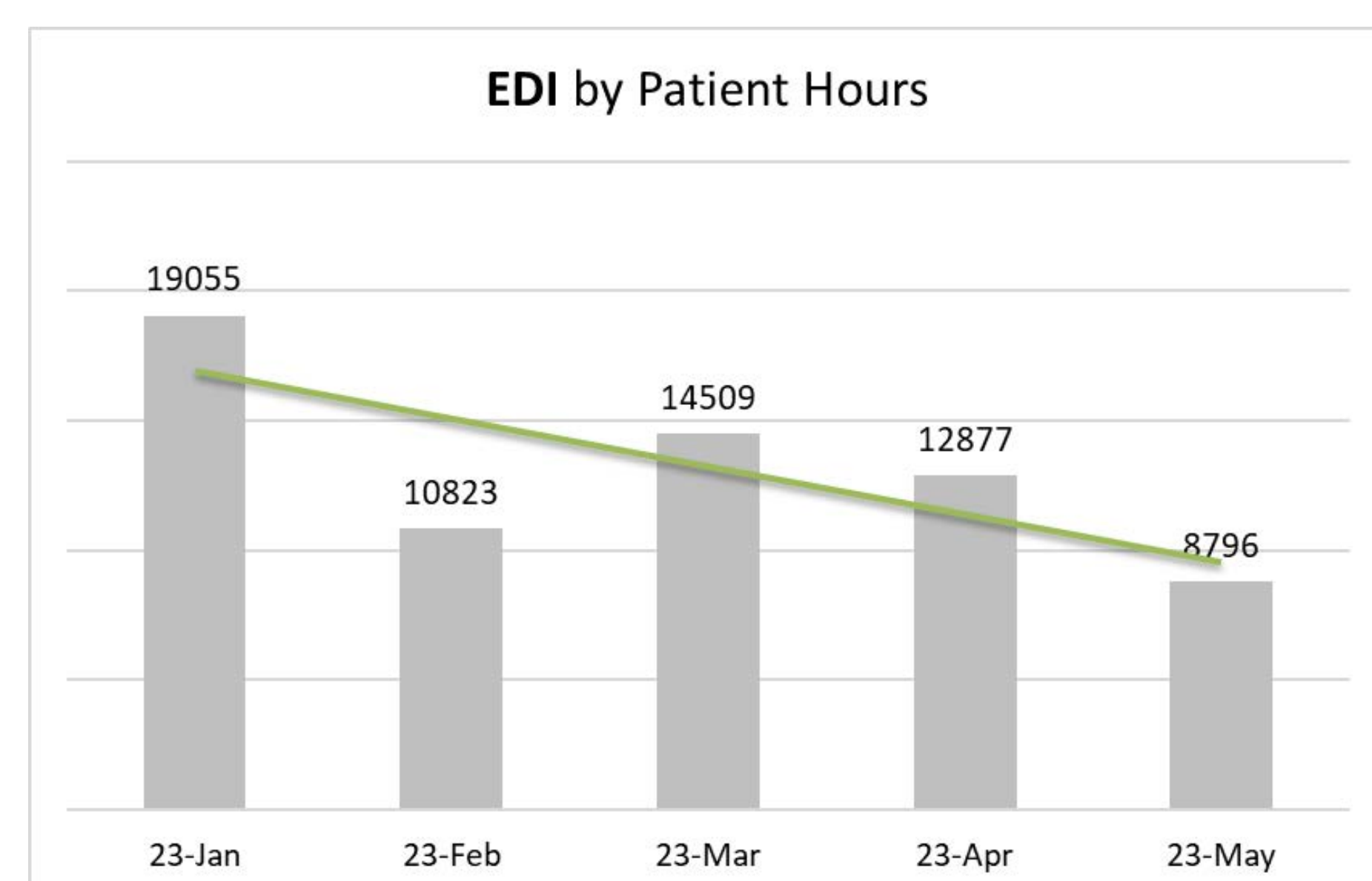
## Improving Hospital Throughput

### Executive Summary:

As hospitals work to improve patient flow, the utilization of a discharge lounge has become critical for many organizations in creating additional capacity. Through cycles of improvement, EW Sparrow Hospital has been able to significantly impact flow through using this transitional unit as patients prepare to discharge from the acute care setting, saving hundreds of patient bed days.

### Problem & Importance

As hospitals across the country try to balance emergency department overcrowding and boarding of inpatients with high-cost agency labor and staffed bed shortages; optimal patient flow through a system becomes essential to delivery of safe, quality care. Bed shortages in the acute care setting were causing significant delays in transfer from ED to inpatient units, causing extensive boarding pressures. Sparrow Hospital's use of a discharge lounge (DCL) to facilitate quality transitions of care, improved inpatient bed turnover, and decreased boarding burden on the ED has evolved over the year into a valuable resource for facilitating patient throughput



### What We Measured

#### Baseline (Jan-Feb 2023)

Percent of eligible patients who transitioned through the discharge lounge: 33.8%

Percent of patients in the Discharge Lounge by 11am: 23.5%

#### SMART Target

Increase percent of eligible patients who transition through discharge lounge to 40%

Increase by 10% Patients in the Discharge Lounge by 11am.

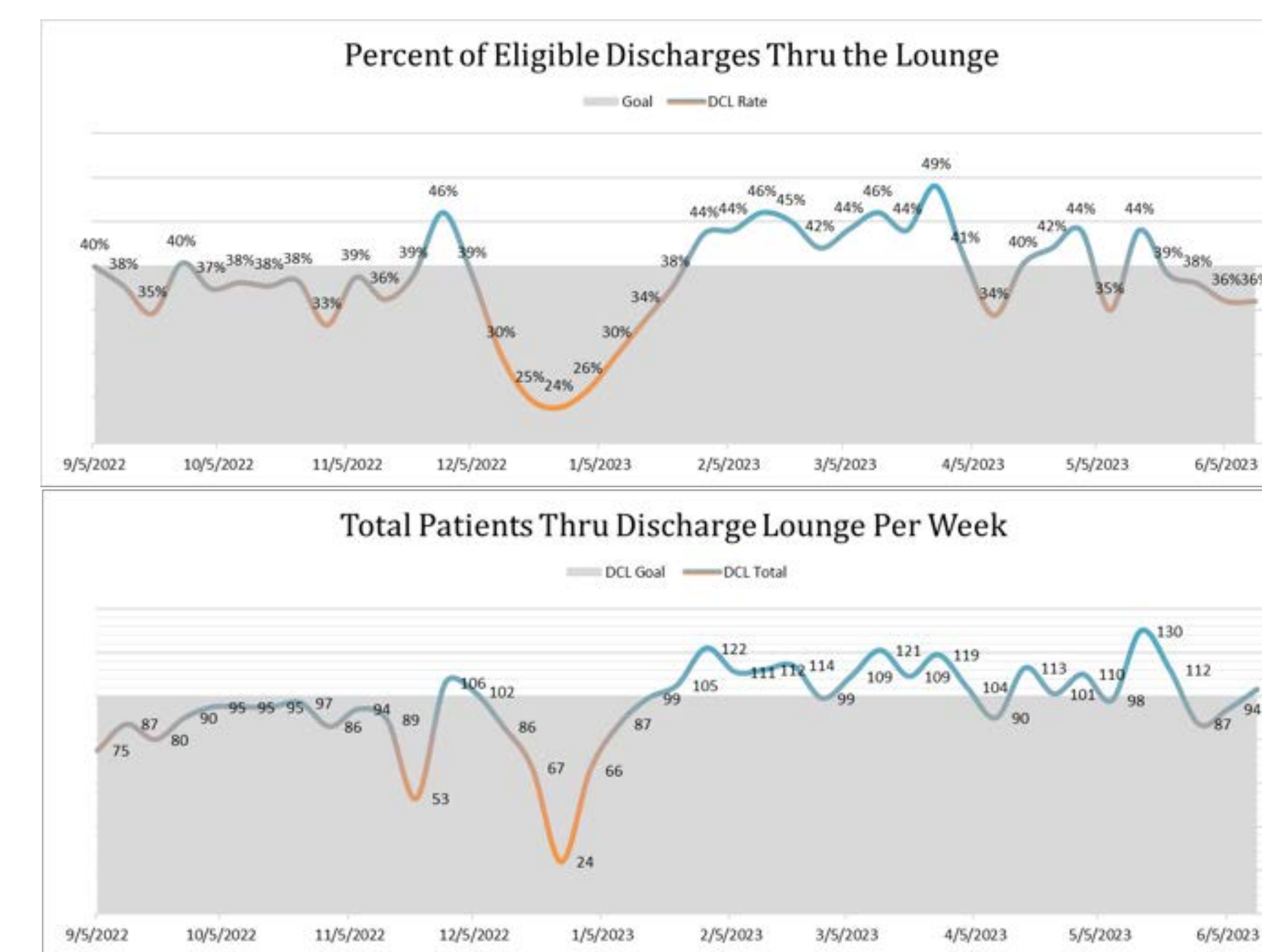
#### Gap to Close (Target Minus Baseline)

Eligible patients: 6.2% Improvement

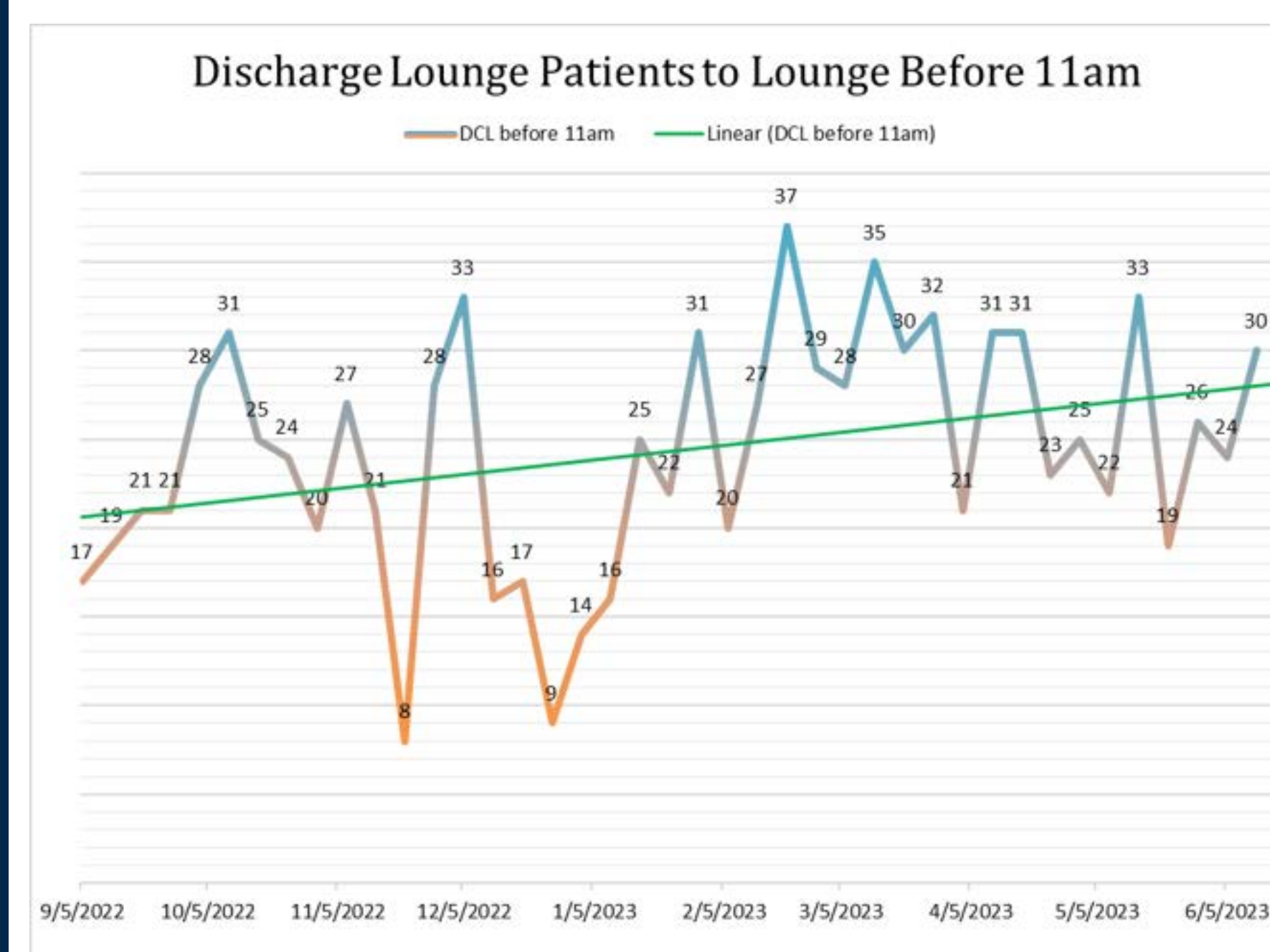
Patients by 11 AM: 2.3% Improvement

### Understanding the Current State

Healthcare continues to look for ways to accommodate acute care demand amid staffing challenges, bed closures, and increased patient acuity. In assessing the continuum of care and the way patients move through the hospital system, one approach that has been utilized is the concept of a transitional discharge lounge to facilitate the last few hours of a patient's stay in the hospital. In most cases, patients at this stage have received most of their care and have been determined to be medically cleared for discharge from the acute care hospital, but have a few remaining care needs to address before they can depart. Patients in this final phase of hospital care are often no longer high acuity, and many systems have boarded emergency department patients with higher acuity and needs than the patients within hours of transitioning out. The concept of a discharge lounge allows current patients to have a safe place to complete the final steps of a strong transition of care, while allowing their beds to be turned over to bring the next boarded ED patient needing an inpatient bed.



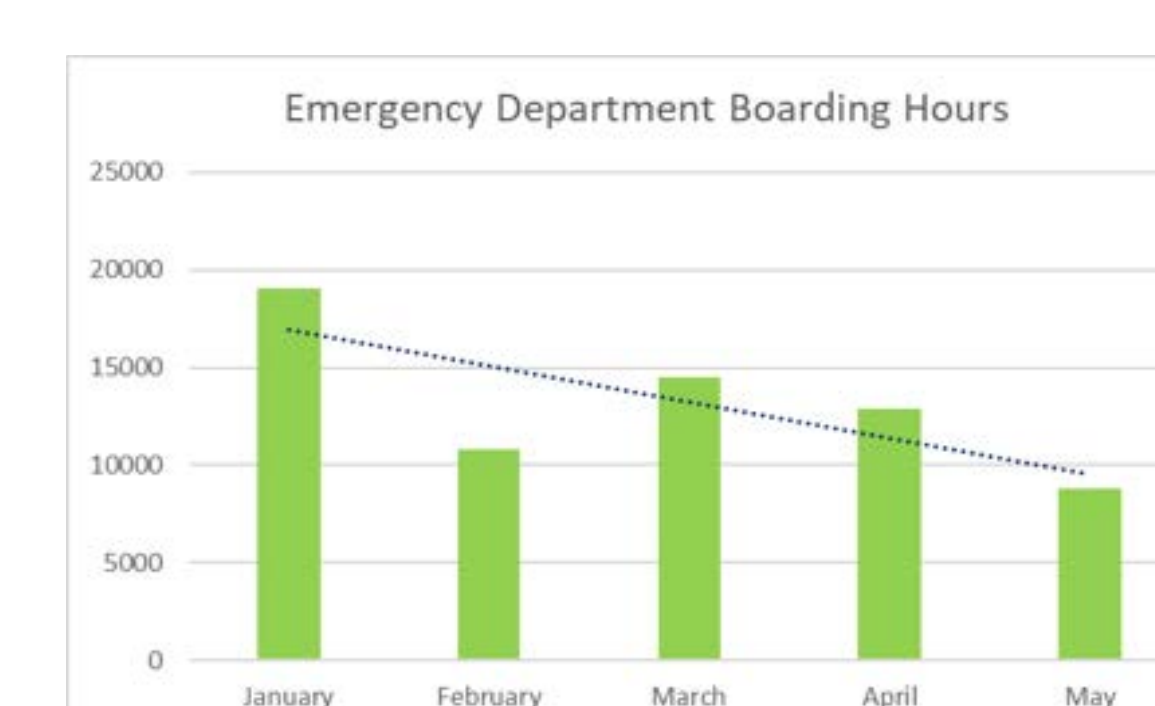
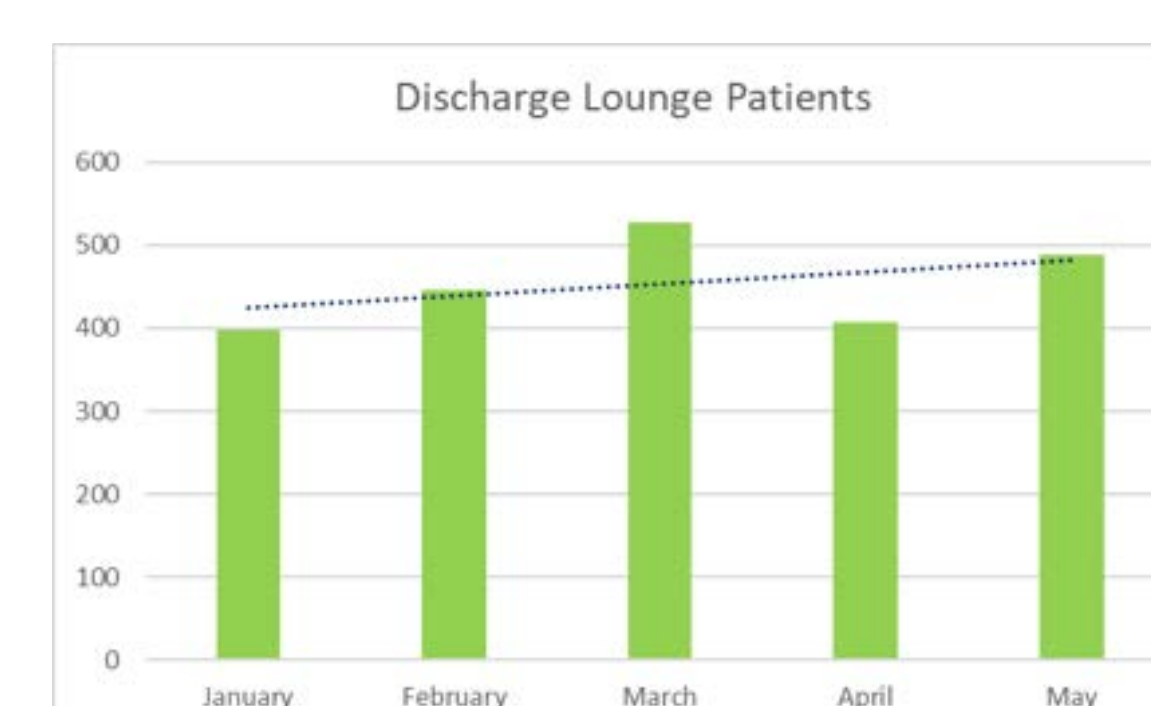
### Analysis & Interventions to Improve



Sparrow Hospital created a 12-bed DCL where patients, once deemed appropriate, could transition for the last hours of their hospital stay. In this space, they may receive their last dose of IV medication, be fitted for durable medical equipment, receive education regarding their condition and needed follow up, await home oxygen delivery, or see their provider for a final opportunity to ask questions and be examined. Knowing that these patients are in a less acute phase of care need, Sparrow is able to utilize more flexible staffing, align available hours with demand, and provide a second review of milestones to ensure that there are no gaps in the patients' discharge plan. A multidisciplinary team worked diligently to set criteria for the patient mix that would be most appropriate to transition through a discharge lounge setting as they prepare to move out of the hospital to their next level of care. Through cycles of improvement, Sparrow has been able to expand the criteria for which patients are eligible to transition through the discharge lounge, increase overall utilization, become more systematic about identifying eligible patients, and standardize nursing workflow to drive efficiency on discharge day.

### Results & Outcomes Achieved

Sparrow's initial goals in 2022 were to facilitate 25% of eligible discharges via the DCL. For the first half of the year, Sparrow achieved a rate of 32% with an average savings of 1,384 minutes per day. Over that time, the DCL process yielded a gain of 171,666 minutes (equal to 119 patient bed days). Outcomes for the second half of the year included 35% utilization rate, a daily average of 1,567 minutes saved. The total time savings for that period was 175,612 minutes (equal to 122 patient bed days). When the team was consistently exceeding goal, the team was pushed in the 4<sup>th</sup> quarter to stretch their metrics with new goals of 40% of discharges through the DCL and added an additional goal of 25% before 11am to help with throughput earlier in the day.



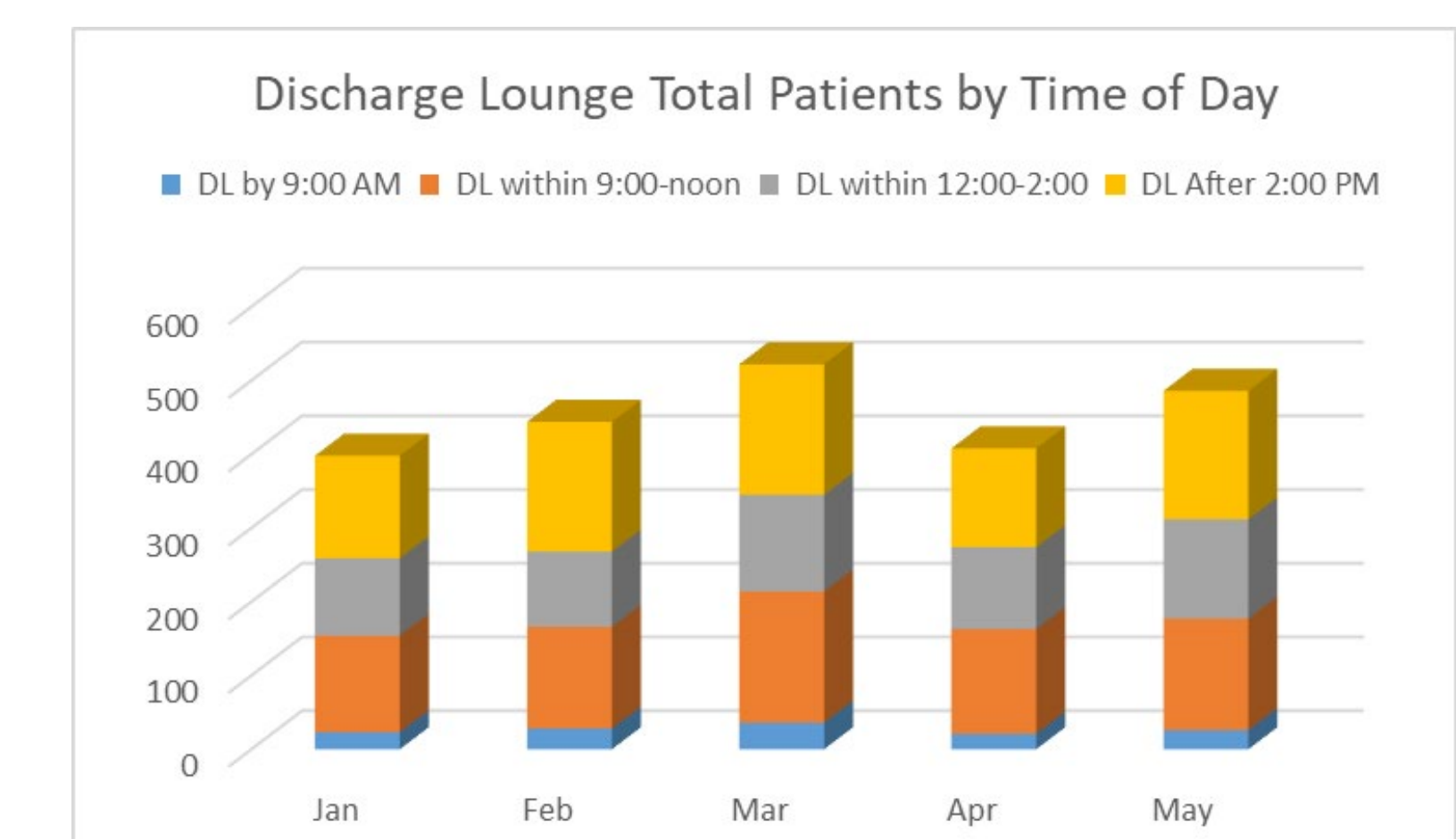
### Sustain & Spread

#### Sustain:

- Use of a physician order for transfer to discharge lounge
- Daily secure chat for direct communication with care teams of eligible patients
- Notifying Patients once they graduate from being inpatient, they will come to the discharge lounge

#### Spread:

- Expand patient populations eligible to be served in the discharge lounge
- Identify discharges earlier in the day



### Keys to Success

- Navigating cultural change (provider and nursing buy in)
- Educating patients to this flow as standard process in their care journey
- Engaged staff to operationalize the concept
- Selecting the appropriate patient population to serve (non-isolation, patients with high acuity behavioral needs, non-telemetry)
- Close collaboration with Hospitalists physician group

### Team Members and Contacts

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## Equipping Volunteers for Fall Bundle Audits

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Sparrow Health System

### Background

Preventing accidental falls and fall-related injuries within inpatient areas is of utmost importance for Sparrow Health System

Our goal is to achieve zero injurious falls while under our care

Due to their clinical presentation, the 9W Neurosciences unit's patient population is particularly at risk for falls

Despite robust policy and education efforts, nursing leaders frequently identify opportunities for improved Fall Bundle adherence

Rise in agency staffing in 2021-2022 led to differential adherence to Sparrow policy

### Objectives

**Baseline:** In 2022, there was an average of five falls per month on 9W

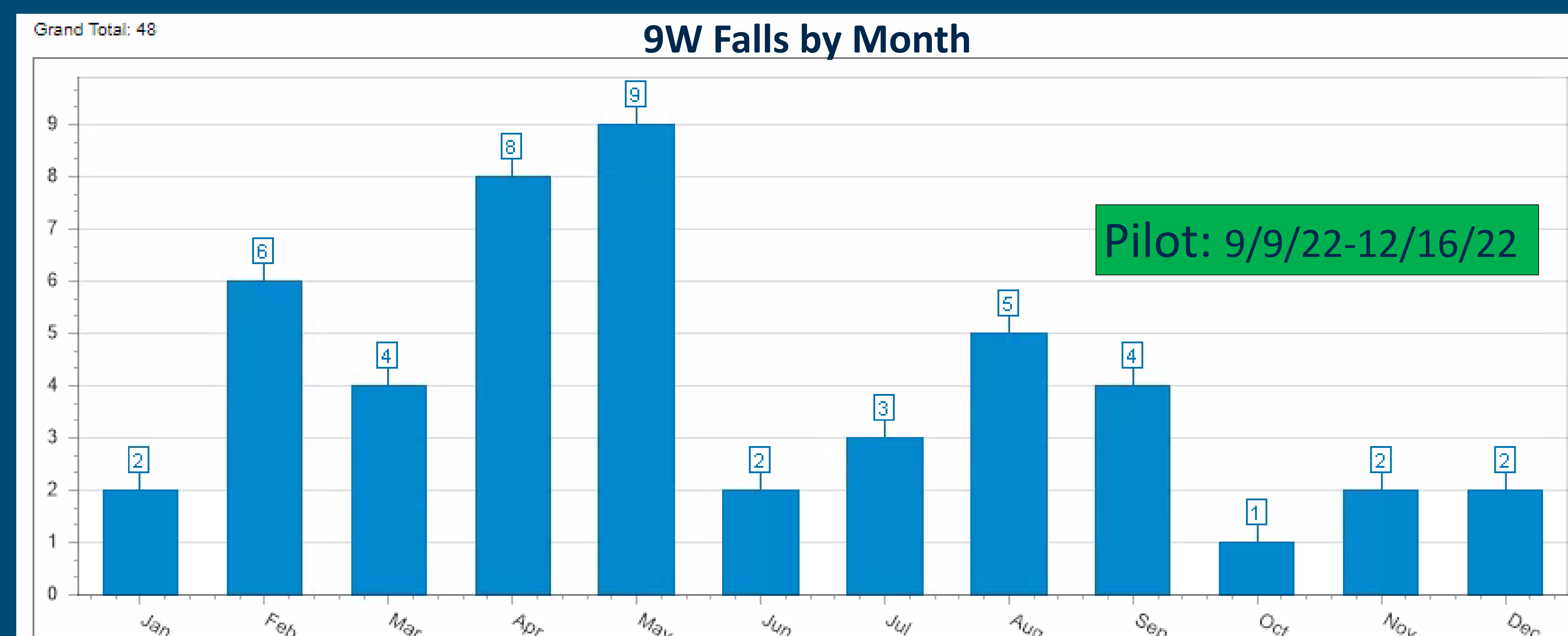
**SMART Target:** Reduce patient falls on 9W by 80% during the September-December 2022 pilot. Begin baseline measures of adherence to the Fall Bundle and Fall Prevention policy

### Process

In a pilot study on 9W, interventions were developed to equip and empower Safety Volunteers:

- Training to perform Fall Bundle and for patient communication regarding safety measures
- Provide timely, read-only Epic access and SurveyMonkey tool to record observations
- Grant SecureChat functionality to directly connect with the Treatment Team when safety precautions in place are incongruent with nursing assessed Johns Hopkins Fall Risk Score

In a pilot initiative, interdisciplinary collaboration reduced patient falls by 60% through development and implementation of a fall safety auditing workflow for volunteers.



### Results & Outcomes

During the pilot period, there was an average of two falls per month on 9W, a **60% reduction** in average monthly falls.

There were **319 opportunities** for improved adherence Fall Bundle identified among **627 patients**.

Additionally, from beginning of pilot to end, percent adherence in fall bundle adherence improved in each area of Fall Bundle.

	Opportunities Identified	% Increase in Fall Bundle Adherence
Falls Wristband	42	29
Color-Coded Socks	36	22
Equipment Set-up (e.g. Bed alarm, iBed awareness, chair)	141	127

### Lessons Learned

Creating an efficient, effective pipeline for volunteer access to Sparrow IT resources

Frequent check-in meetings with collaborators to identify and quickly resolve barriers

Cross-collaboration amongst Nursing Leadership, Volunteer Services, and IT teams

Dedicated Student Volunteer Coordinators to facilitate training

### Sustaining Success

SurveyMonkey data is reported out weekly and reviewed by volunteer leadership and nursing leadership for educational opportunities and individual follow-up

The data and learning experiences from this pilot were shared with the established Falls Prevention Committee

Within six months of pilot completion, expanded to three med-surg units

Student Volunteer Coordinators dedicated to workflow training

Student Volunteer Coordinators created flowchart and Fall Bundle audit video for training:

<https://www.youtube.com/watch?v=LTMZDs4Wkqc>

Opportunities to expand Fall Bundle auditing to other caregivers

Expansion of SurveyMonkey audit tools for CAUTI, CLABSI, and Pressure Injury prevention

Special thanks and shout-out to our Student Volunteer Coordinators and the numerous volunteers who participated in the pilot.





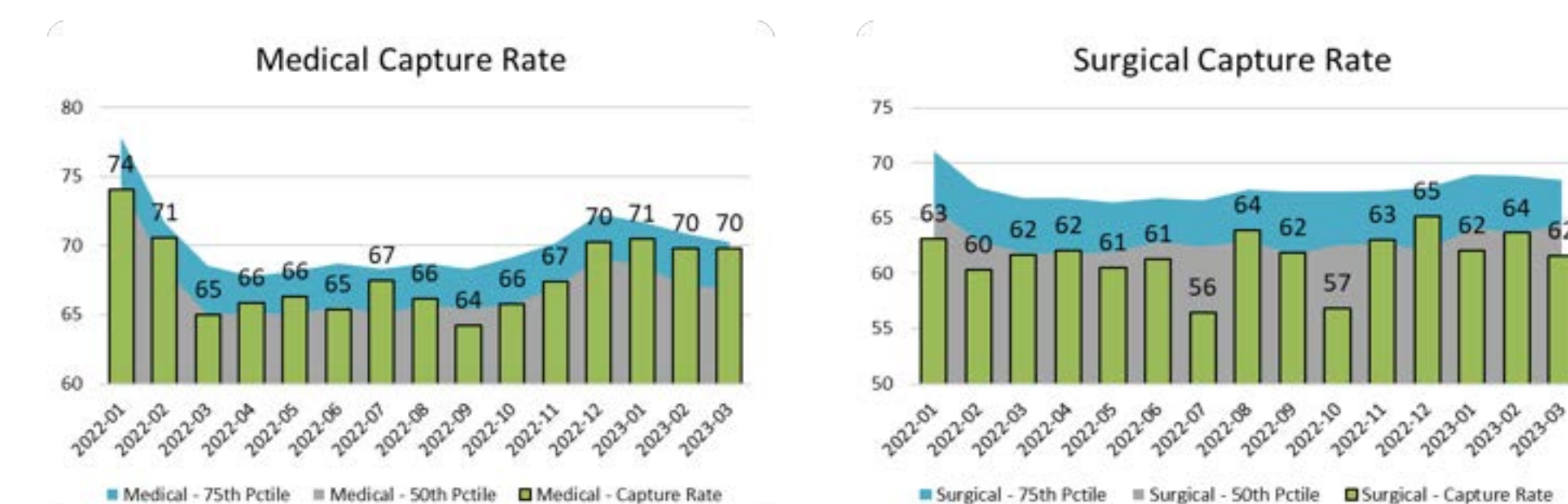
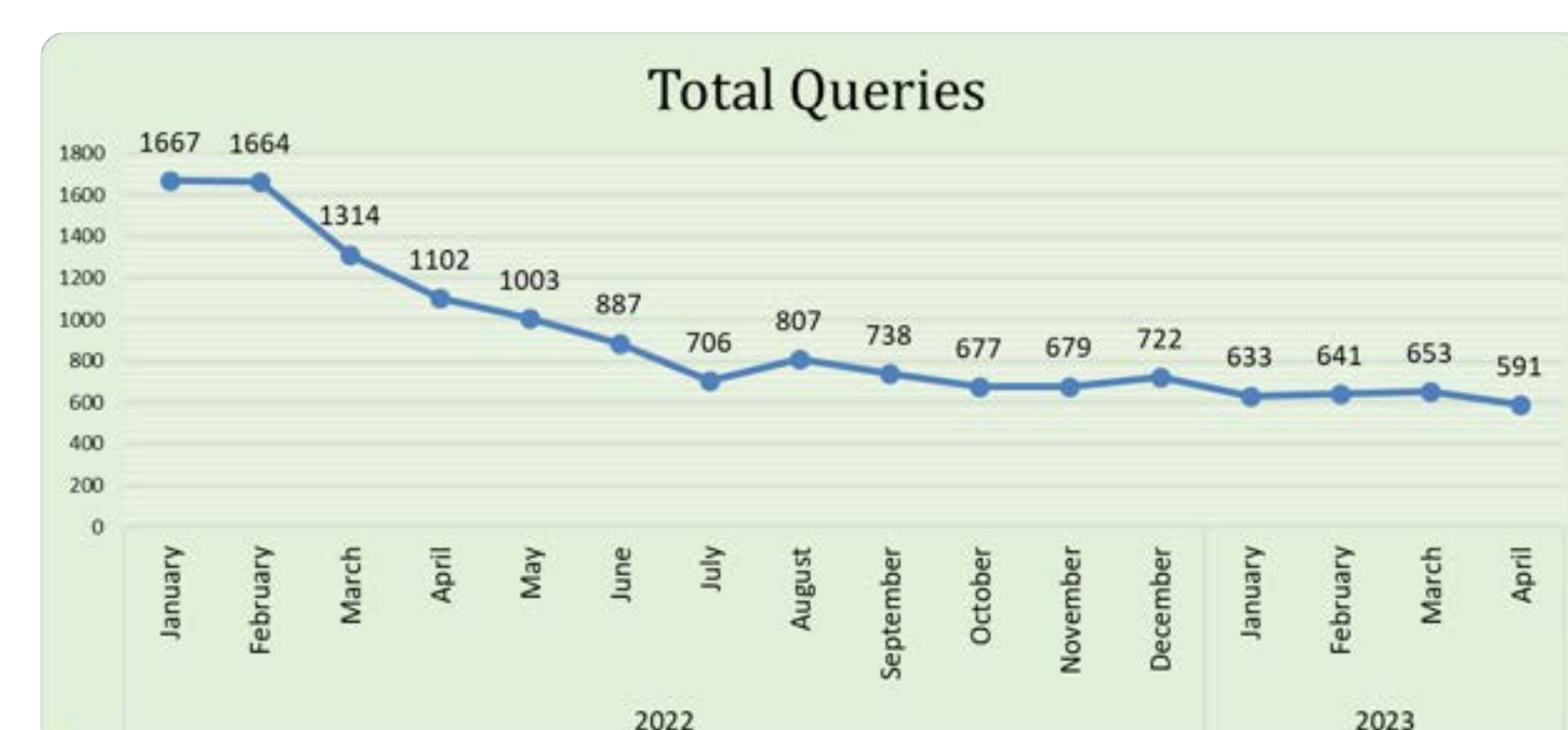
# IMPROVING CAPTURE OF COMORBID CONDITIONS THROUGH EMR AUTO DOCUMENTATION

## Executive Summary:

Use of EMR capability to auto document the presence of comorbid conditions, leading to improved capture rates while decreasing waste and dissatisfaction of physician queries by the CDI team.

## Problem & Importance

Capturing all existing risk variables through clinical documentation is challenging due to many distractions and functions inherent to an EMR, yet we know the value of this information in representing the complexity of each patient's full presentation. In addition to the clinical benefit of documenting comorbid conditions, there is also a quality and financial component that impacts expected length of stay, expected mortality, and reimbursement.



## What We Measured

### Baseline (Apr – Sept 2022)

Medical Capture: 64% (Median Capture 50<sup>th</sup> Percentile)

### SMART Target

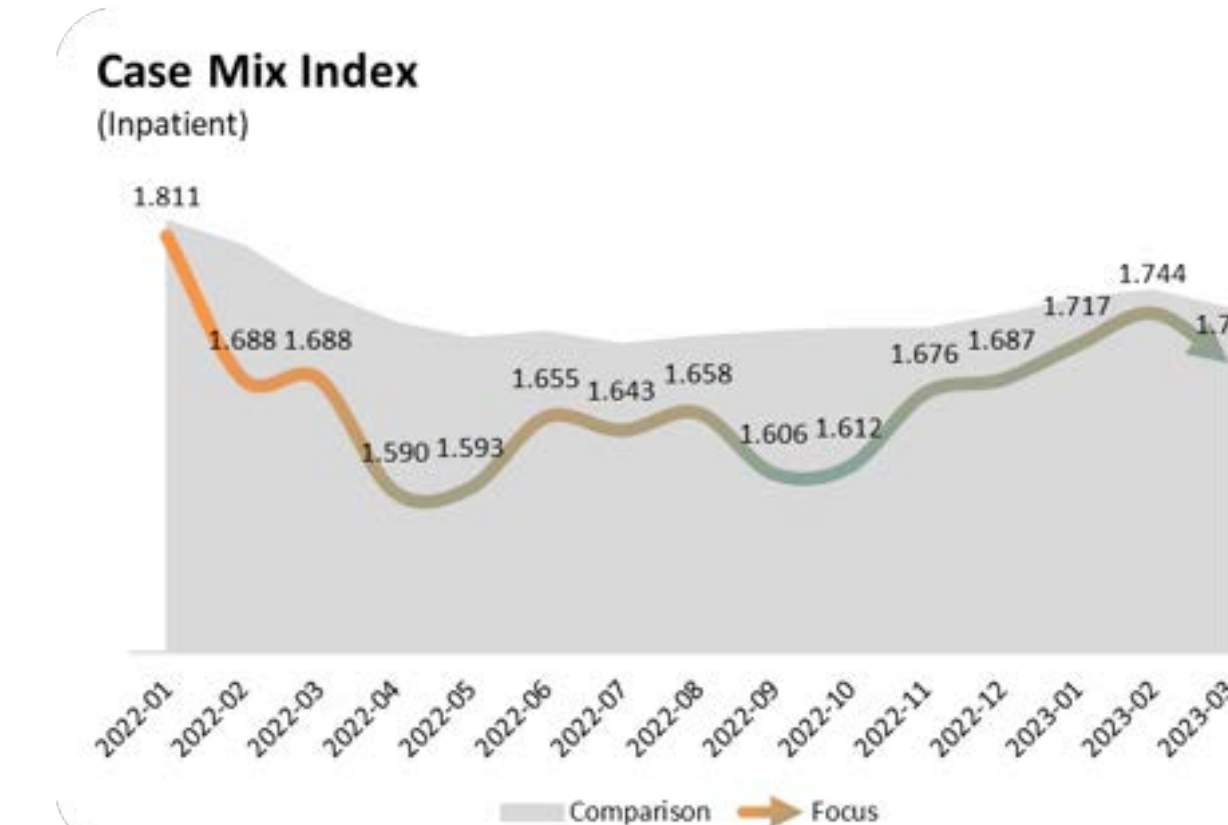
Medical Capture: target 69% (75<sup>th</sup> Percentile)

### Gap to Close (Target Minus Baseline)

Medical Capture: 5%

## Understanding the Current State

Through comparative analysis, our hospital was identified as an outlier in expected mortality and case mix index in relation to similar size and scope organizations. Through a pre-bill review process, we were able to identify multiple opportunities around capture and focus on conditions that have discrete rules for meeting diagnosis criteria.



## Analysis & Interventions to Improve

Through tools available in our EMR, the team was able to write rules to identify discrete data meeting specified criteria. The EHR then auto-documents the presence of comorbid conditions with clear rationale for how the diagnosis is determined. As the library of auto-documented conditions grew, the need for clinical queries to validate the presence of these conditions dropped drastically while our capture rate improved.

Comorbidities identified by EMR data: Thrombocytopenia. The patient meets criteria for a diagnosis of thrombocytopenia based on a serum sodium of 134 mEq/L or less, with evidence of monitoring (a subsequent platelet level during the same encounter) and treatment (oral sodium replacement, saline infusion, fluid restriction, withholding blood products).

## Results & Outcomes Achieved

Through increased auto documentation of comorbid conditions, the need for queries to physicians from the clinical document integrity team has significantly decreased creating efficiency for both CDI and providers. In addition, medical capture has achieved 4 sustained months of top quartile performance. The teams focus will now shift to replicating the outcomes in the surgical capture setting.



## Sustain & Spread

Sustain:

- Continue to monitor breakthrough queries for conditions in which auto documentation exists
- Monitor medical capture results for continued 75th percentile performance

Spread:

- Expand library of conditions that have rules attached (next condition is acute kidney injury)
- Embed tool in additional provider templates (surgical focus)
- Analyze lost capture opportunity
- Measure financial impact of improved capture

## Keys to Success

- Use of standard note templates by physician group (harder to embed the tool into the notes if providers use custom templates)
- Ease of burden on providers and CDI teams (both initial documentation and query)
- Integration of documented comorbid conditions into treatment plan
- Low resource intensity to implement

## Team Members and Contacts

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