

Mitigating Excessive Laboratory Testing in Hospitalized Patients: An Interdisciplinary Quality Improvement Initiative

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INTRODUCTION

Excessive laboratory testing performed on hospitalized patients can be harmful and costly, and often does not provide information that impacts clinical decision making.

SMART AIM

Our project sought to decrease the median laboratory tests per patient on two medical/surgical units at a quaternary care center by 10% between December 2022 and April 2023.

METHODS

Automated electronic medical record data mining was utilized to collect baseline data on the total number of laboratory tests performed per patient encounter. A 1yr retrospective review revealed a baseline median of 11 laboratory tests per patient encounter.

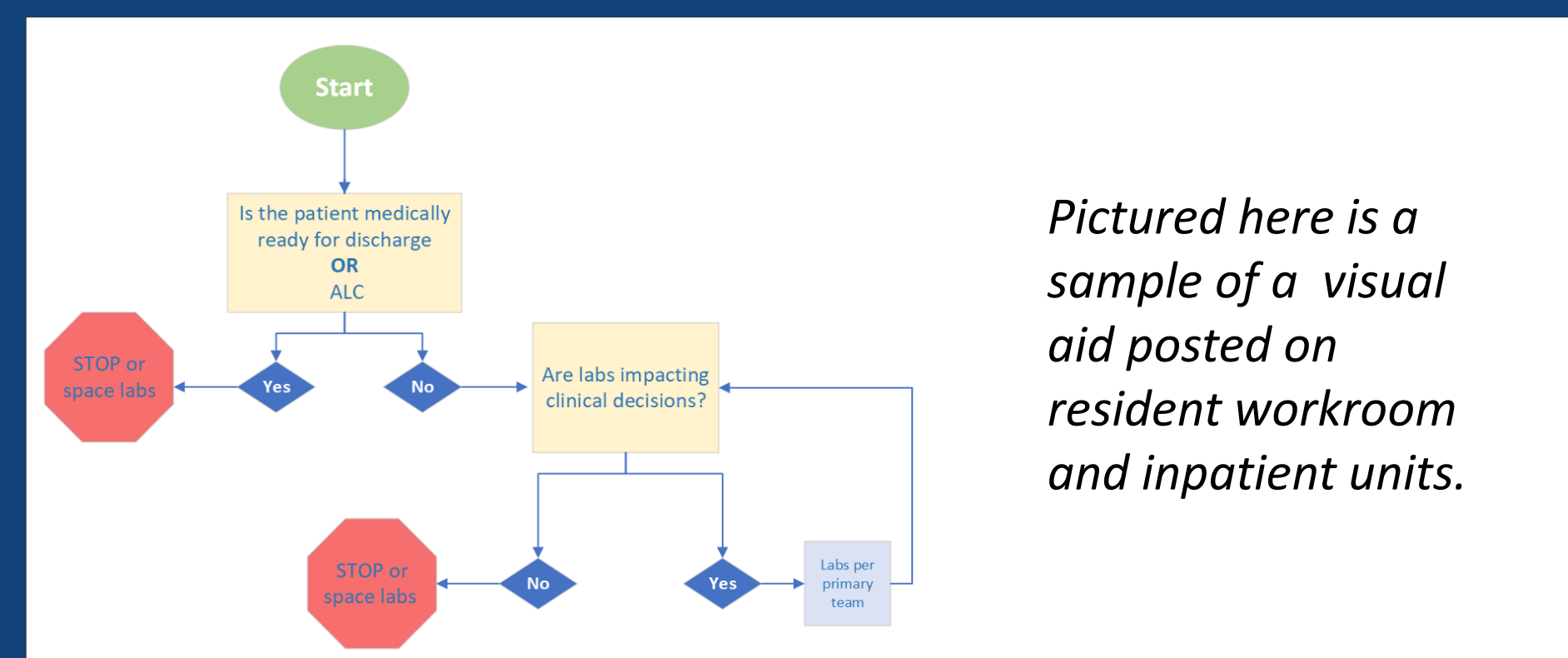
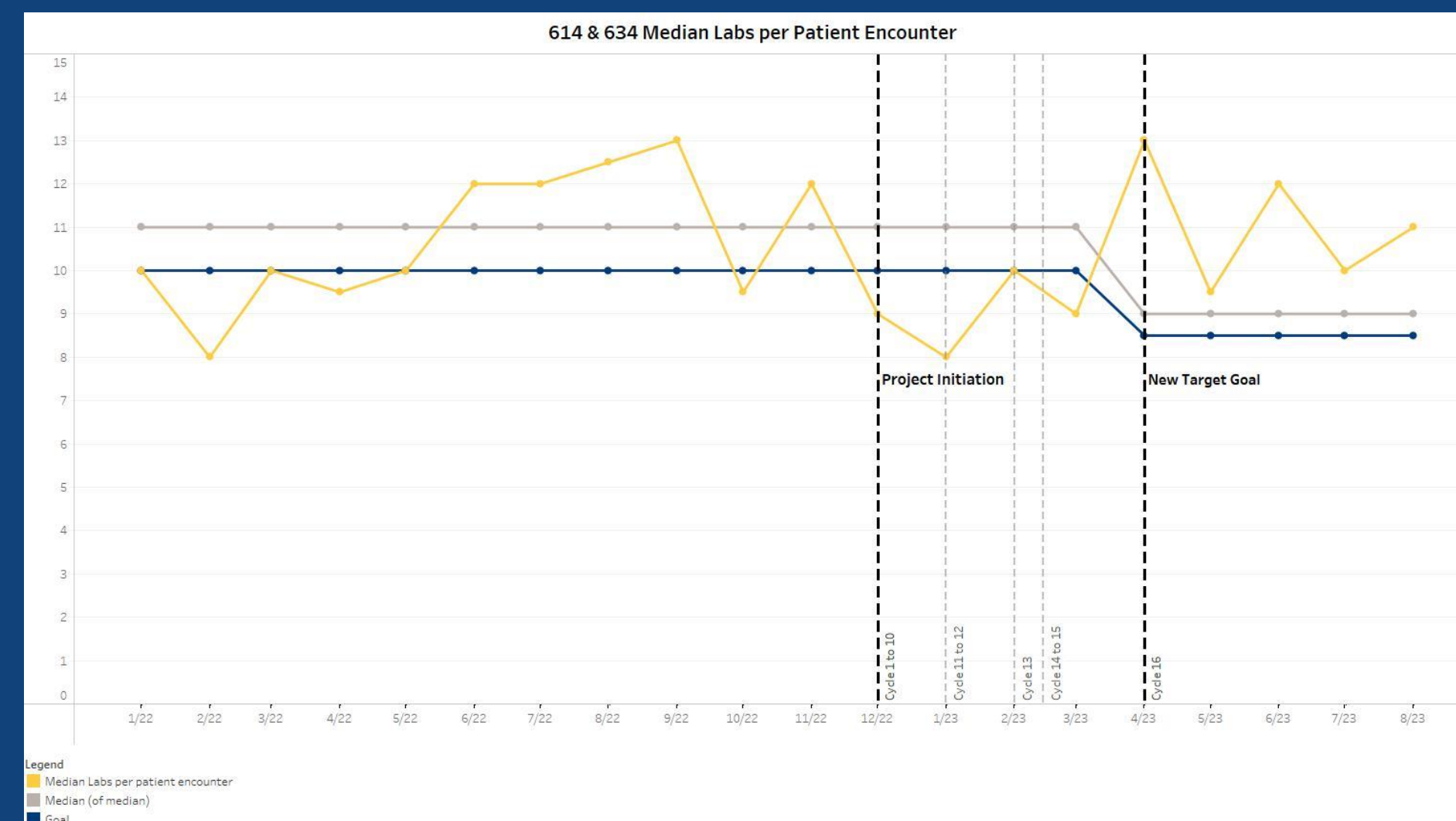
PDSA Cycles incorporating various interventions were utilized to improve mindful ordering of laboratory tests by teams. Our interventions included visual aids, email reminders, and check lists. We also incorporated discussion regarding the frequency of laboratory tests during work rounds and interdisciplinary team rounds.

We excluded patients whose stay was longer than ten days and we excluded laboratory tests that were POCT.

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PDSA Cycles incorporating a variety of interventions were utilized to reduce the median number of laboratory tests per inpatient encounter from 11 to 9 over a period of four months at Strong Memorial Hospital.



Pictured here is a sample of a visual aid posted on resident workroom and inpatient units.

Cycle	Date	Intervention
1 to 10	December 2022	Education of team members on participating units including communication via newsletter and email, discussion during daily nursing huddle and inter disciplinary rounds, and signage
11 to 12	January 2023 to February 2023	Emails sent to faculty members who attend on resident teams
13	February 2023	Project presented to faculty members at the Hospital Medicine Division Business Meeting
14 to 15	February 2023 to March 2023	Visual aid added to resident work rooms and participating units
16	April 2023 to June 2023	Emails sent to faculty members who attend on resident teams

RESULTS

The median number of laboratory tests per patient encounter decreased from 11 to 9 over a period of four months following pilot initiation. This represents an 18% decrease and surpasses our target of 10%. Recent data demonstrates inconsistent trends with more laboratory tests ordered in April and June.

DISCUSSION

Through our interventions a measurable reduction in total number of laboratory tests per patient encounter was observed and suggests that routine laboratory tests may be excessively utilized in the care of hospitalized patients.

Limitations included small sample size and difficulty in maintaining a sustained response. Our team speculates that this is due to both a paucity of messaging efforts and an influx of new residents at the beginning of the academic year.

FUTURE PLANS

We are distributing surveys to assess the viewpoints of the unit nurses, residents, and attendings. Our survey intends to gather perceptions regarding how our initiative affects workflow, patient care, and interdisciplinary team dynamics. We are also seeking feedback regarding ways in which the initiative may be adapted to improve efficacy.

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Residents, please complete our survey →

