

Project name: Unnecessary Calcium testing in the ED

**University Health Network
Emergency Department**

Date: March, 2019

QUALITY IMPROVEMENT PROJECT CHARTER

PROBLEM AND BACKGROUND

What is the core quality issue that you are trying to improve, and what are the factors involved?

The core quality issues at hand are Efficiency and Effectiveness. Unnecessary testing of Calcium for all abdominal pain CEDIS complaints in the Emergency department is wasteful and an ineffective use of limited human and financial resources. The factors involved are the current use of an EPR provider order entry abdominal panel that includes the indiscriminate testing of calcium irrespective of it meeting the indications.

Over the 6 month period June-December 2018 there were 1846 Calcium tests ordered using the order entry protocol on patients with the select CEDIS complaint of abdominal pain alone at the TGH site.

Of the 1846 Calcium tests specific to abdominal pain where the order entry protocol was employed, 156 (8%) were returned as outside of a normal lab range (<2.2mmol or > 2.8mmol). Only 14 (0.76%) were deemed significant or requiring intervention (<2mmol or > 2.8mmol). Therefore, 99% of the time, the result was deemed insignificant. The cost of a single calcium test is \$1.80. Applying a conservative 75% expected reduction in calcium tests ordered on the CEDIS complaint of abdominal pain would result in a 6 month cost saving of \$2505 (.75 x 1846 x \$1.80) at the TGH site alone with more savings expected when the TWH site is also considered.

The 1846 calcium tests are only a small part of the overall monthly testing numbers of Calcium in the emergency department which was on average 2080 per month over the same period or just shy of 25000 calcium tests per year at the TG ED site alone. Applying a conservative 40% expected reduction in calcium tests overall would result in a potential cost saving of \$18000 (.4 x 25000 x \$1.80) at the TGH site alone with more potential savings again expected when the TWH site is also considered.

RATIONALE AND BENEFITS

Why is this an important problem to tackle, and what are the expected benefits?

This is an important issue to tackle as we are excessively ordering Calcium because it is automatically populated in the abdominal pain order set. It is not productive for patient assessment if they do not fit risk factors for hyper/hypo calcemic. Furthermore, these tests can always be added. There will be an expected reduction in the calcium testing costs.

AIM STATEMENT AND DELIVERABLES

What are the goal and objectives of this project?

Goals: reduce by 40% the number of unnecessary calcium tests compared to the current state.

Objective: Eliminate calcium from the EPR order entry abdominal panel.

SCOPE

What are the things (people, tasks, processes) that this project WILL and WILL NOT touch on?

This project will touch on patients with abdominal pain that do not have risk factors for calcium imbalance. This will touch clinicians practice by better aligning nurses to adhere to the current medical directive. This will touch on the process of medical directives applied in the department. The project will also touch on cost efficiency for the organization as a whole in respect to laboratory processing time and resources employed currently. This project will not touch on patients that have malignancy, or thyroid concerns. If mineral shift is suspected it may affect patient's assessment times.

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MEASURES

What are the outcome, process and balancing measures that you are planning on looking at?

The primary outcome will be the number of calcium samples tested in the lab with a CEDIS complaint of abdominal pain on a monthly basis.

CHANGE IDEAS

What are you going to be attempting or changing, if already known?

Removing the calcium test off the provider order entry abdominal pain blood panel.

PROJECT LEADER, TEAM MEMBERS AND RESPONSIBILITIES

Who is the point person accountable for the project's progression, who are the other members, who will do what?

Klarisse Esteppa

- gathering information from scholarly resources on best practice for calcium testing
- liaison with laboratory medicine to determine costing of calcium testing
- analyse data from decision support

Debra Davies

- obtain baseline and post implementation data on calcium testing numbers from UHN decision support
- request change in EPR order entry abdominal work up panels in the ED
- analyse data from decision support

RESOURCES

What resources will you require – human, financial, equipment, authorizations and permissions, etc?

Human resource in the form of a Decision Support team member will be required to retrieve the data from the National Ambulatory Care Reporting System.

TIMELINES AND MILESTONES

When do you anticipate STARTING to work on this project, IMPLEMENTING this project, and COMPLETING it?

Start gathering data in March and implement the change (s) beginning April 2019.