

Date: Jan 28th 2016

QUALITY IMPROVEMENT PROJECT CHARTER

PROBLEM AND BACKGROUND

Head injuries are a commonly encountered presentation in emergency departments and account for over 1 million cases in North America annually. More than 90% of these patients are ultimately diagnosed with minor head injuries that do not require admission to hospital or neurosurgical intervention. There has been significant practice variation in the diagnosis of minor head injuries and the utilization of neuro-imaging for these patients. Recent data from 11 Canadian emergency departments showed that rates of CT utilization amongst emergency physicians varied upwards of 20-fold. In an attempt to improve resource utilization and reduce patient harm, the Choosing Wisely Canada (CWC) campaign, a quality improvement initiative, was launched on June 2, 2015. One of the key recommendations made for emergency physicians by the CWC campaign was to not order CT scans for patients with minor head injury unless indicated by a validated clinical decision tool such as the Canadian Head CT rule.

RATIONALE AND BENEFITS

The vast majority of patients diagnosed with a head injury have a minor head injury, however, with our current practice patterns at the UHN, approximately 50% of all patients with a final diagnosis of head injury get a CT scan of their brain. This results in a high radiation burden for patients, longer lengths of stays, higher healthcare resource utilization (provider and equipment) and causes ER flow restriction. Previous projects have shown that factors that influence CT scan utilization include physician knowledge of best practices, addition of checks prior to order entry and patient preference. We believe we can improve the quality of care provided to patients by decreasing the number of CT scans ordered at University Health Network (UHN), and simultaneously reduce healthcare resource utilization locally.

AIM STATEMENT AND DELIVERABLES

Our project's aim is to reduce the percentage of patients presenting with head injuries who receive a CT scan of their brain. We are currently at approximately 50%. Our goal is to achieve a rate of 40% by August 31, 2017.

SCOPE

We are planning on making changes that will only affect the care of patients seen in the emergency departments of the UHN. No other providers, consultants or patients will be affected by this project. While the changes are aimed to increase compliance with the evidence based recommendation of the Choosing Wisely Campaign, all providers will still be able to use their individual discretion when providing care to patients. The project does NOT impact the therapeutic choices providers make for their patients post diagnosis.

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MEASURES

Outcome measures:

Primary:

1) No. of CT heads performed for patients with a discharge diagnosis of head injury

Secondary:

2) ED LOS for patients with a discharge diagnosis of head injury

Process measures:

1) No. of checklists completed for patients with a discharge diagnosis of head injury

2) No. of patient handouts given to patients with a discharge diagnosis of head injury

Balance measures:

1) % of revisits to the ED within 72 hr with a discharge diagnosis of head injury

2) % of revisits to the ED resulting in admission to hospital within 72 hr with a final diagnosis of head injury

Measurement and handling of data:

All data being analyzed as part of this project are data that are routinely collected, monitored and analyzed as part of the day-to-day operations of the TWH and TGH EDs. We will closely work with Decision Support, as well as our ED leadership team, in order to utilize existing databases. We will not collect, analyze or otherwise utilize individual patient data (or data that could be used to identify individual patients or providers); only aggregate data that are already being collected by the ED (mean, median, 90th percentile of departmental operational measures) will be captured and shared among members of the QI team

CHANGE IDEAS

The project will focus on the following QI initiatives to achieve its goal of reducing CT scans:

1. Improving physician knowledge regarding the Choosing Wisely Campaign through educational rounds and electronic dissemination of the Choosing Wisely recommendation. MD education will be done at the monthly business meetings. RN education will take place at the daily morning huddles in the ED and through the weekly electronic newsletter
2. Introduction of a checklist to aid physicians in decision making regarding order CTs for patients with head injuries
3. Dissemination of evidence based patient handouts to patients presenting with a chief complaint of head injury providing information on minor head injuries and the role of CT scans
4. Provision of weekly reports to providers highlighting departmental CT scan utilization for patients with head injuries

PROJECT LEADER, TEAM MEMBERS AND RESPONSIBILITIES

QI team:

- Lucas Chartier MD, Director of Quality and Innovation for ED – Project Lead
- Sameer Masood MD – Resident Lead

Project name: Checklist for Head Injury Management Evaluation Study (CHIMES)

**University Health Network
Emergency Department**

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Responsibilities:

1. Conception and drafting of overall QI project, engaging stakeholders, analysis of results of data collection and QI interventions, dissemination of project findings

Support team:

- Anil Chopra MD (manager), Medical Director for ED
- Kathy Bates RN (manager), Nurse Manager for ED TWH
- Sam Sabbah MD, Assistant Medical Director for ED
- Debra Davies RN (manager), Nurse Manager for ED TGH
- Stephen Casey RN, Nursing Educator for ED TGH
- Brittany Jenkins RN, Nursing Educator for ED TWH
- Steven Friedman MD, Assistant Director, Research, for ED
- Joo Hyung Yoon (Medical Student) – Data analyst

RESOURCES

The resources required for this project are all contained within the larger team's area of influence, and no additional resources or funding will be required for the completion of the project. In other words, the resources that will be attributed to this project would have been attributed to the ED for improvement in operations in the absence of the project itself.

Personnel Resources

1. ED Medical Director (AC) and Assistant Medical Director (SS) – Support for project and commitment to implement change ideas
2. ED Nursing Managers (DD and KB) - Support for project and commitment to implement change ideas including completion of checklists by RNs
3. ED Nursing Educators (SC and BJ) – Commitment to educate RNs regarding change ideas
4. Decision Support – Provision of reports to collect outcome, process and balance measures

Financial Resources

Checklist and patient handout printing – These will come from the existing ED operational budget

TIMELINES AND MILESTONES

START (Feb)

Finalize details of project implementation
Stakeholder mapping
Process mapping
Driver Diagram completion

IMPLEMENTATION (Feb – March)

Checklist introduction (Feb 13 if possible)
Introduce patient handout (Feb 27)
Introduce Weekly reports (March 20)
Data collection and monitoring
Development of PDSA cycles between Interventions

COMPLETION (April – June)

Complete analysis to entire project
Update with Leadership group
Plan for sustainability

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Dissemination of findings locally