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?

This project aims to improve the stewardship of the use of serum lactate dehydrogenase (LDH) testing in the University Health Network (UHN) Emergency Department (ED).

Lactate dehydrogenase (LDH) is an enzyme that is found in nearly all tissues, and can be elevated from many diseases (e.g., myocardial infarction, tumour lysis syndrome, hemolysis, *Pneumocysitis carinii* pneumonia). LDH is included in several computerized provider order entry (CPOE) laboratory panels in our emergency departments (EDs). However, its traditional usefulness as a screening test has been largely supplanted by more sensitive and specific biomarkers such as troponin, liver enzymes, and other diagnostic techniques.

In surveying the ED physician group, it was revealed that nearly no one ordered LDH in the ED, as respondents said they did not find it a useful test. However, there are 75.1 LDH tests performed daily on ED patients. This lead to further investigation and it was discovered that LDH was included in several computerized provider order entry (CPOE) lab panels, which included 'abdominal pain', 'toxicology' and 'trauma'. The proposed removal of LDH from these panels was discussed by the entire ED physician group via an online survey and discussion. There was unanimous agreement among this group in favour of removing LDH from these CPOE panels.

RATIONALE AND BENEFITS

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

As hospital budgets shrink and resources are stretched to its limits, proper testing stewardship is becoming increasingly important. By reducing testing, we expect to save money and decrease the volume that the lab must process (and possibly improve the speed of processing other more important tests).

AIM STATEMENT AND DELIVERABLES

What are the goal and objectives of this project?

We want to reduce the number of LDH tests run by the lab on patients presenting to the ED by 25% within 3 months.

SCOPE

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

This project will remove LDH from the CPOE lab panels. LDH testing will still be available but will have to be specifically ordered by the provider. There will be no other changes to provider workflow.

MEASURES

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

Our main outcomes will be the number of LDH tests performed on a daily basis. The number of complete blood count (CBC) and creatinine tests will serve as control variables. We will also measure the rates of LDH add-ons to the lab (that is, when a provider adds an extra test to blood samples already received in the lab that was not ordered at the time of sending) as a surrogate to potential disruption to provider workflow and delays to patient care.

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

CPOE systems can aid in the provision of standardized, evidence-based care. Standardization is particularly helpful in the fast-paced, high-stakes, hectic environment of the ED. CPOE has the advantage of facilitating forcing functions (FF). FFs are processes built into a workflow that necessitate a certain action or outcome before subsequent actions can be performed. CPOE FFs have been shown to significantly influence test ordering in the ED. Therefore, we will target the CPOE system to reduce unnecessary LDH ordering.

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?

Joseph Choi (ED physician, UHN) – project lead, project progression, ED physician education, intervention evaluation, ongoing process improvement, UHN ED process oversight
Paul Yip (Clinical biochemist, UHN – TGH) – data collection, intervention evaluation
Sigrid Millare (UHN Digital) – modification of EPR CPOE

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

Other than involvement of the team members and their responsibilities, there will be no additional resources needed.

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

We plan to do a before and after comparison after our intended go-live date of the EPR change, scheduled for June 22, 2017. We plan monitor the data for 2 months after implementation to monitor for unintended consequences, adverse events, and provider concerns.