



MHA Lean Six Sigma Project Summary

INITIATIVE TITLE: *Appropriate Urinalysis Utilization*

ORGANIZATION NAME: *Christian Hospital, BJC Healthcare*

ELECTRONIC MED RECORD: EPIC

PARTICIPANT / CONTACT INFORMATION

Team Leader Name	Title	Preferred contact-type email address/phone#
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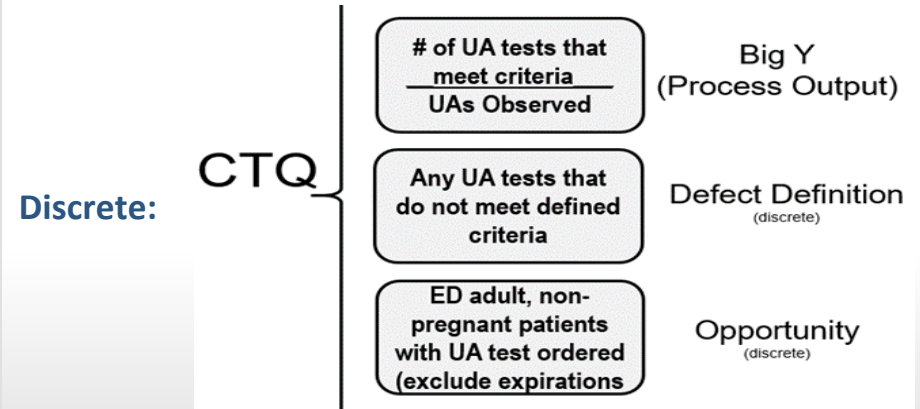
DEFINE – Problem Statement & Goal

- In a sampling, 65% of UAs were completed on patients without urinary symptoms in the emergency department. The use of urinalysis testing on asymptomatic patients in the ED leads to unnecessary treatment and overutilization of antibiotics.
- Reduce DPMO from 446,886 to 44,688, a 90% reduction in defects, resulting in a Sigma score of 3.2 by June 30, 2022.

DEFINE - Initiative Scope

- Christian Northwest Emergency Department adult, non-pregnant patients with urinalysis orders.

DEFINE –BIG Y



MEASURE - Data Collection / MSA

- One month worth of urinalysis chart reviewed for meeting defined criteria while in the ED. Out of 819 opportunities, 366 defects were identified. MSA was performed utilizing predetermined critical X's.
- Initially the concern was RNs utilizing protocol orders to inappropriately order UAs; however, they performed better than expected.

ANALYZE - Critical Xs / Root Causes Identified

- Ordering User Role
- STI Screening
- Provider Assessment Completed

IMPROVE - What was Implemented

- Nursing focused education
- Mid-level/ Provider focused education
- Epic Requests
 - Add indication to UA order
 - Possibly change “Review of Systems” Template from Provider Note
 - Remove UA from STI Standing orders if present
- Change practice to not collect if not ordered
- Remove collection of UA from Patient Access standard work
- Reminder signs in restroom or near collection cups- “Not every urine needs testing”

IMPROVE – What was Implemented

URINALYSIS ORDERING

WHEN IS IT APPROPRIATE?

Patient presents with:

SUPRAPUBIC TENDERNESS
ABDOMINAL PAIN
BLADDER DISCOMFORT
COSTOVERTEBRAL ANGLE (CVA) PAIN OR TENDERNESS
LEFT/RIGHT LOWER BACK/FLANK PAIN
FEVER (>38.0°C)
URINARY URGENCY OR FREQUENCY
DYSURIA OR URINARY RETENTION
SUSPICION OF KIDNEY STONES (NAUSEA + FLANK PAIN)
HEMATURIA OR TRAUMA
POSITIVE SEPSIS SCREENING
ALTERED MENTAL STATUS
BEHAVIORAL HEALTH DIAGNOSIS

THINGS TO CONSIDER:

STI TESTING
UA is not needed for patients complaining of STI without other symptoms

URINE COLLECTION
Patient being able to provide urine does not indicate that tests are needed.

IMPROVE – Results to Date

Baseline data showed a DPMO of 446,886 with a sigma score of 1.7.

Education will occur for the month of May. Four consecutive weekly audits will be performed for appropriate utilization of urinalysis in June.

Data analysis resulting in a Sigma score of 3.2 will be indicative of goal completion.

CONTROL – Next Steps

Four consecutive weekly audits will be performed for appropriate utilization of urinalysis. Follow up will occur for those continuing to utilize inappropriately. After initial audit period, one week a month will be spot audited the next four months.

Initial education phase not complete. Audits for compliance will begin June 2022. The benefits will be calculated by the number of urinalysis ordered monthly, and those that meet compliance.

Rollout plan to be complete by May 31 with a project handoff to be complete by October of 2022.

Hand off will be to Emergency Department Physician Leadership, Nursing Managers, and Nursing Educators.

OVERALL LESSONS LEARNED

- Sharing the workload and brainstorming ideas was the most affective in process building.
- Christian Northwest has an engaged team that is supportive of process improvement.
- **Biggest takeaway:** Focus on the data for what it is saying about process gaps then drive the outcomes with that information. Take your time to focus on process implementation.
- The data gave evidence that our initial suspicions for defects were incorrect and showed the opposite.
- Implementing a new process during a pandemic was challenging especially since it was focused in the emergency department. Focusing the DMAIC process on an in-development process could have alleviated competing priorities.

NEXT PROJECT(S)

We plan to utilize DMAIC to improve our provider quality case review format.

RIE is scheduled for May 13, 2022.

REWARD AND RECOGNITION

Thank you so much to the great team at Christian Northwest Healthcare especially Lisa Weber and Dr. Ketan Patel.

Additionally, to our antibiotic stewardship partners including Jessica Kolkmeier and Karen Scott.