

Project Title

Reducing Catheter Associated Urinary Tract Infection (CAUTI) Rate in Jurong Community Hospital (JCH)

Project Lead and Members

Project lead: Kelvin Koh

Project members: Lee Chunxi, Mark Chia, Soon En Loong, Abigail D Guzman, Muruganandam Devi, Shen Yuanying

Organisation(s) Involved

Jurong Community Hospital

Healthcare Family Group Involved in this Project

Medical, Nursing

Applicable Specialty or Discipline

Post-Acute Care

Project Period

Start date: November 2021

Completed date: October 2022

Aims

The JCH CAUTI project team aim to reduce JCH CAUTI rate by 20% from 3.41 to 2.7 per 1000 urinary catheter days, by October 2022 for all JCH ward patients.

Background

See poster appended/ below

Methods

See poster appended/ below

Results

See poster appended/ below

Lessons Learnt

Multidisciplinary team approach is vital in reducing CAUTI rate. Also, systemic approach by incorporating Weekly IDC round and utilization of Post TOC care and JCH Bladder protocol have helped achieve a reduction in JCH inpatient CAUTI rate to 2.62, which is a better outcome than initial target of 2.7.

Conclusion

See poster appended/ below

Additional Information

This project is related to 'Reduce Catheter Associated Urinary Tract Infection (CAUTI) Rate in JCH Wards' from QM 2021.

Project Category

Care & Process Redesign

Risk Management, Adverse Outcome Reduction

Keywords

Catheter, Urinary Tract Infection, CAUTI, Bladder

Name and Email of Project Contact Person(s)

Name: Kelvin Koh

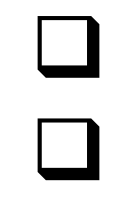
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REDUCING CATHETER ASSOCIATED URINARY TRACT INFECTION(CAUTI) RATE IN JURONG COMMUNITY HOSPITAL(JCH)

MEMBERS: KELVIN KOH, LEE CHUNXI, MARK CHIA, SOON EN LOONG, ABIGAIL D GUZMAN, MURUGANANDAM DEVI, SHEN YUAN YING



SAFETY
QUALITY
PATIENT EXPERIENCE



PRODUCTIVITY
COST

Define Problem, Set Aim

Problem/Opportunity for Improvement
An average of 25% of hospitalized patients are catheterized at some point during their hospitalization, therefore, it is important that measures for the prevention of CAUTI are in place to minimize the risk of infection. Complications associated with CAUTI causes discomfort to the patient, prolonged hospital stay, and increased cost and mortality

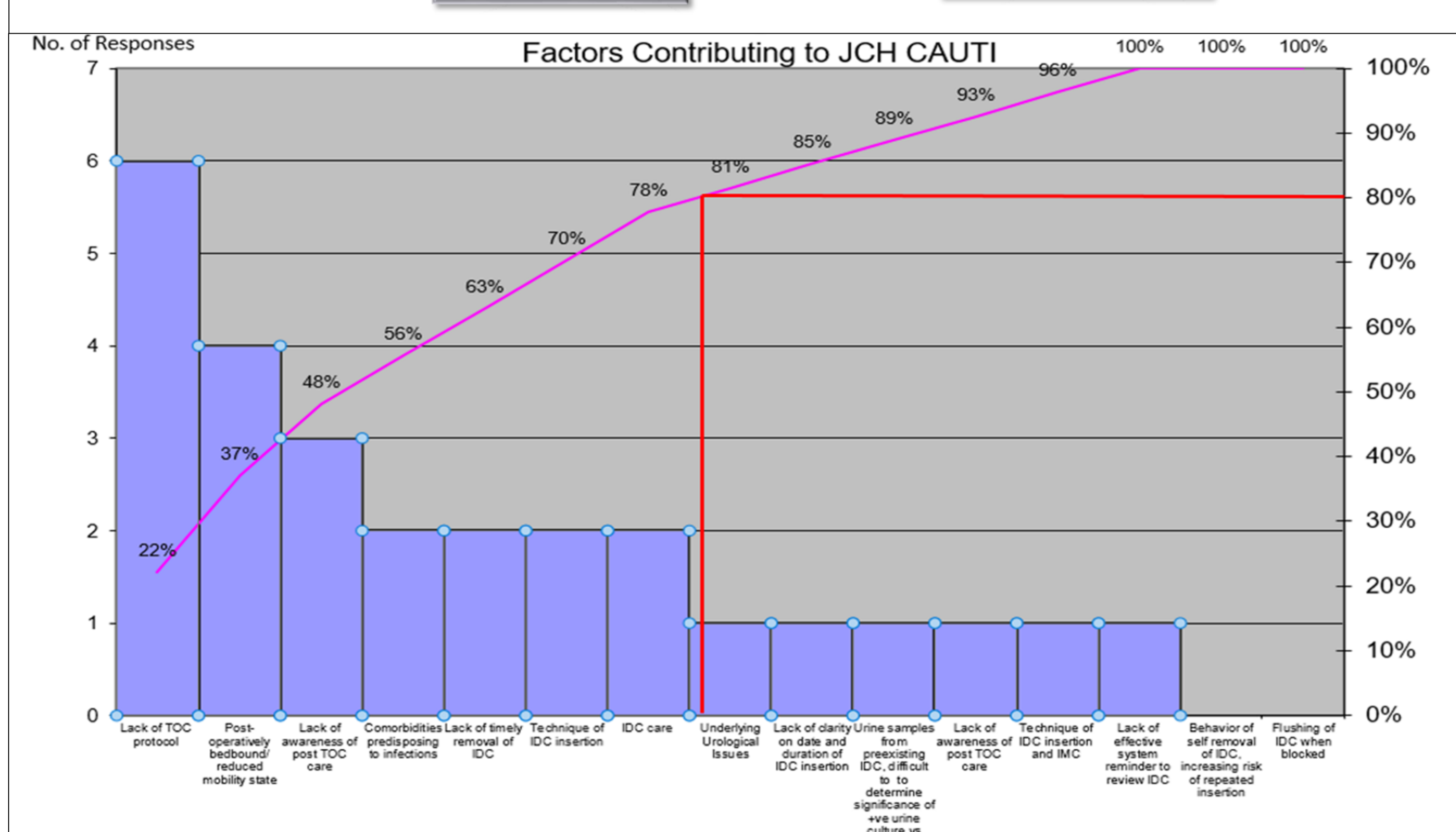
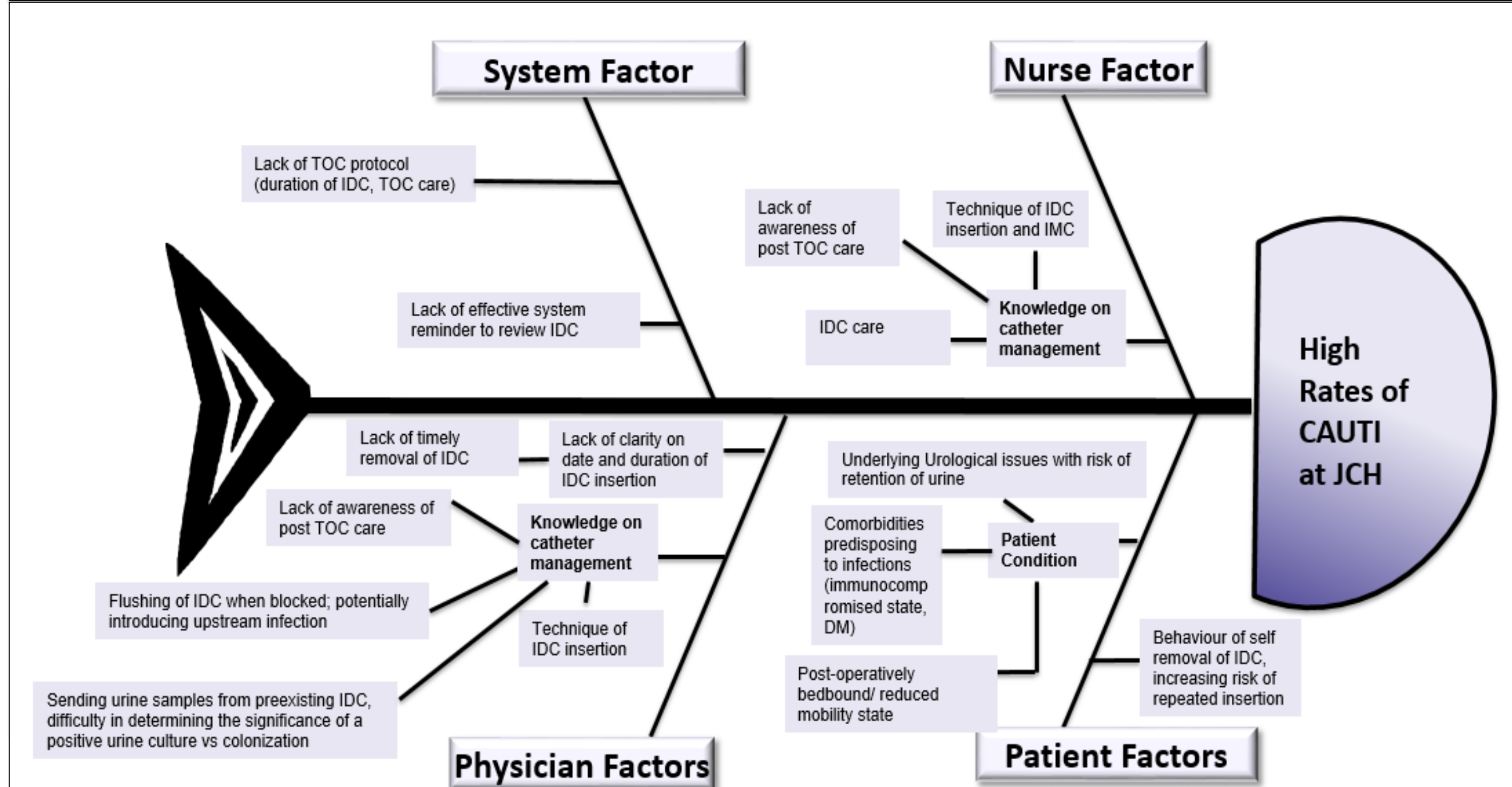
Between Jan to Oct 2021, the CAUTI rate for JCH patients was 3.41 per 1000 urinary catheter days. This was way above the national CH average of 2.20 in year 2020.

Aim
The JCH CAUTI project team aim to reduce JCH CAUTI rate by 20% from 3.41 to 2.7 per 1000 urinary catheter days, by October 2022 for all JCH ward patients.

Establish Measures

Type of Measure	Measure	Operational Definition (Formula, if applicable)	Data Collection Plan
Outcome measure	CAUTI rate per 1000 urinary catheter days	$\frac{\text{Number of CAUTI cases}}{\text{Number of urinary catheter days}} \times 1000$	CQ data
Process measure	Timely TOC review by 1 week	Compliance rate (%) = $\frac{\text{Met}}{\text{Met+Not met}} \times 100$	Audit of IDC cases
Process measure	1. IDC Round conducted (%) 2. Post TOC protocol (%)	Compliance rate (%) = $\frac{\text{Met}}{\text{Met+Not met}} \times 100$	Audit of IDC cases

Analyse Problem



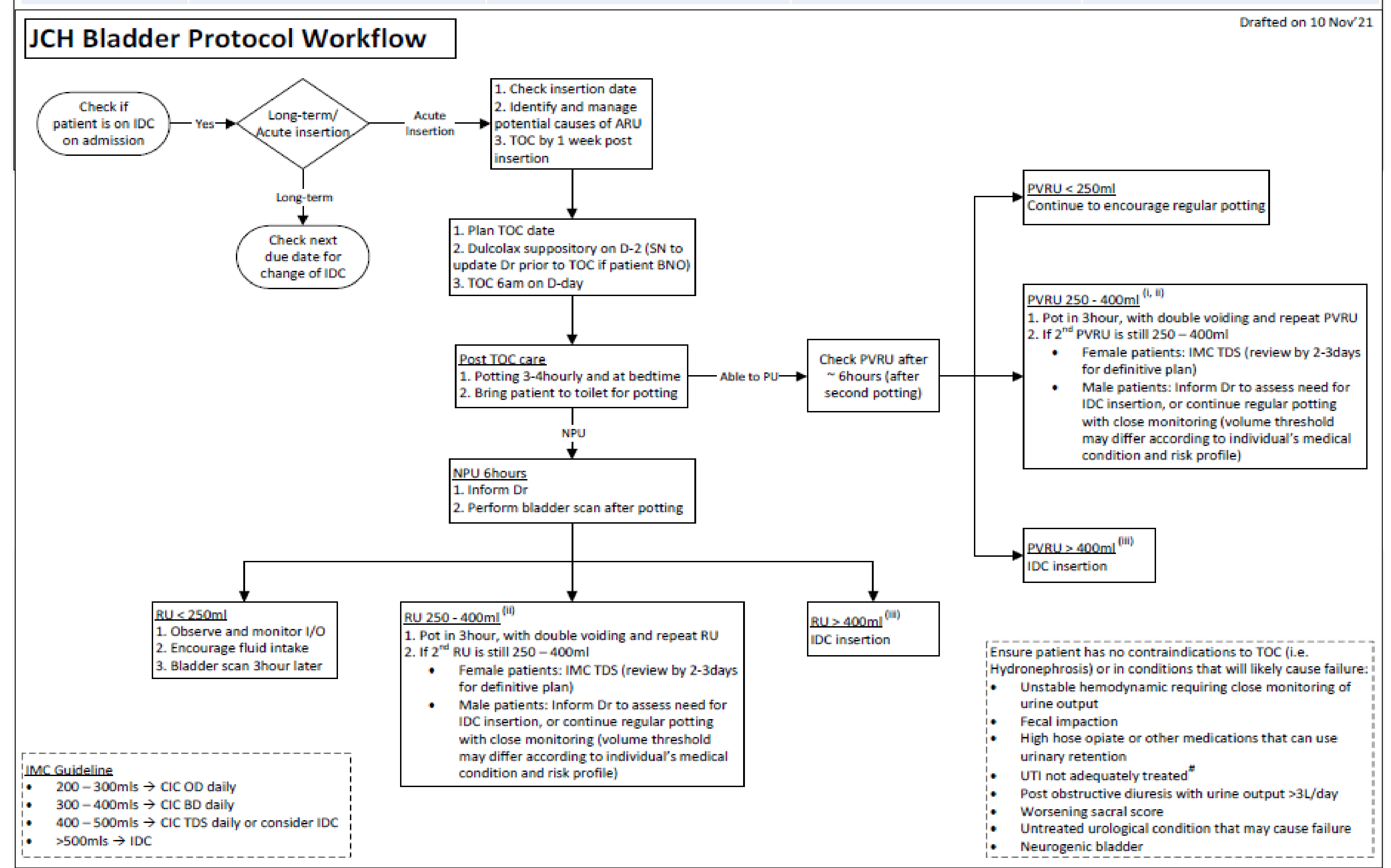
Select Changes

List of Probable Solutions

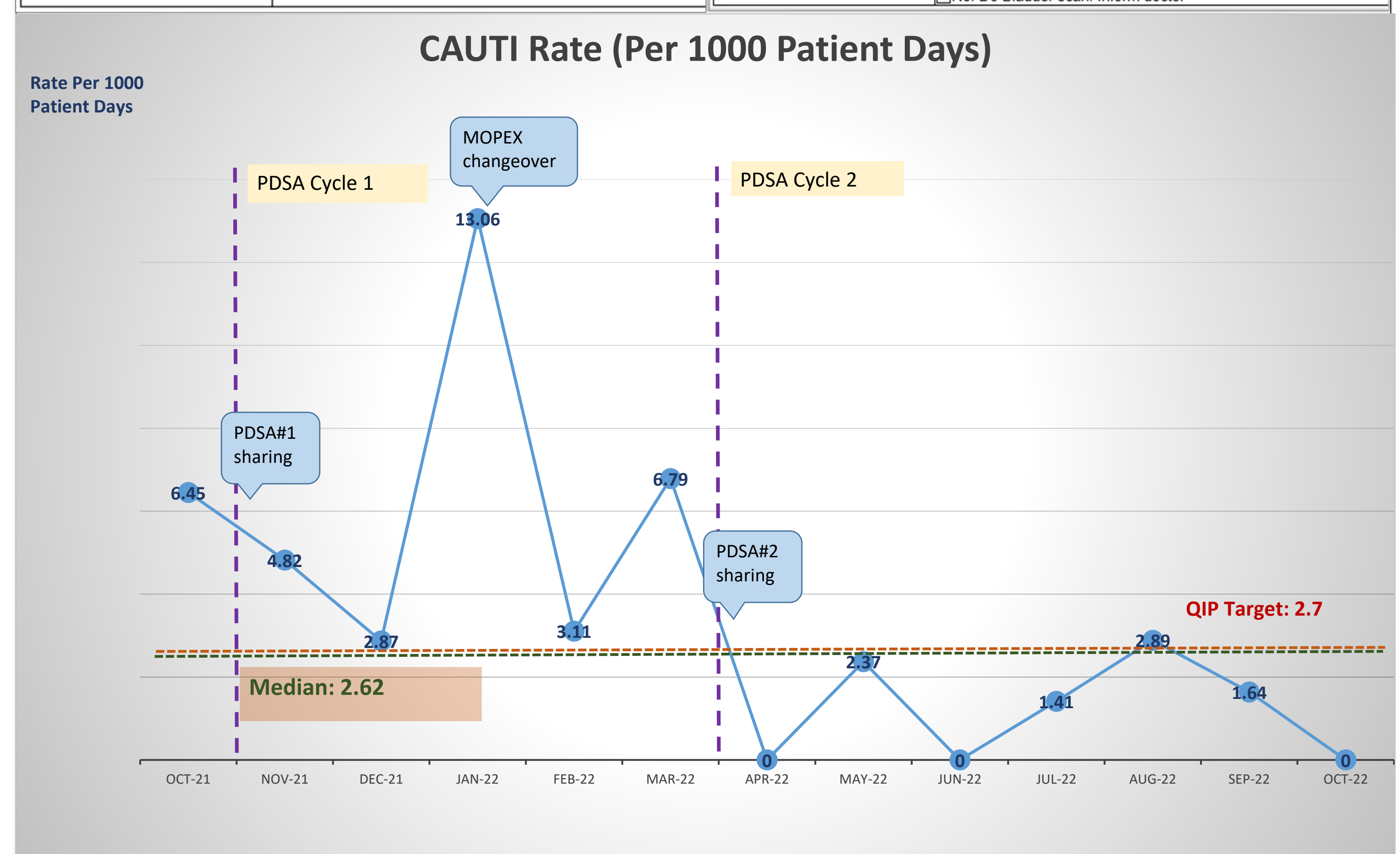
Impact	Implementation	Solutions
High	Hard	<ul style="list-style-type: none"> Establish department Bladder protocol QIP#101 Weekly review of IDC indication and duration
Low	Easy	<ul style="list-style-type: none"> Training and Educate nurse on Post TOC care Do Next Direct supervision and training for IDC insertion(Dr and nurse)

Test & Implement Changes

CYCLE	PLAN	DO	STUDY	ACT
#1 (Nov2021 - Mar2022)	Establish JCH Bladder protocol	JCH Bladder protocol was widely used as guide in clinical practice.	Nil improvement in CAUTI rate noted. Changes from Doctors practice alone was unable to lead to improved CAUTI rate.	Unilateral effort was ineffective to improve outcome. To collaborate with Multidisciplinary team including nurses and therapists.
#2 (Apr2022 - Oct2022)	Weekly IDC rounds	Conduct Weekly IDC rounds during Multidisciplinary team Meeting and implementation of Post TOC protocol and smartphrase.	Improvement in CAUTI rate in the following months noted.	Implement and Spread Changes



Date of IDC insertion :	Indication of IDC insertion :	Trial of catheter (TOC) care
<input type="checkbox"/> Acute Retention of urine	Cause of ARU : Current Catheter days : <input type="checkbox"/> less than 7 days <input type="checkbox"/> more than 7 days Plan TOC date : *If not ready for TOC -> Management plans : Next review :	Before TOC : Ensure clear Bowels <input type="checkbox"/> Yes, Proceed with TOC <input type="checkbox"/> No, Hold off TOC, inform doctor During TOC : Aseptic technique followed Indicate TOC Timing : After TOC : Potting at toilet 3 hourly from the time of TOC Able to PU <input type="checkbox"/> Yes, Continue regular 3 hourly potting <input type="checkbox"/> No, Encourage regular potting and fluids, Observe Encourage fluid intake at least 1.5 litres unless contraindicated Encourage ambulation Able to PU <input type="checkbox"/> Yes, Do PVRU <input type="checkbox"/> No, Do Bladder scan, Inform doctor
<input type="checkbox"/> Chronic retention of urine	Next IDC change date : Issues with IDC care : {Yes/No:21152:"No"} Next review :	1. First potting in 3 hours @ _____ 2. Second Potting and double voiding in 6 hours @ _____ <250mls, continue regular potting 250mls to 400mls, Do IMC and continue potting with double voiding >400mls, Inform doctor
<input type="checkbox"/> Others (ie. for sacral wound care/prostatitis on treatment)	Indication of IDC : Management plans : Next review for TOC plans :	<input type="checkbox"/> No, Do Bladder scan, Inform doctor



Spread Changes, Learning Points

Incorporating proposed measures into Department Orientation bundle, and JCH MDM template used by JCH MDT:-

- Conduct JCH Weekly IDC Round
- Implementation of Post TOC care workflow
- Use of JCH Bladder protocol as reference in daily practice

What are the key learnings from this project?

Multidisciplinary team approach is vital in reducing CAUTI rate. Also, systemic approach by incorporating Weekly IDC round and utilization of Post TOC care and JCH Bladder protocol have helped achieve a reduction in JCH inpatient CAUTI rate to 2.62, which is a better outcome than initial target of 2.7.