

Building a Community of Practice to Reduce Catheter Associated Urinary Tract Infection through GURUS*

(*Ground Up, Reach Up to Scale)



Singapore Healthcare Management 2023



Institute for Patient Safety & Quality

In collaboration with the following SingHealth Institutions



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1. BACKGROUND

An in-depth study spanning six SingHealth institutions has revealed a significant correlation between Hand Hygiene (HH) compliance and the incidence of Catheter Associated Urinary Tract Infections (CAUTI). In light of these findings, the Cross Institution Infection Control (CIIC) team, in collaboration with the Institute for Patient Safety & Quality (IPSQ), have been commissioned to assess, align and scale up efficacious CAUTI prevention practices, tailored to the needs of our diverse organizational landscape.

2. OBJECTIVE

This poster demonstrates the effectiveness of the IPSQ Ground-Up, Reach-Up to Scale (GURUS) improvement approach in fostering a collaborative communication platform. The initiative, driven by a shared commitment to continuous improvement, is aimed at promoting intellectual exchange across the six esteemed institutions in SingHealth - CGH, KKH, NHCS, SCH, SGH, and SKH.

3. METHODOLOGY

The project started in December 2020 and utilized a 3-step process (Figure 1) to facilitate effective collaboration and communication throughout the project lifecycle.

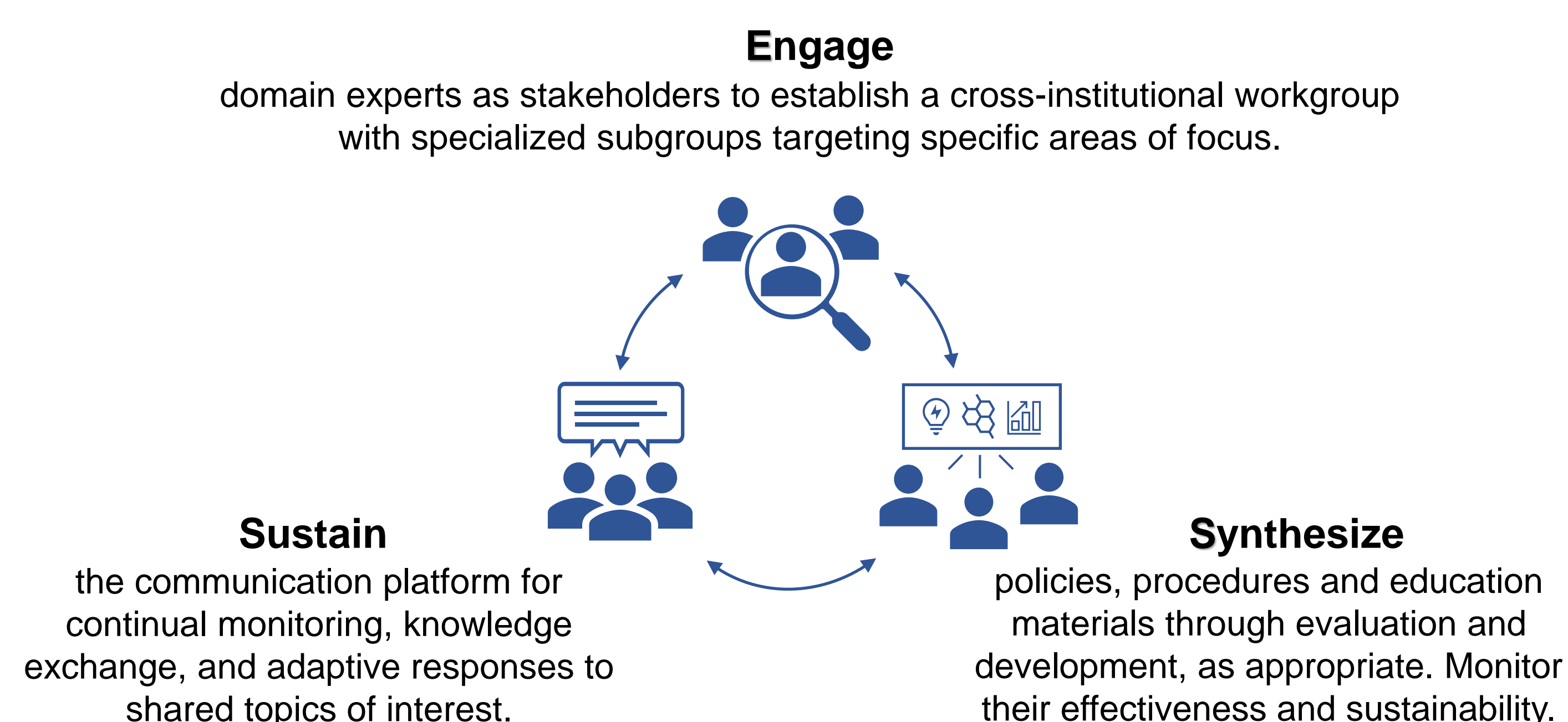


Figure 1

4. RESULTS

a. A cross-institutional **Community of Practice (COP)** was established (Figure 2), consisting of domain experts in Urology, Infection Prevention, and Nursing Education from CGH, KKH, NHCS, SCH, SGH, and SKH.

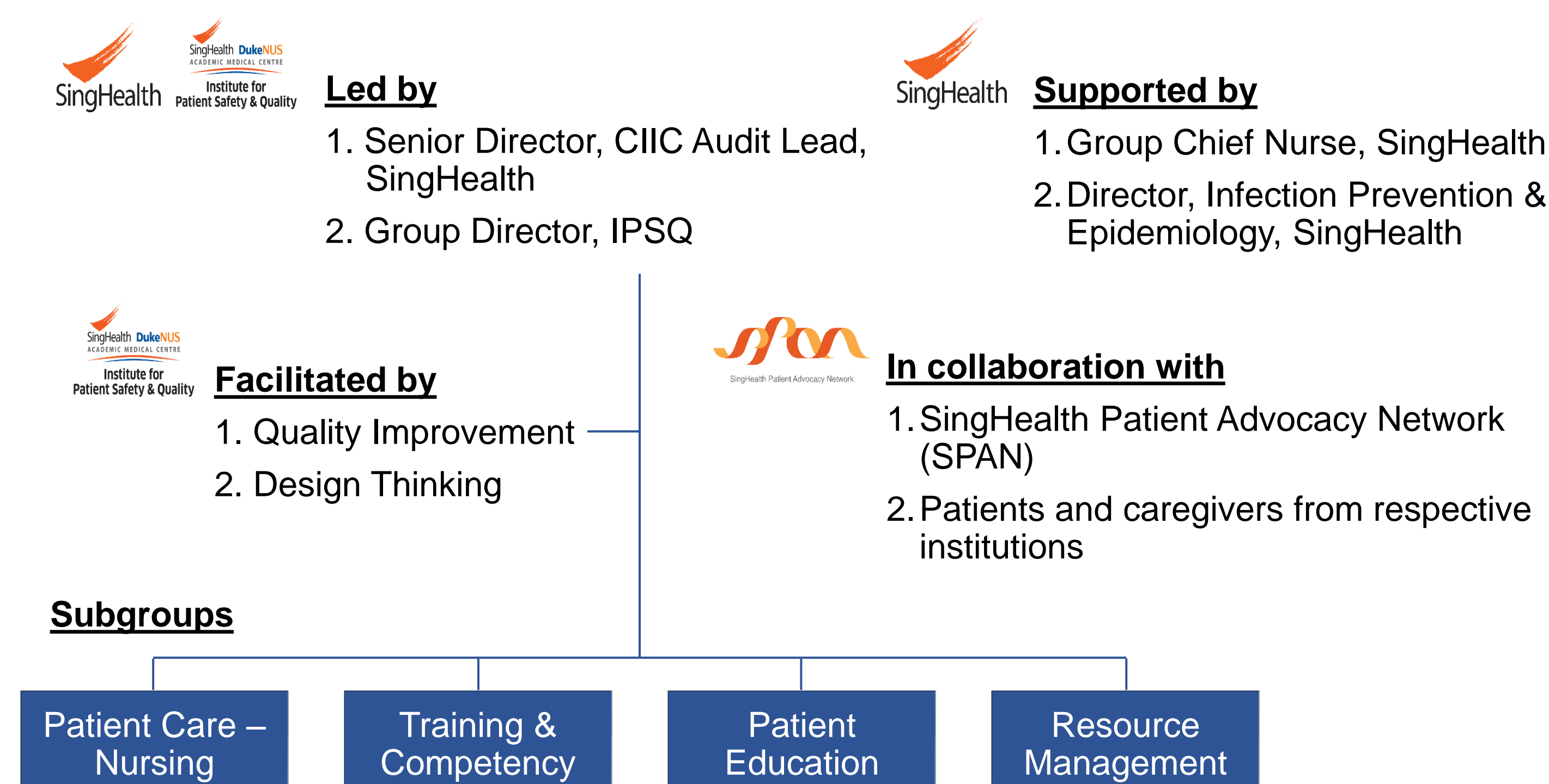
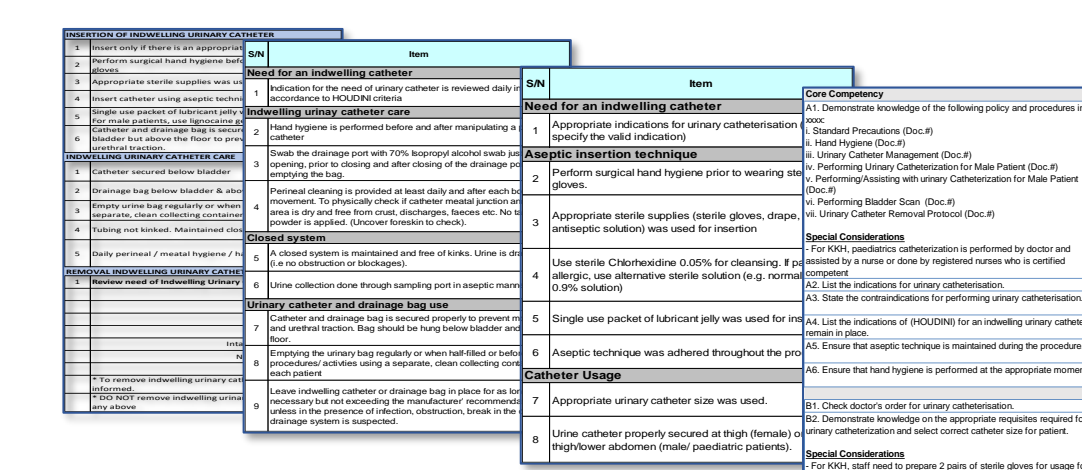
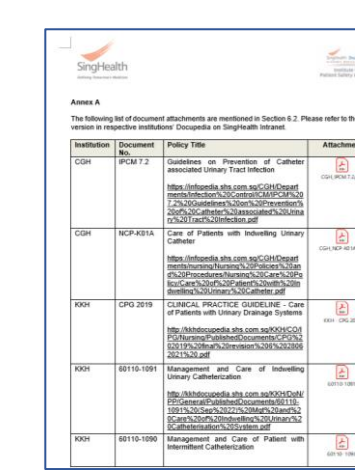
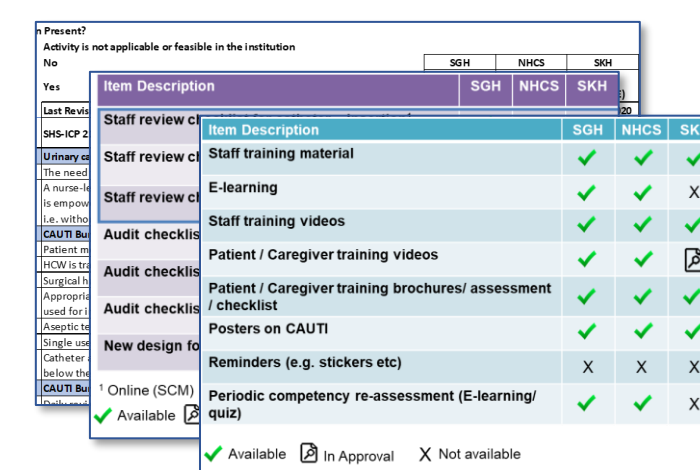


Figure 2

b. Domain experts collaboratively **reviewed, refined, and aligned their institutional policies and procedures, while co-developing patient education materials in collaboration with stakeholders** (Figure 3). Active engagement of patients and caregivers from SPAN and institutions ensured their valuable feedback was incorporated throughout the incremental and iterative development process.

- Policies, procedures, and training materials were thoroughly reviewed in alignment with the SingHealth CAUTI Prevention Policy SHS-ICP-217. A consolidated resource was created for future reference, ensuring ease of access and retrieval.
- Audit and Daily Review checklists for catheter insertion and maintenance, as well as the Core Competency Checklist for male, female, and pediatrics catheterization, were aligned for consistency and alignment.



- Existing materials were shared among the institutions involved. These include staff e-learning modules about CAUTI prevention curated by CGH, KKH, SCH and SGH and patient education videos curated by SGH about Urine Catheter Care (in various languages).
- New patient education materials (in various languages) about catheterization and care of urine catheter were developed with inputs from patients, and made available through various formats (printed copy, Health Buddy and MyCare Apps).

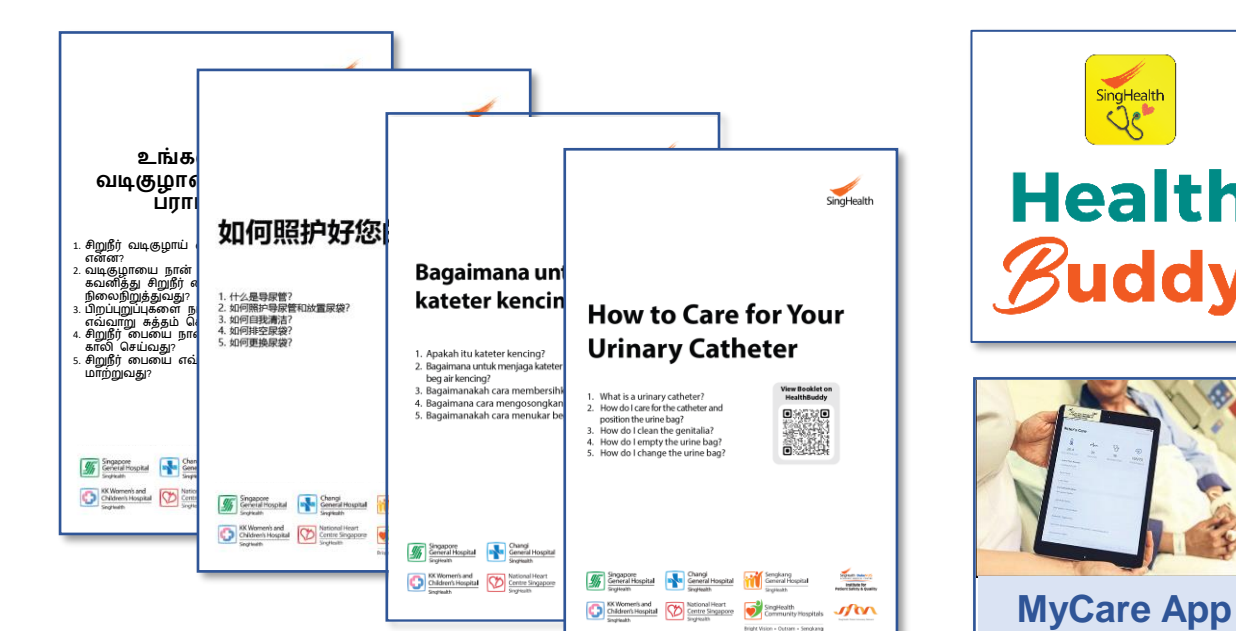
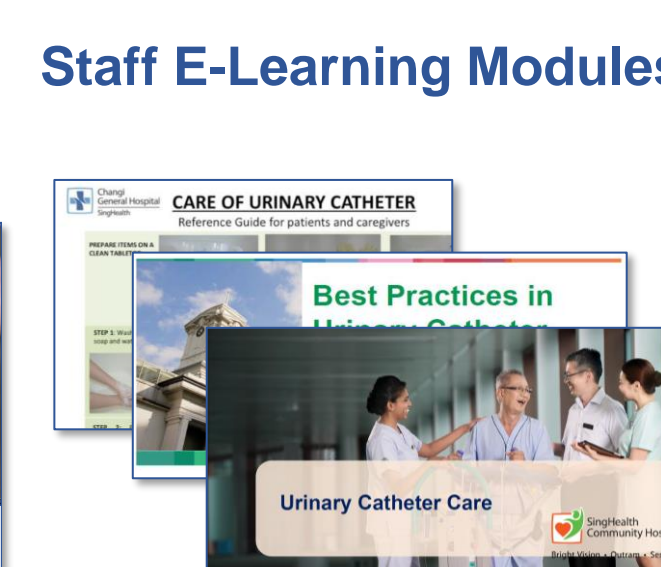


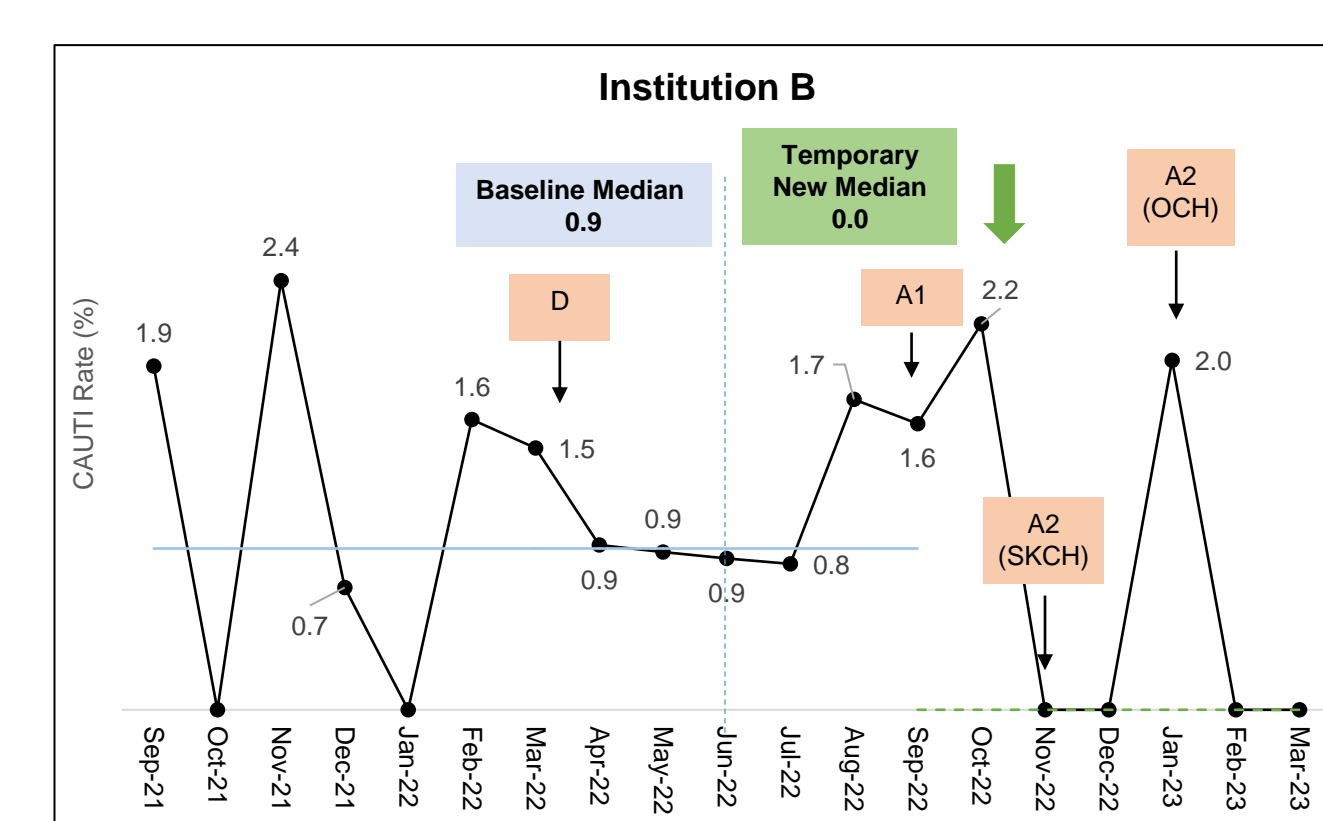
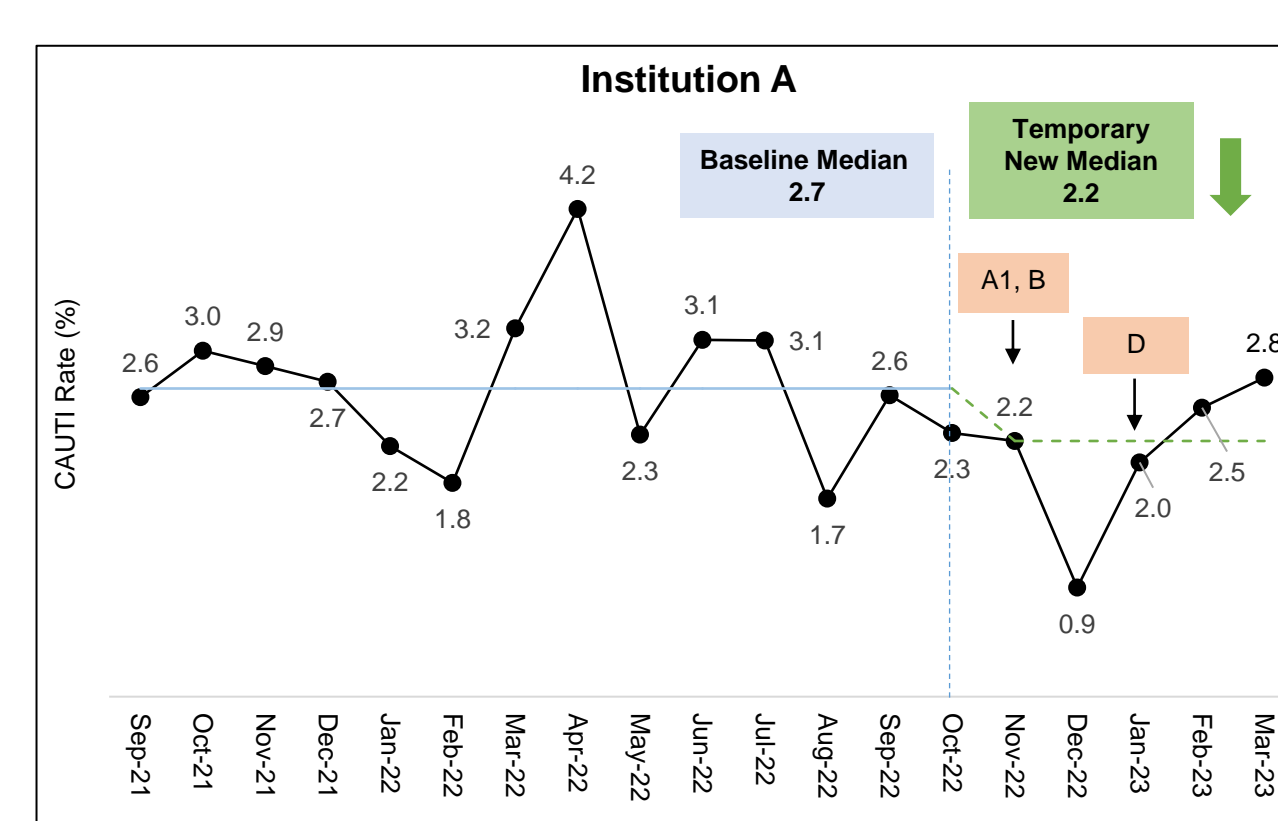
Figure 3

- Interventions were adapted and are currently in the process of implementation across the institutions involved, accompanied by continuous data monitoring. **Initial signals of improvement in CAUTI rate reduction have been observed in two of the six institutions (Figure 4).** The remaining institutions remained at baseline performance. Further analysis is necessary to confirm effectiveness and sustainability after interventions have been fully institutionalized. Additional benefits also include avoidance of harm to patients, and cost avoidance to patients and healthcare facilities*.

* To be calculated upon project completion

ID	Intervention Description
A1	CAUTI Audit Checklist (Maintenance)
A2	CAUTI Audit Checklist (Insertion)
B	Daily Review Checklist (SCM) Enhancement

ID	Intervention Description
C	Nurse-Driven Removal of Urinary Catheter
D	Training Competency Checklist
E	Patient Education Materials (Implementation in progress)



Note: Institutions are anonymized due to data confidentiality.

Figure 4

Institution A observed a 17.3% reduction in CAUTI rate since implementation of interventions. Further monitoring is required to confirm effectiveness and sustainability.

Institution B observed a 100% reduction in CAUTI rate since implementation of interventions. Further monitoring is required to confirm effectiveness and sustainability.

5. CONCLUSION

The GURUS-CAUTI approach has proven to be an efficacious collaborative communication platform that facilitates knowledge sharing of best practices to reduce CAUTI rates in institutions. It fosters a Community of Practice (COP) for nursing professionals focused on CAUTI and engages relevant stakeholders, both internal and external. This framework is well-suited for future ground-up initiatives within SingHealth.

For any opportunities for collaboration, you may email us at ipsq@singhealth.com.sg.

ACKNOWLEDGEMENT

We sincerely appreciate the valuable contributions and dedication of our colleagues from CGH, KKH, NHCS, SCH, SGH, SKH, IPSQ, and MARCOMMS, who have played various roles in the project. We are grateful for the unwavering support from the Group Chief Nurse (SingHealth), Director for Infection Prevention & Epidemiology (SingHealth), and Chief Nurses from CGH, KKH, NHCS, SCH, SGH, and SKH. Additionally, we extend our gratitude to the patients and caregivers from SPAN and the participating institutions for their feedback, which has greatly influenced the project's outcome.

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