



Singapore Healthcare Management 2024

Central Sterile Supplies Unit (CSSU) From paper to computerised tracking system of surgical instrument used in surgery



**Hong Zhiyang, Sumathi Murugiah, Amanda Lee Chia Hui,
Chia Soon Noi, Chee Li Li, Sherene Teo**

KK Women's and Children's Hospital

INTRODUCTION

Maintaining accurate records of surgical instrument sterilization is essential for Central Sterile Supplies Unit (CSSU), to meet audit requirements in case of any incident or legal issues. Over the past 27 years, CSSU has diligently documenting and maintaining daily surgical instrument processing and sterilization logs. These paper logs require over 10 large files to store records for a year. This poses a significant storage challenge for the Unit.

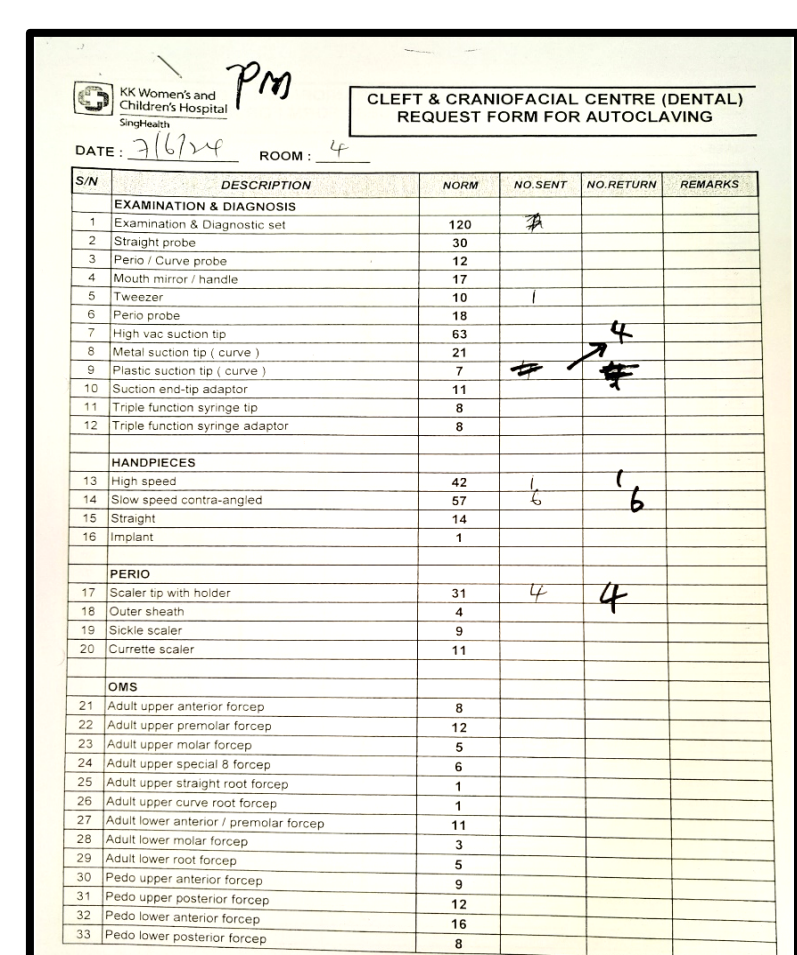
OBJECTIVES

To align with SingHealth's digital strategy roadmap to enhance patient care, operational efficiency, and innovation, CSSU embarked on a transformation journey to introduce a patient-centric surgical instrument processing tracking system. This initiative aims to drive sustainable growth and excellence in both clinical and administrative workflows.

BACKGROUND

Paper Tracking Shortcomings

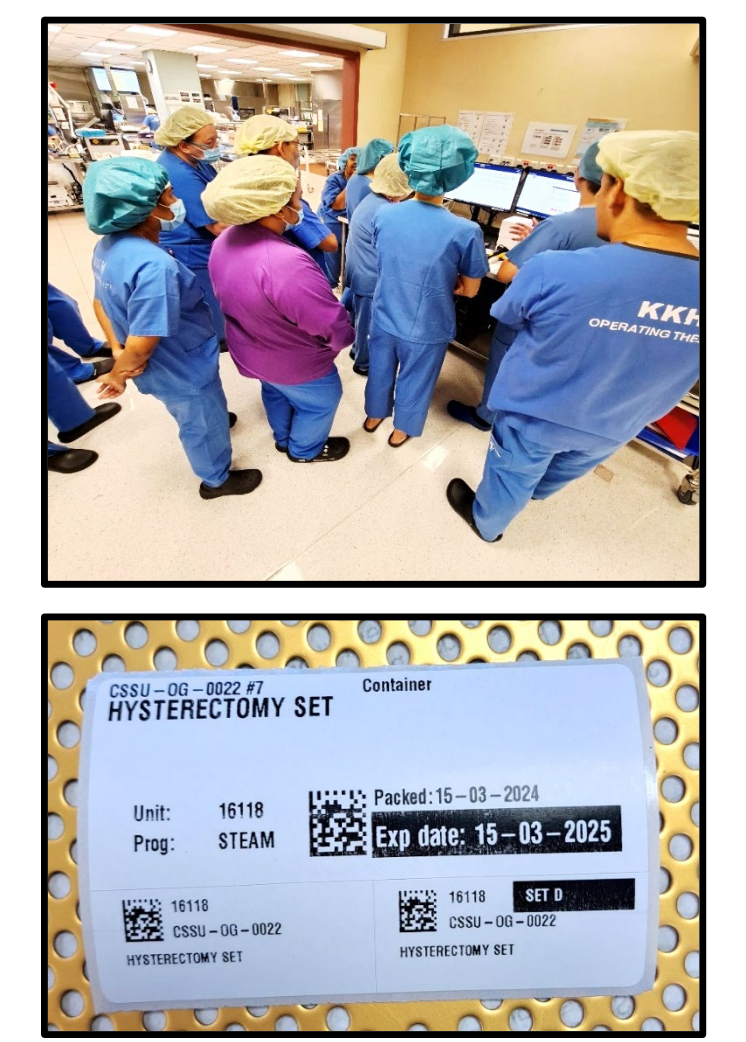
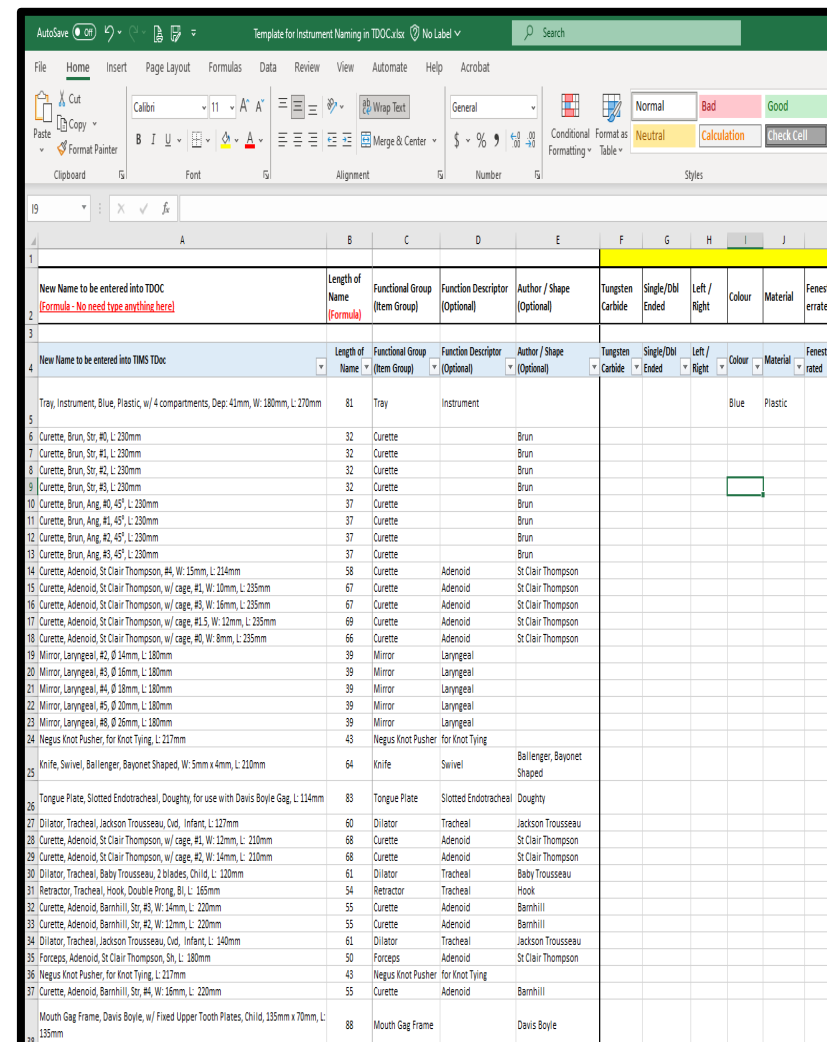
- ❑ Manual paper recording of data for every decontamination, packing, sterilization load, and issuing of instruments.
- ❑ Difficulty interpreting illegible handwriting on paper recordings.
- ❑ Huge amount of hardcopy paper generated daily for each load of washing and sterilization.
- ❑ Involves daily paper shuffling, verification, and data entry at the end of each month, before archiving.
- ❑ Limited storage space to retain a minimum of a year's worth of documentation.
- ❑ To access information again, need to search through the stack of papers in the storage racks.



METHODOLOGY

The Digital Transformation Journey - Electronic Tracking Systems

- ❑ Sorting, consolidating and registration of surgical instruments details into digital database.
- ❑ Creation of instrument set checklist formats, serialization, labels for units and process identifications.
- ❑ 7800 single surgical instruments and 3800 surgical sets had been registered in the electronic tracking system.
- ❑ Engagement with stakeholders and CSSU customers (Major Operating Theatres, Day Surgery, Wards and Clinics).
- ❑ Identifying, assessing, and creating customised training plans for CSSU staffs of different digital literacy levels.



RESULTS

Digital Documentation

Savings of ~ 10 rims of paper	Saving storage space	Store digitally for > 10 years
Reduce paper use and wastage	Not having to store files of paper records	Ability to store records securely in server

Enhanced Efficiency & Productivity

Reduce errors and confusion	Computerized records	Reduce time in retrieving records
Streamline processes through automated systems	Standardize format and easier to interpret	From 1 hr -> within 10 mins

Improved Traceability

Bolster patient safety	Consistency in identification	Providing full traceability
Precision tracking on instruments and processes	Instruments and surgical sets are serialized	Processed items at various locations are documented with details

CONCLUSION

The CSSU is undergoing a transformative journey towards greater efficiency, precision, and patient-centric care. This shift emphasizes quality production, processing, and traceability over outdated practices of deciphering illegible handwriting and sifting through paperwork to identify sterilized instruments.

While transitioning from two decades of paper-based recording to a computerised tracking system may seem daunting, the adoption of this technology will significantly enhance patient safety and streamline the entire reprocessing workflow within the CSSU.