



## Service Priorities and Programmes Electronic Presentations

**Convention ID:** 584

**Submitting author:** Mr F H HUI

**Post title:** Advanced Practice Nurse, United Christian Hospital

### **Development of Surgical Instrument Tracking System (SITs) for Flexible Endoscopes in Operating Room of UCH to Enhance Patient Safety**

*Hui FH(1), Fong SF(1), Lam CF(1), Wong YH (1), Wong MN(1), Chan YT(1), Chau KH(2), Ng HK(3), Chan YK(3)*

*(1)Operating Room, Unit Christian Hospital , (2)Central Sterile Supply Department & Theatre Sterile Supply Unit, Unit Christian Hospital, (3)Head Office Information Technology and Health Informatics*

#### **Keywords:**

Quality and safety

Tracking and tracing

Flexible Endoscopes

Patient Safety

Operating Room

#### **Introduction**

Flexible endoscope reprocessing has been cited in the last five years as the Top 10 Health Technology Hazards List. "Inadequate cleaning of flexible endoscopes before disinfection can spread deadly pathogens" is the first health technology hazards among the others in 2015. There were around 900 elective and 70 emergency endoscopic procedures scheduled yearly in UCH operating room; their utilization and reprocessing methods are recorded manually. An effective management platform for recording reprocessed flexible endoscopes and their accessories is crucial in enhancing patient safety. A new tracking function which was developed by HAHO Information Technology Department for flexible endoscopes was integrated into existing Surgical Instrument Tracking system (SITs) to enhance its function and ensure all used endoscopes and their accessories can be traced and tracked.

#### **Objectives**

To develop and integrate a new SITs function to facilitate the tracing and tracking process of all flexible endoscopes and their accessories in UCH Operating Room.

#### **Methodology**

Rapid Application Development (RAD), a software development model, was employed in this project. This model consists of four phases: requirements planning, user design, construction and cutover.

Requirement planning

A work group with representatives of Operating Room, Endoscopy Unit, Central Sterile Supply Department of UCH and Information Technology Department was established to enhance functional setup of SITs. Objectives of the new function were defined and setup in June 2015.

### User design

A prototype of the new function was demonstrated in October 2015. A set of trail data was input and the tracking function was tested. Minor revision of the workflow was made and completed on 30 March 2016.

### Construction

Data regarding 29 types, 53 pieces of flexible endoscopes and 392 pieces of endoscopic accessories were input in Jan 2016. System trial run was conducted in Mar 2016.

### **Result**

#### Cutover

Staff training was organized for 35 supporting staff in February 2016. The new function commenced in April 2016. 890 elective and 69 emergency flexible endoscopic procedures were performed in Operating room between 1st April and 31 December 2016. Relevant patient and endoscopes utilization and reprocessing records could be retrieved within few minutes.

#### Limitation

There is no inter-hospital tracking and tracing function within HA hospitals. The patient utilization records of endoscopes which are borrowed from suppliers cannot be retrieved.

#### Conclusion

Implementation of flexible endoscope tracking function can trace patients, endoscopes and accessories utilization within few minutes in Operating Room. Development of inter-hospital tracking and tracing function is proposed.