Project Title

Digitising Hand Hygiene (HH) Audit in SingHealth

Project Lead and Members

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Organisation(s) Involved

SingHealth Duke-NUS Institute for Patient Safety & Quality (IPSQ), Singapore General Hospital

Healthcare Family Group Involved in this Project

Healthcare Administration

Specialty or Discipline

Infection Prevention Offices, Audit and Assessment Unit

Project Period

Completed date: January 2020

Aims

To demonstrate how the SingHealth CIHH Audit Digital Application (App) was successfully implemented across SingHealth and the benefits to the audit process operations

Background

See poster appended / below

Methods

See poster appended / below

Results

See poster appended / below

Lessons Learnt

See poster appended / below

Conclusion

See poster appended / below

Additional Information

Singapore Healthcare Management (SHM) Conference 2021 – Shortlisted Project (Operations Category)

Project Category

Technology, Digital Health, Mobile Health, Digital Apps, Product Development, Care & Process Redesign, Quality Improvement, Workflow Redesign, Value Based Care, Productivity, Time Saving

Keywords

Cluster-wide Cross Institution Hand Hygiene

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Digitising Hand Hygiene (HH) Audit In SingHealth

1. Background

Traditionally, hand hygiene audit and data collection tool for Cluster-wide Cross Institution Hand Hygiene(CIHH) Audits, as well as institution's internal audit, is primarily conducted using paper and pen. The hardcopy audit tool is as shown in Fig 1. This makes the process of tabulating and analysis of results a laborious task and is also prone to higher risk of errors.

The IPSQ Audit and Assessment unit explored various ways of streamlining the process and eventually came up with the idea of digitising the audit using a mobile application.

Fig 1 – Hardcopy audit tool

2. Objectives

This initiative aims to demonstrate how the SingHealth CIHH Audit Digital Application (App) was successfully implemented across SingHealth and the benefits to the audit process operations.

3. Methodology

In the effort to streamline the CIHH audit operations, digitisation of the process with an audit application was implemented. IPSQ adopted the agile concept & methodology in managing the project.

The concept allows for iterations and a collaborative approach in driving the project review and flexibility in accommodating changes in project requirements. Partners and stakeholders from Infection Prevention Workgroup who are Institution Infection Prevention Chairs and Institutions' representatives who were Hand Hygiene (HH) Champions, CIHH auditors and Infection Prevention Nurses were engaged.

With strong buy-in and working towards a common goal, the cross-institution representatives participated in the conception, initiation, analysis, design, construction, testing and implementation with IPSQ, App Vendor and IHIS.

4. Results

In a 17-month journey, the App was successfully conceptualised, developed, tested and it went live in January 2020. The overall functions and interface is intuitive (Fig 2a-2d) and data is live.
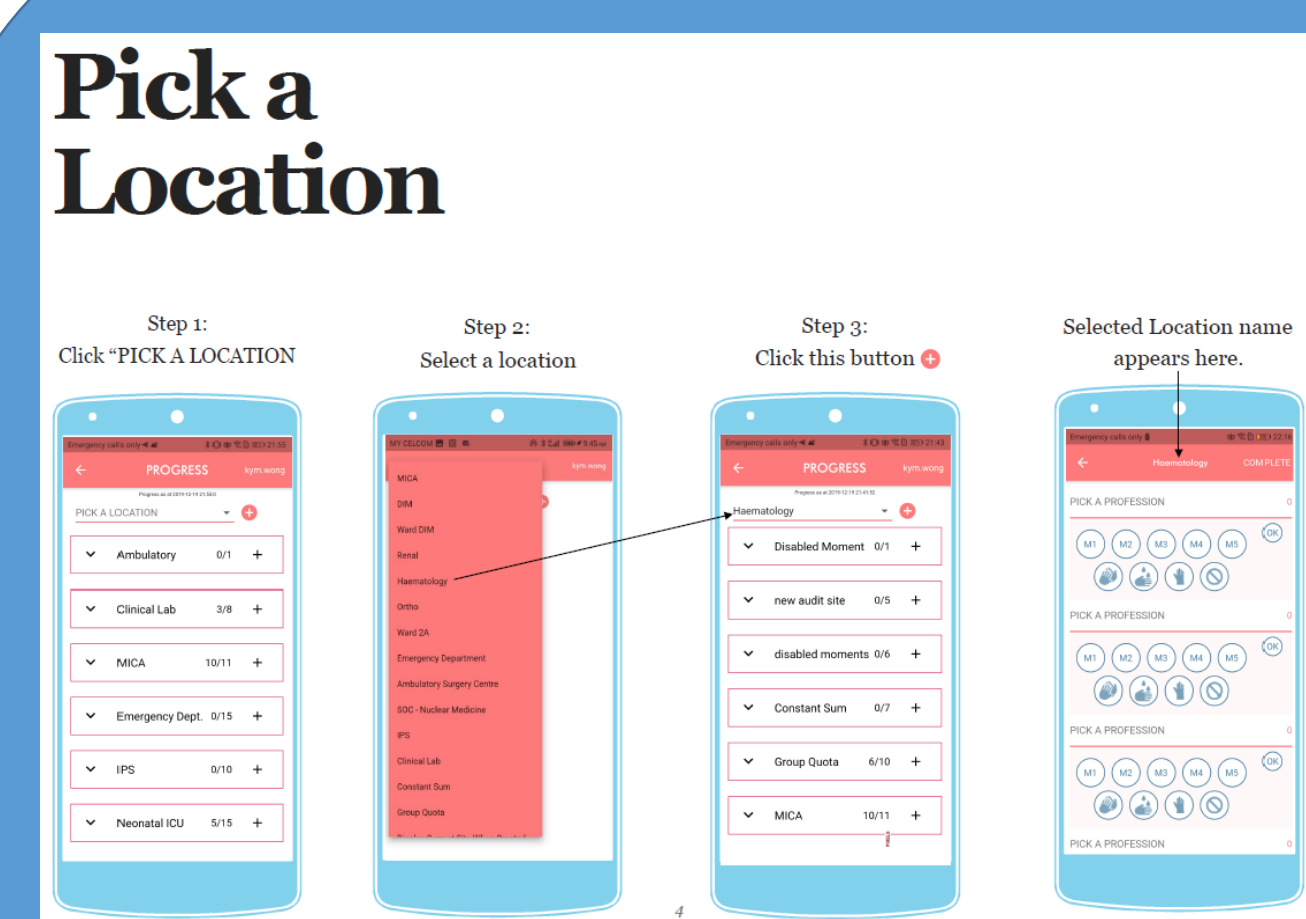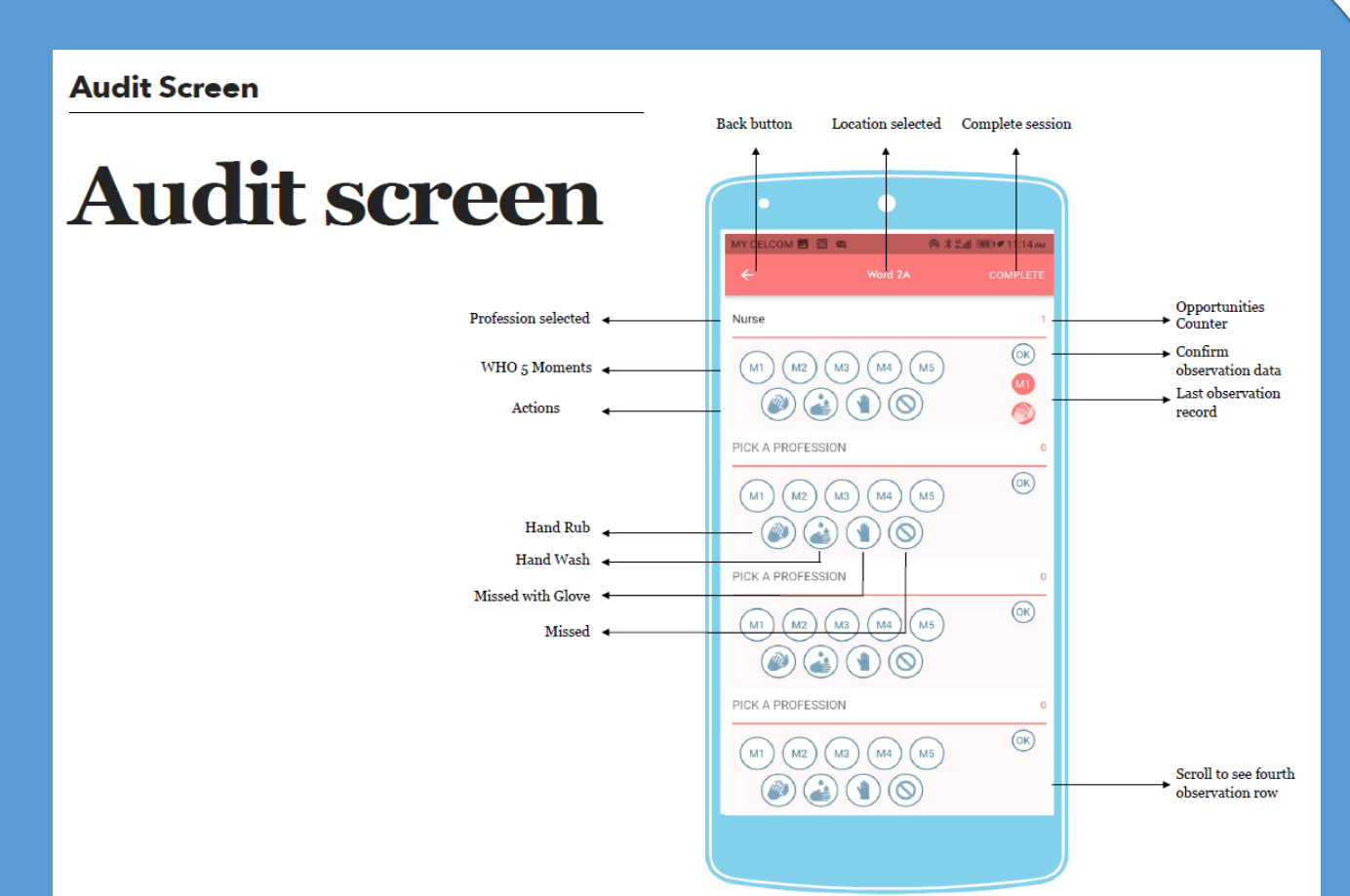
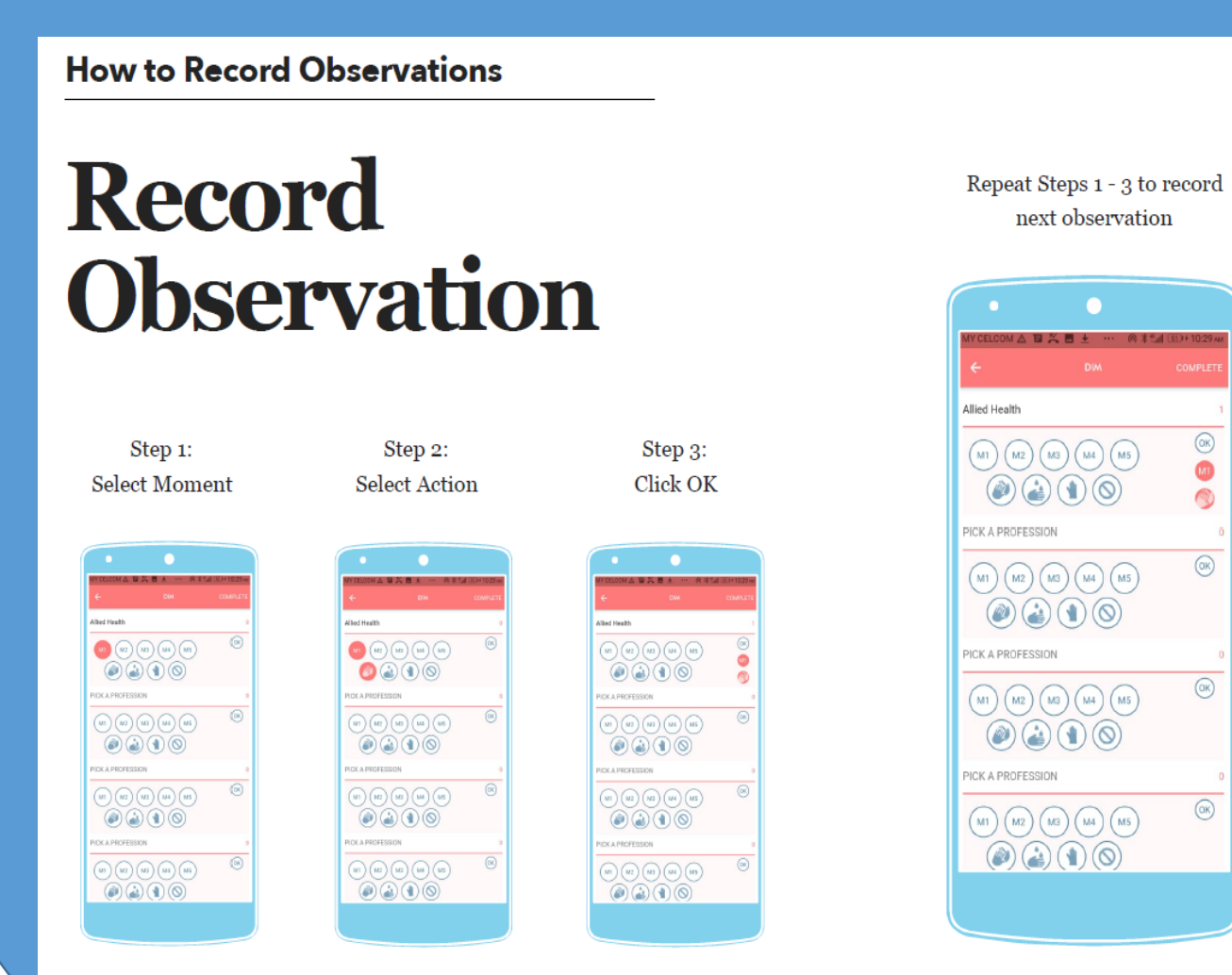Fig 2a – Main Location Page after login
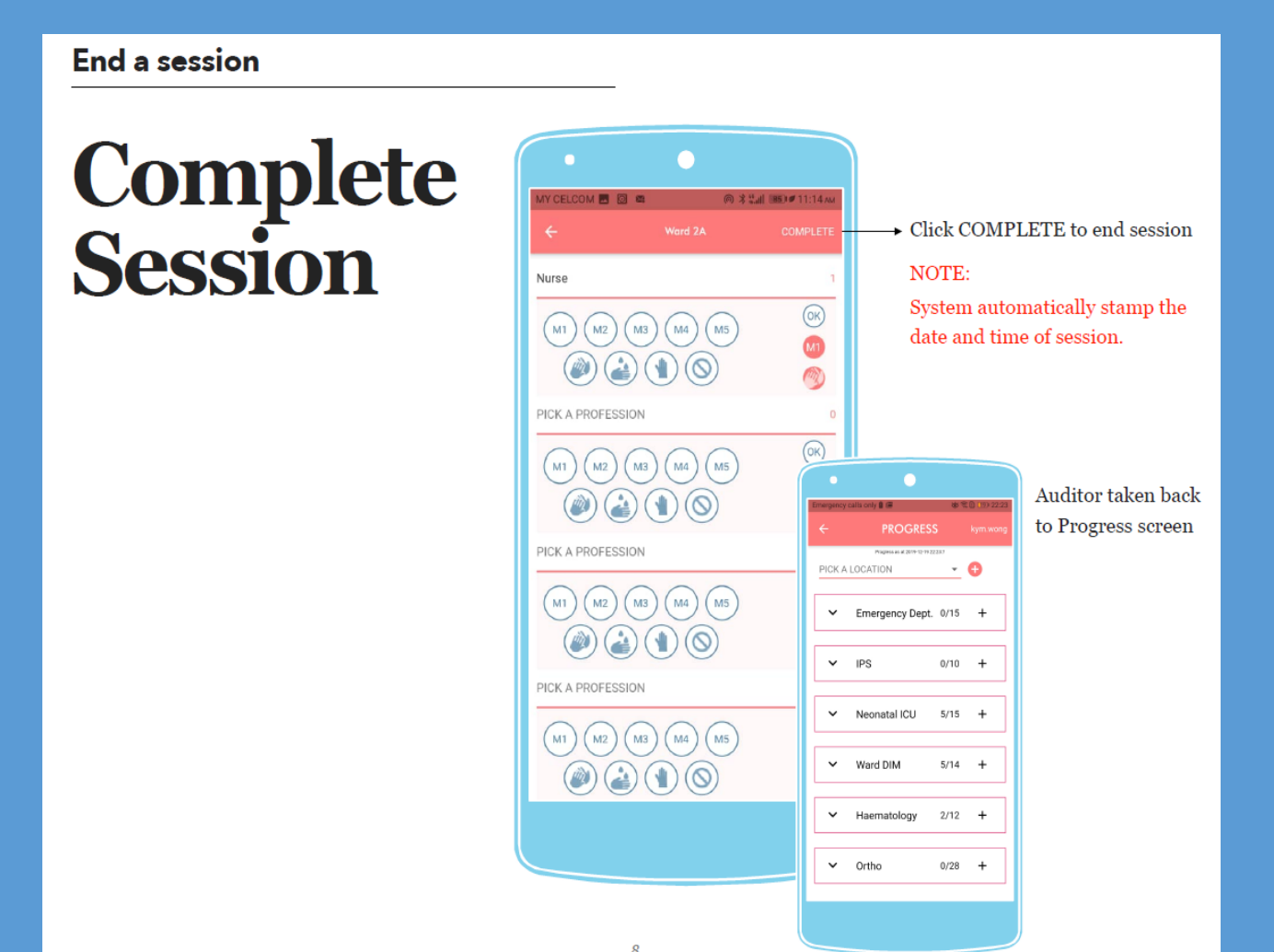Fig 2b – Data Collection Page
Fig 2c - Record Observation
Fig 2d - Complete Session for the location

Users who are the CIHH auditors, Institution internal HH auditors as well as staff from Infection Prevention Offices in the Institutions were trained (Fig 3).

Fig2 - Users' Training

The App was well received by institutions across SingHealth with 100% adoption rate. Time in managing the audit operations in each CIHH audit has been reduced from 300 minutes to 180 minutes (67% improvement). With 44 CIHH audits a year, the time savings in operations is approximately 5280 minutes. This excludes the time savings from the other 11 Institutions; estimated with another 20% improvement.

The audit data was stored in a central Cloud database for enhanced integrated data analysis and benchmarking.

5. Conclusion

The App was successfully developed within 17 months with 100% adoption rate from the SingHealth Institutions. More than 5,280 minutes of time has been saved from the audit process operations per year. The benefits that the App brings makes Hand Hygiene audit using digital application the new norm.