Use of Specimen Storage and Retrieval (SSR) module in Instrument Manager for easy storage and retrieval of blood specimens in KKH Biochemistry Laboratory

Singapore Healthcare Setoh W.S, Rafie Y. Y. Y L., Estee L. S. K Management 2015 Eileen G. Y. L., Koh M.Z, Linda H. Y. C



Before July 2014, completed routine blood specimens for Biochemistry Laboratory were initially placed into output racks on the Abbott Accelerator Automated Processing System (APS). Laboratory staff then transferred and stored the specimens based on a first-come-first basis according to the last digit of the Cerner Laboratory Information System (LIS) accession number on 5X10 specimen racks.



## Methodology

We used the fish bone diagram for our root-cause analysis to identify the three main toot causes highlighted in red



We used the Decision Matrix and Tree Diagram to assist us in doing so. According to the evaluation criteria, we assigned different weightage for each criteria. The criteria used for assessment are effectiveness, manageability, cost effectiveness and sustainability

Using the rating scale of 1 to5 to assess the criteria with 5 being fully met.

## Decision Matrix and Tree Diagram W:0.3] [W:0.3] [W:0.2] [W:0.2] Total Implement use of existing Cerner LIS specimen storage and retrieval module. 5 [1.5] 5 [1.5] 2 [0.4] 4 [0.8] 4.2 t use of existing Instrument (IM) specimen storage and 5 [1.5] 5 [1.5] 5 [1.0] 4 [0.8] R) module. Create a Microsoft Excel spre specimen storage and retrieval. adsheet for 3 [0.9] 3 [0.9] 5 [1.0] 3 [0.6] 3.4 Use of other third party software for 5 [1.5] 4 [1.2] 1 [0.2] 3 [0.6] 3.5 Use of Ce ner LIS specimen storage and 5 [1.5] 5 [1.5] 2 [0.4] 4 [0.8] 4.2 No traceability of staff retrieving the blood 5[1.5] 5[1.5] 5[1.0] 4[0.8] 4.8 Use of IM-SSR module of Cerner LIS storage and ret 5 [1.5] 5 [1.5] 2 [0.4] 4 [0.8] 4.2 open the Excel spreadsheet for specimen storage due to chang e of IM-SSR module 5 [1.5] 5 [1.5] 5 [1.0] 4 [0.8] ent backup of the Excel spreadsheet. 3 [0.9] 3 [0.9] 5 [1.0] 3 [0.6] 3.4

## Results

improvement

Summary

problems encountered in retrieving

(IM)-Specimen Storage and Retrieval (SSR) module.

To implement use of existing IM-SSR module for this project After project implementation, the entire workflow was simplified. Laboratory staff use the IM-SSR to facilitate storage and retrieval of both the routine completed blood and antenatal aliquots. Staff need to key in their initial when they retrieve the specimens or aliquots from storage.

KK Women's and

SingHealth

Children's Hospital

We have successfully reduced the mean blood specimen retrieval time for the following:

1)Add-on tests - reduced by 86% i.e. from 35 minutes to 5 minutes per case.

2)Research studies and projects - reduced by 75% from 60 minutes to 15 minutes

The workflow improvement changes were summarized and indicated in the flowcharts and graph below:



Our team has decided to embark on a journey in July 2014 to improve the

biochemistry laboratory with implementation of existing Instrument Manager

The completion of this journey in September 2014 has brought significant

improvements that addressed the negative issues encountered previously.

blood specimen from storage in