Automating the List for the Specialist Review of Radiological Reports with Category Levels 4x and 5x

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Project Background

- ❑ Every week, the CGH sorters will collate the radiological reports with category levels 4x (Further action required. Unexpected significant finding) and 5x (Critical abnormal. Unexpected significant finding) and send it to the clinical secretaries for Specialists review. The process was labor intensive as they had to use different systems to assign the Specialist in-charge for a particular report and the method for data extraction had system limitations.
- ❑ In addition, the files containing patient personal identifiers were emailed to the respective department secretaries for Specialist review, and subsequently emailing them back to Clinical Services for collation. Using this method of transmission poses a significant risk due to the potential for inadvertent disclosure to unauthorized recipients if the email was routed to unintended individuals. This not only compromises patient privacy and confidentiality but also exposes the institutions to regulatory non-compliance and reputational damage.

Aim(s)

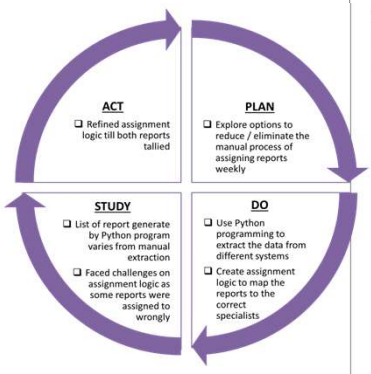
- ❑ The aim(s) of the project are
  - Eliminate manual work;
  - Decrease time spent on report preparation;
  - Enhance data security.

Changes (methods)

❑ PDSA 1 - Assignment Logic and Automation

The manual process of assigning the levels 4x and 5x reports to Specialists to do a weekly review was labor intensive. CGH sorters used different systems to assign the Specialist in-charge for a particular report and the method for data extraction had system limitations.

A report was created using Python programming to extract the data from different systems and an assignment logic was created to ensure that all levels 4x and 5x reports are included in the list.



❑PDSA 2 - Enhanced Data Security

Assigning the list to the correct Specialists were based on patient type (inpatient, A&E turned inpatient, outpatient). This logic was further refined to include all departments and various workflows. The reports had to be generated weekly and accessible to all the departments.

The original process of emailing lists to departments for Specialist review, and subsequently emailing them back to Clinical Services for collation, posed security and confidentiality risks. The potential for accidental forwarding of emails containing sensitive information outside the organization could damage the hospital's reputation and compromise confidentiality.

Hence, a secure platform was created with restricted access to nominated department staff to view the lists and mitigated the confidentiality risks associated with email circulation.

Results

❑ Eliminating manual Work

As most of the required information are captured in the institution's data warehouse, Electronic Health Intelligence System (eHINTS), standard reports were created and generated weekly. These reports contains specific information such as the first specialist that was tagged to the patient after being admitted from the emergency department. This relieves the effort of the sorters who had to manually look into the different systems, cutting down on the manual labour.

The rest of the required information were obtained from an existing weekly batch reports from Citrix and were subsequently combined with the reports from eHINTS to generate the final report. Furthermore, staff no longer need to manually email the sorted report to the respective department staff. The reports will be automatically stored in the secured SharePoint folder during the process run time. Nominated staff were then given access to retrieve these reports.

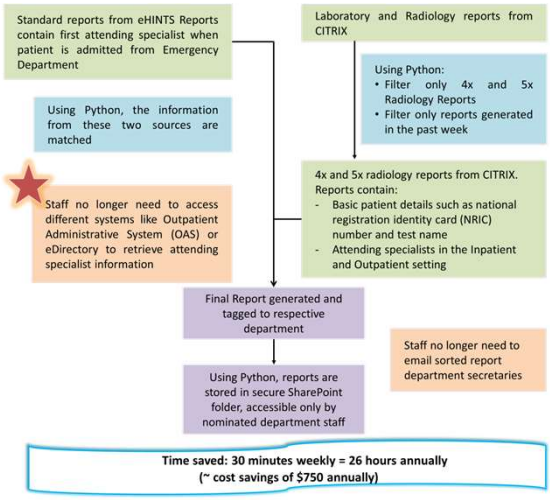
As manual work are removed at these steps, CGH sorters now have more time to focus on other works at hand.

❑ Decreased Time spent on report preparation

The process was reduced from 40 minutes to 10 minutes after adopting the new process, thus, saving 26 hours annually. This also translates to cost savings of $750 annually.

❑ Enhanced Data Security

The reports are now stored in a secure SharePoint folder and only accessible by nominated staff from the department. This eliminates the need to email the reports and minimizes the risk of sending confidential patient details to unintended recipients.



Conclusion

❑ Challenges

There were instances of wrong assignment using the new approach as the reports were tagged wrongly to house officers or medical residents rather than the attending medical specialists. For these cases, there were no specialist name being indicated in the reports, and hence was wrongly tagged as only the house officers' or medical residents' details were indicated in the reports and thus were tagged to them.

Therefore, more awareness roadshows are conducted to the medical staff to inform them on the importance of indicating the specialist details on the report so that these reports can be assigned properly.

❑ Success

The project successfully achieved its objective of reducing manual work, realizing manpower savings and improved data security.