

Project Title

Utilizing digitisation to automate work processes during COVID-19

Project Lead and Members

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Organisation(s) Involved

Changi General Hospital

Healthcare Family Group(s) Involved in this Project

General Services, Support Service, Nursing Operations;

Applicable Specialty or Discipline

Visitor Management Services

Aim(s)

To enhance the Automated Visitor Management System (AVMS)

Background

See poster appended/ below

Methods

See poster appended/ below

Results

See poster appended/ below

Lessons Learnt

Future systems to be pandemic-ready, taking into account the changes in MOH guidelines during times of pandemic.

Conclusion

See poster appended/ below

Project Category

Care & Process Redesign, Quality Improvement, Workflow Redesign

Keywords

Automated Visitor Management System

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UTILIZING DIGITISATION TO AUTOMATE WORK PROCESSES DURING COVID-19

BACKGROUND

Back in August 2021 and in line with MOH guideline, ward visitors are to keep their visit within 30mins to reduce the risk of infection and to protect the patients from COVID-19. Those who wish to extend their visit beyond the 30mins will have to undergo ART test.

However, even when MOH had announced the implementation of the new guideline through the various social medias, majority of the visitors were still spending more than 30 minutes in the ward. Visitor registration counter staff and ward nurses were having difficulties keeping track of the duration the visitors have stayed in the ward.

OBJECTIVE

With the problem statement mentioned above, the project team took this opportunity to review the following

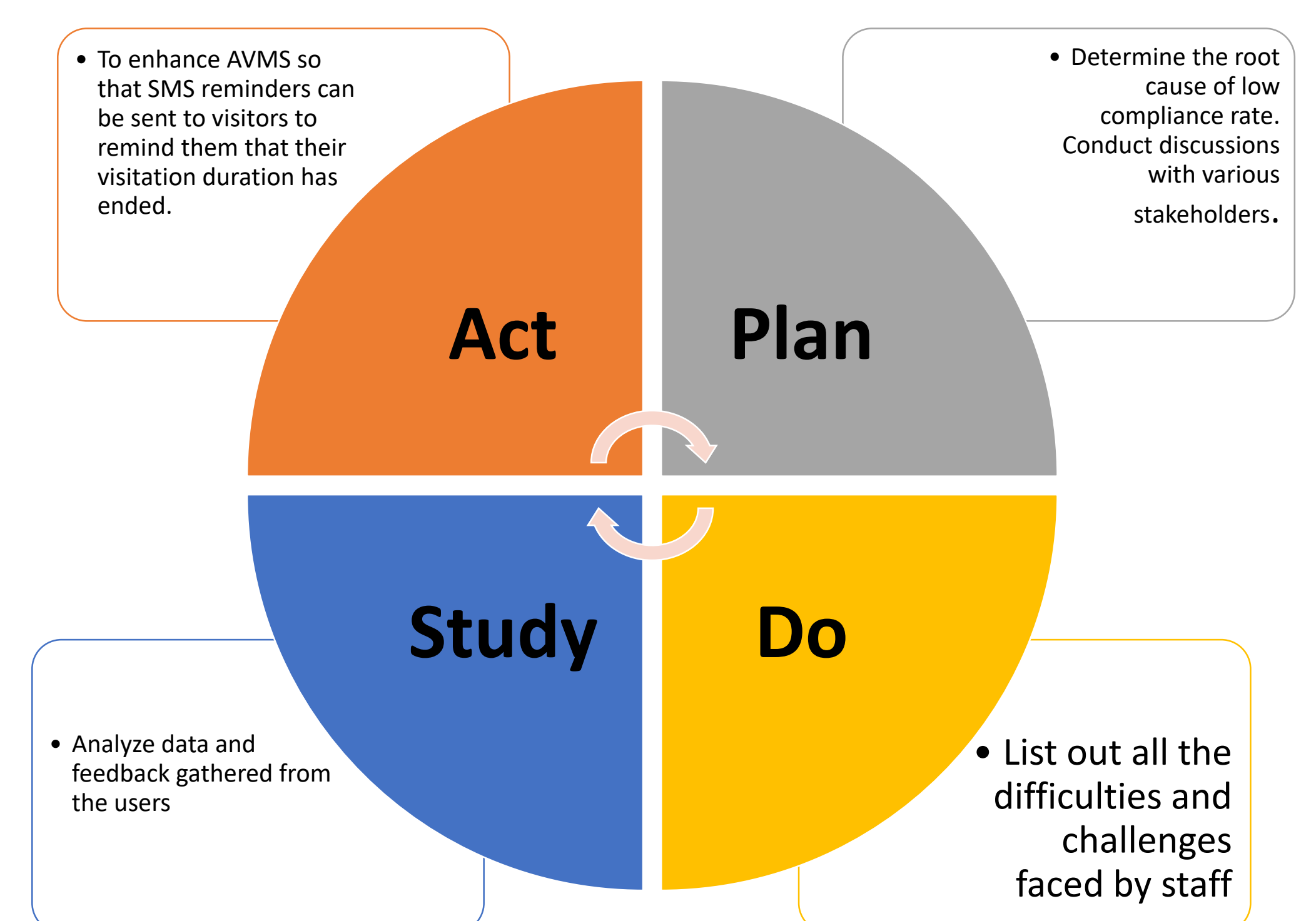
- To review the process of how staff can keep track on visitors' ward visitation duration
- Review the possibility of enhancing Automated Visitor Management System (AVMS) to allow the system to send SMS reminders and keep track on the visitation duration

METHODOLOGY

The team then proceed to apply the Plan-Do-Study-Act (PDSA) methodology to solve the issue.

Discussions with key stakeholders (eg. Nursing, Inpatient Ops and General Services (GS)) were carried out. Below are some of the root causes on why visitors were still staying beyond 30 minutes and why staff were having difficulties keeping track of the ward visitors' visiting duration.

- Lack of timely reminders** – there were no reminders sent to the visitors to inform them to keep their visit short and within 30 minutes.
- System limitation** - AVMS lacking the function of calculating visitation duration and generating reports to help staff to keep track on the duration.



With the problem highlighted in 'A', ward nurses went round the ward each day to remind the visitors to keep their visitation short. However, ward nurses feedback they were unable to keep track of the large number of visitors coming in daily as they need to provide clinical care for patients. It was found out that nurses spent an average of 30 minutes per day combing the ward. Visitor Management Assistants (VMAs) then came in to assist. However, the team spent a total of 2 hours each day to comb through all the wards to individually remind and check on visitors.

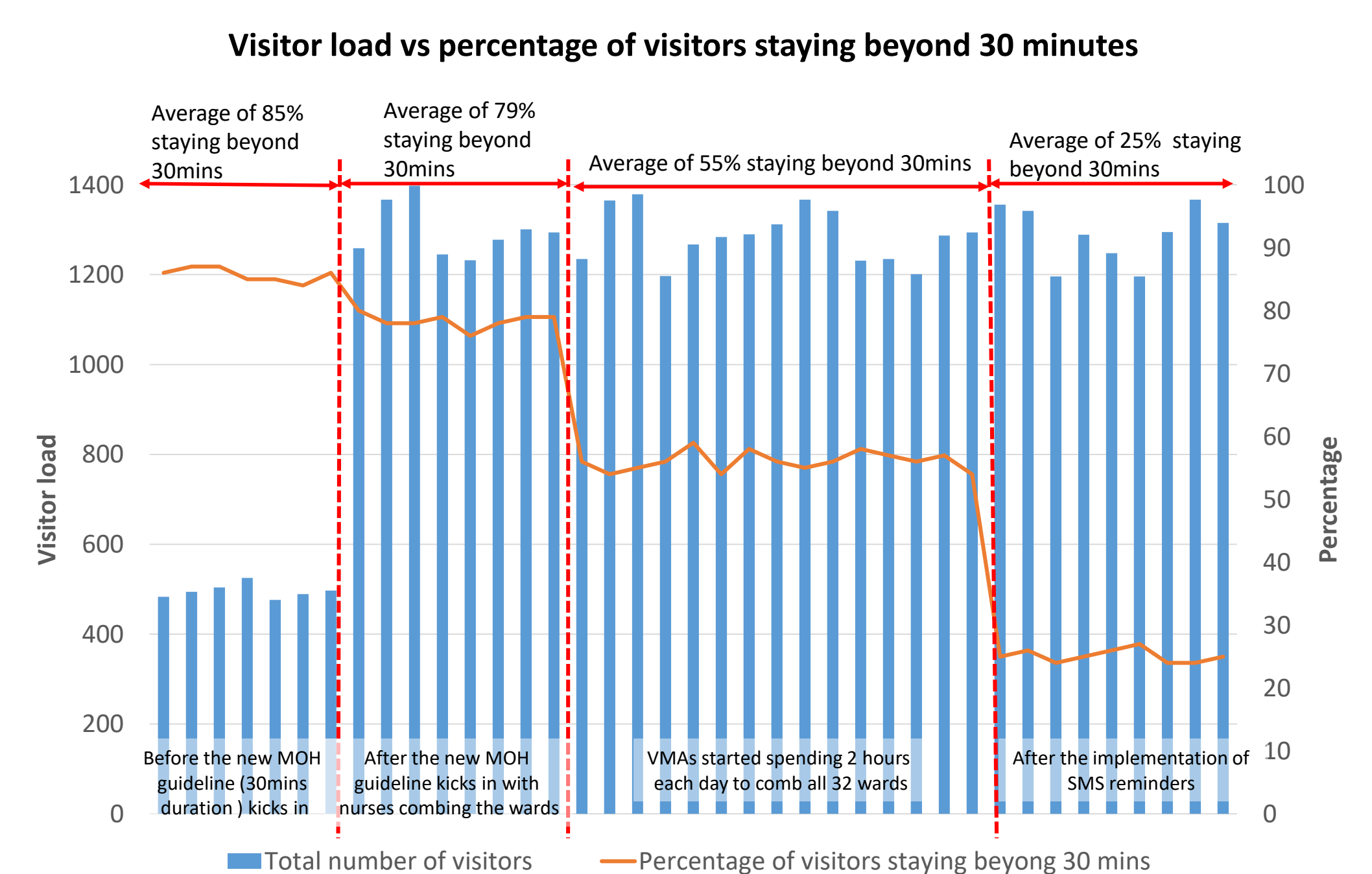
As such, GS explored the use of existing AVMS with some enhancements to overcome the challenges faced by the nurses and VMAs. GS worked with AVMS vendor to enhance the system to allow it to trigger SMS reminders to the visitors when they hit the 25th minute mark (timing can be configurable by user in AVMS) and to staff to generate reports of visitors who stayed inside the ward for more than 30 minutes.

RESULTS

With the enhancement to AVMS, SMS reminders were sent to the visitors to inform them to leave the ward when their visitation duration is up. Data was collected based on the FTEs required to comb through the wards each day and also the percentage of visitors staying beyond 30 minutes.

There was significant reduction in the FTEs required. 2.5 FTEs (nurses and VMAs) required to comb through the wards daily prior to the system enhancement while only 0.125 FTEs (VMAs) required after the system enhancement. This is equivalent to a monthly manpower savings of approximately **2.375 FTEs** or **\$16,632**. As for visitors staying beyond 30 mins, there was a significant drop from **79% to 25%**. Nurses can now focus on their clinical care for the patients and not compromising patient safety. Also, VMAs can now focus on a small group of visitors (requiring to stay beyond 30 mins) to administer ART.

Staff categories	FTEs required daily before implementation	FTEs required daily after enhancement of AVMS
Nurses	<ul style="list-style-type: none"> 1 nurse in each ward took around 30 mins each day to comb. Hence 0.0625 FTE per ward required A total of 2 FTEs required for 32 wards 	<ul style="list-style-type: none"> 0 FTE required
Visitor Management Assistants (VMAs)	<ul style="list-style-type: none"> 2 VMAs spending 2 hours each day combing all the wards. Hence 0.5 FTEs required each day. 	<ul style="list-style-type: none"> 2 VMAs spending 30 mins each day. Hence 0.125FTEs required each day.
Total	2.5 FTEs (equivalent to ~\$17,248/month)	0.125 FTEs (equivalent to ~\$616/month)



CONCLUSION

Having patient safety in mind, various stakeholders are able to overcome individual agendas and come together to achieve one common goal – to provide safety to the patients and staff. Furthermore, it is important to, as much as possible, ensure future systems to be pandemic-ready, taking into account the changes in MOH guidelines during times of pandemic.