# **Evolution of the COVID-19 Screening Activities in Singapore General Hospital**

Singapore Healthcare Management 2021





SingHealth

## Background

Since the detection of the first Coronavirus Disease 2019 (COVID-19) in December 2019, the disease has spread rapidly worldwide, impacting the world at an unforeseeable rate. Given the highly contagious nature of the Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV-2), previous disease outbreak management plan were inadequate to mitigate the risk involved. There is an urgent need to review and update the measures and practices to mitigate the risk of healthcare workers acquiring COVID-19. This is especially important for healthcare institutions, where the risk of contacting the virus is much higher in contrast to other industries. This study serves to provide a basis for future disease outbreak management to build on, improving the healthcare institutions' capability in managing such crisis.

1. To deploy and evaluate the proposed management protocol for disease outbreak events in SGH

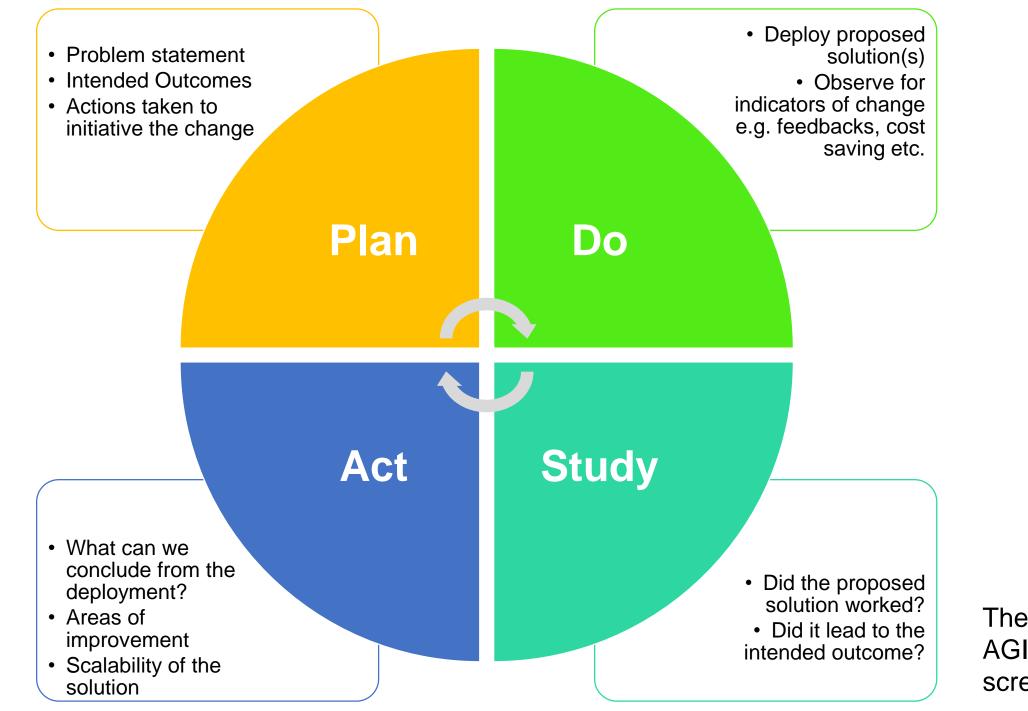
# Aims

2. To identify the key determinants that ensure the successful management of disease outbreak situations

# Methodology

1) Plan, Do, Study, Act (PDSA)

2) Four Key Agile Principles





**INDIVIDUALS & INTERACTIONS Over Processes and Tools** 

- Focus on the people involved in the screening operations e.g. HR, Crisis Planning and Operations team, volunteers
- Interactions with these individuals are important in solving any problems faced
- Screening process and the way it is done are secondary to the "Human" element



WORKING SOFTWARE Over Comprehensive Documentation

Focusing on delivering a solution to the problem in a timely manner rather than fixated on finding the best solution to the problem



Over Contract Negotiation

• Open to receiving feedback from all

staff. volunteers etc.

requirements are met

addressed

channels e.g. stakeholders, patients,

Establishing a feedback loop to

ensure that all feedbacks are

Ensuring the expectations and

**RESPONDING TO CHANGE** Over Following a Plan

- Accepting that "Change is the only constant"
- Requirements and priorities are always changing
- Ability to adapt to change ensures the plan stays relevant to the situation

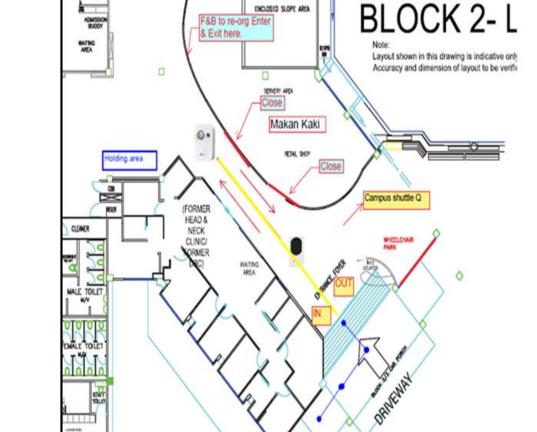
The Plan, Do, Study, Act (PDSA) and Agile Values were adopted to address the objective set for this project. Given the urgency and novelty of the COVID-19 situation, the AGILE values offers the team the flexibility and opportunity to address the needs in a timely manner. The PDSA methodology was used to refine various stages/aspects of the screening process, while ensuring complying with the screening criteria and safety requirements from MOH and the hospital.

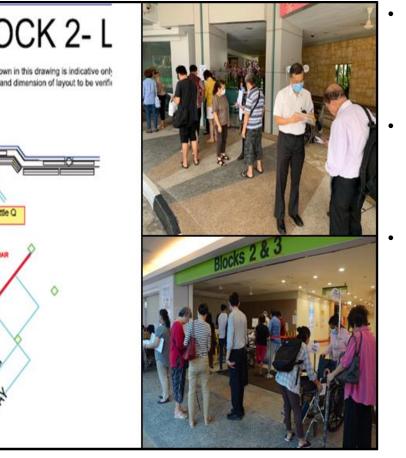
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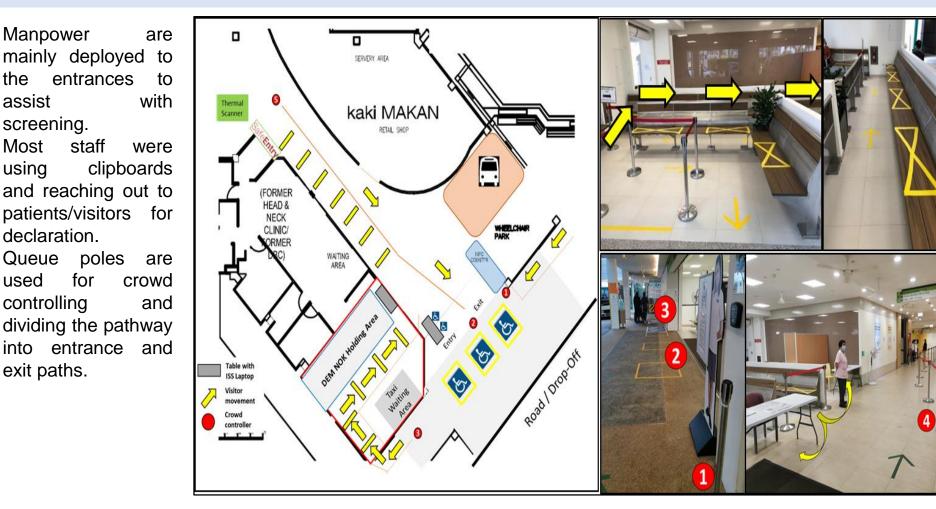
crowd.

# **Key Determinants of Success**

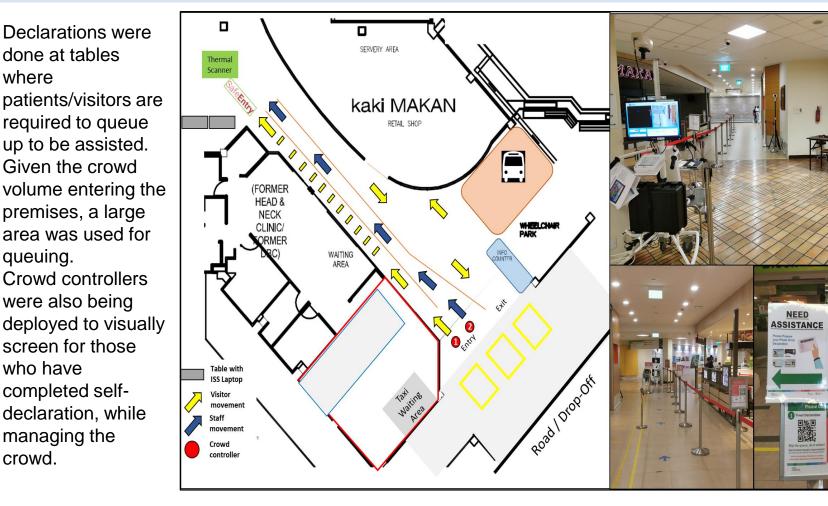
Operations	(Jan 2020)	Introduction of SafeEntry & Social Distancing (May 2020)	Full Laptop Deployment Across Screening Stations (Sep 2020)
Objective	To ensure all visitors & patients complete the compulsory Travel and Symptoms Declaration Form (TDF) before entering SGH	<ul> <li>To create an express lane for staff &amp; self-declared individuals</li> <li>To in-cooperate SafeEntry as part of the screening requirement</li> <li>To enforce social distancing while assisting patients/visitors with declaration</li> </ul>	<ul> <li>To improve the visibility of the staff-only &amp; self-declared express lane</li> <li>To create sufficient manned counters to assist individuals with declarations</li> </ul>
Method of Screening	Manual Declaration Forms	<ul> <li>Manual Declaration Form</li> <li>Digitalized Declaration Form</li> </ul>	Digitalized Declaration Forms







- Reliance on manpower continued to be high due to the need to ensure safe distancing and performing crowd control duties (~12 staff).
- "Broken" queue approach was not effective in managing the crowd.
- · Large space was used in order to meet the requirements expected i.e. patient/visitor volume & safe distancing requirements.



Fully on-boarded digital declaration approach Express lane for staff self-declared individuals was created. tables Declaration were pushed further into the premises to allow for more queuing while not space, compromising patient/visitor safety.

- Manpower intensive (~15 staff)
- High tendency for small clusters of crowding to occur when assisting with declaration

Lesson(s) Learnt

Result(s)



## **Digitalized Travel Declaration Form**

### **Background:**

Since the start of DORSCON Orange, it is compulsory for all patients and visitors entering SGH to complete the TDF. These forms help to screen whether an individual should be allowed entry based on the latest MOH measures and are also kept for contact tracing purpose.

### Challenges faced:









## **Tiered Approach for Screening Staffing:**

#### **Background:**

assist

Nost

using

used

- Given the daily volume of patients & visitors entering SGH and the requirement for all to complete TDF, manpower is a critical factor that determines the success of the screening operation.
- Hiring of Temp staffing during the initial stage of COVID-19 was not a viable option due to the shortage of available manpower in the market and high employment cost.

& TDF	done toge	ther at the counter	
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# User Experience

through manual forms.

## **Initiatives taken in response to the feedback:**

#### Background:

Given the nature of the operations, feedbacks from various stakeholders such as patients/visitors, both internal and external staff and management are important to set the team on a continuous improvement cycle, ensuring that solutions implemented stays relevant to the context.

• Declaration done through laptop was generally slower in contrast to declaration

• Reduce wastage in paper as a result of change in declaration questions/criteria

Offers an all-in-one solution to align with National SafeEntry requirement i.e. SafeEntry

# 1) Lack of Guidance/ Knowledge on Screening

### 2) Signage to improve communications

#### ✓ Turnover time at screening stations for those who are able to perform self-declaration is reduced.

Improved patient experience as self-declared individuals are able to enter through express lanes and focus is given to those who have difficulties with completing the eTDF

✓ Significant cost saving for organization (~\$40,000 saving)

X Due to higher than normal traffic volume, instances of server downtime has also increased as more institutions migrated onto the digital declaration solution.

# **CONCIUSION**

Given the novel nature of the COVID-19 situation, the team was successful in adapting from previous disease outbreak protocol to formulate appropriate measures to address the requirements needed for the screening operations. In preparation for future disease outbreaks, key determinants such as operational, manpower, technological and user experience factors should be emphasized as they are

critical for the success of the disease outbreak operations. Various learning points formulated over the screening operations were also documented. These information and knowledge gathered are critical

as it serve as a framework for future user to refer to when the need arises.

## Acknowledgement

The team would like to thank all SGH and SingHealth departments for their support with the SGH screening operations. Among which, we would like to specially thank Crisis, Planning & Operations and Human Resource Teams for their unwavering support from the start of the operations till date.