

## **Project Title**

NurseFirst: A Nurse Telephone Triage Service in Woodlands

## **Project Lead and Members**

Project lead: Dr Nicholas Ng, Manager

Project members:

- Dr Jade Kua, Senior Consultant
- Dr Lim Eng Koon, Senior Consultant
- Tham Chui Mun, ADON
- Tan Shou Peng, Asst Nurse Clinician
- Veronica Lim, Executive

## **Organisation(s) Involved**

Woodlands Health

## **Healthcare Family Group(s) Involved in this Project**

Healthcare Administration, Medical, Nursing

## **Applicable Specialty or Discipline**

Emergency Medicine, Operations, IT

## **Project Period**

Start date: November 2021

Completed date: On-going

## **Aims**

To bridge the existing knowledge gap of the public in order to reduce the burden of non-emergencies on EDs and the 995 hotline, by directing these cases to the UCC or to GPs and improving medical literacy of the population

## **Background**

See poster appended/ below

## **Methods**

See poster appended/ below

## **Results**

See poster appended/ below

## **Lessons Learnt**

The NurseFirst team has learnt that there needs to be continuous reviews to improve workflows and protocols. Currently, we are planning to review our protocols to reduce referrals to the ED. NurseFirst is ready to adapt to changes in the environment– for example, UCC recently started performing ART swabs for children under 5 years old – NurseFirst then changed its workflows to cater to patient needs. As such, NurseFirst’s referral rates to CUCC have been gradually decreasing, while UCC attendance for children under 5 years old increases.

If we had started over, we would have been more mindful of external forces – vendor management and Covid-19 are only two examples of forces that influenced the development of the service. An upcoming, similar possibility is Healthier SG – where we, as an advice line, may be called to ask about resources available to the public. Closer on the horizon is the possible next infectious disease – monkeypox, for which our nurses are already preparing, by keeping up to date with MOH circulars and current affairs.

## **Conclusion**

See poster appended/ below

## **Additional Information**

Recipient of the Singapore Health & Biomedical Congress (SHBC) 2022 -  
Best Poster Award (Health Services Research)

We would like to share that the needs of our community are ever-changing, and as healthcare workers should not be afraid to adapt to changes, be it a redesign of

roles, workflows, or an overhaul of the entire system. As external forces can quickly affect health and thus healthcare, we need to be agile and ready to adapt if we are to continue to keep our community healthy. What NurseFirst hopes to achieve is a mindset change – away from 995 and EDs as the first port of call for every patient. People need help – when we are in distress, we naturally turn to someone we can trust – NurseFirst hopes to become that service people can trust when they face non-emergencies. There has already been positive feedback from our community partners that NurseFirst is a useful service to have, which shows our success among residents as an advice line. As this is merely the start of the journey, there is much to be improved, but the results will help reduce healthcare costs to both the system and the patients

### **Project Category**

Care & Process Redesign

Access to Care, Value Based Care, Operational Management

### **Keywords**

Emergency Case Load, Triage Respondents , Right Siting of Care

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## INTRODUCTION

It is a well-known fact that Singapore's emergency services are overburdened by non-emergencies. The Singapore Civil Defence Force 995 hotline is inundated with non-emergency calls making up 10%, or 50 calls daily<sup>1</sup> (SCDF Emergency Medical Services, n.d.); non-emergencies (P3 and below) generally make up almost half of Accident & Emergency attendances<sup>2</sup>. While there are resources that members of public can use in times of non-emergencies, such as UCC, they may not utilize these because they lack the knowledge on where the most appropriate site of care should be. Woodlands Health, in conjunction with Yishun Health, piloted a Nurse Telephone Triage service in a bid to address this problem.

## AIM

To reduce the burden of non-emergency cases on emergency services, a non-emergency helpline, NurseFirst, was launched.

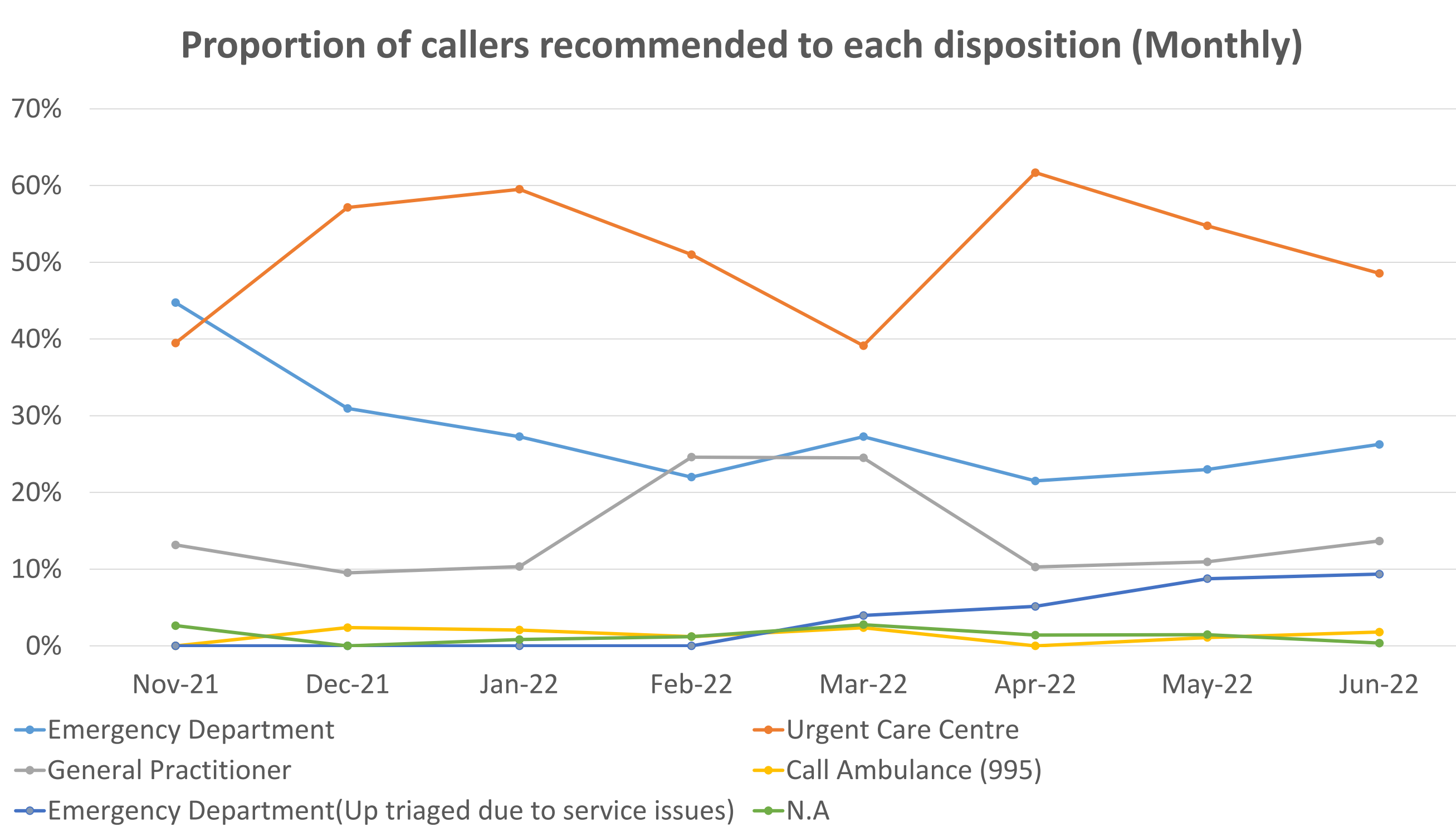
NurseFirst recognises that many healthcare options in the community are capable to manage urgent and non-emergency cases safely. However, the public may not be able to triage their own condition and go to the right site of care. NurseFirst aims to bridge this gap and help the public navigate the acute care landscape, working towards the goal of reducing the burden of non-emergency cases on emergency services.

## METHODOLOGY

NurseFirst is staffed by nurses trained in triage and augmented by a decision support system. Callers can call this helpline for advice on their symptoms. Based on the symptoms described by the caller, the nurses would ask questions and concurrently key in the responses from the caller into the decision support system. The system would generate a recommended disposition, which was communicated to the patient and documented by the nurse. A follow-up call would also be made the following week, to determine if the patient had followed the advice provided, and to ask about their experience during the call.

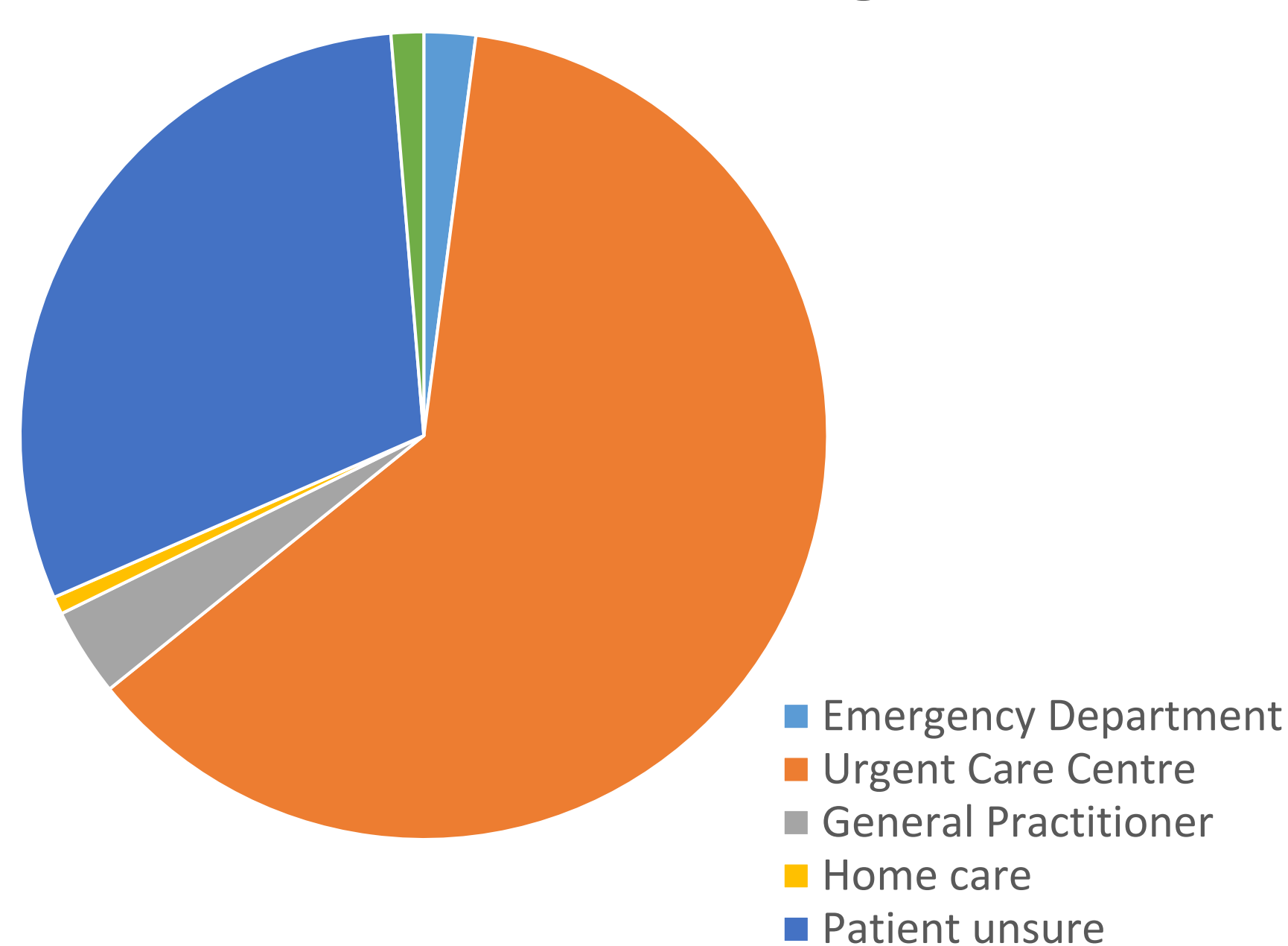
## RESULTS

Since the start of service in November 2021, NurseFirst has seen an increasing trend in the proportion of callers recommended to see a GP, and a corresponding decrease in the proportion of callers recommended to visit the ED. February and March 2022 data are outliers due to the Covid Omicron surge.



Only 1% of callers directed to non-ED sites had intended to visit the ED before calling, while 30% of overall callers were unsure of where to go before calling.

Callers' intended site of care before calling NurseFirst



## DISCUSSION

As the service has only been running for 8 months to date, positive effects are expected to be limited. However, the positive disposition results are promising for a project in its initial phase. Adapting to evolving situations, dispositions to non-ED sites increased after the nurses were more familiar with the system, and with telephone triage; workflows were more established and downstream issues were worked out. Further customization of the protocols would also be performed, which can only improve these numbers. However, the goal of reducing the non-emergency load of ED attendances and 995 calls remains to be evaluated – as this requires a system-wide evaluation.

Education and behavioural change is the long term goal of NurseFirst, and callers' intended site of care before calling NurseFirst represents a good opportunity for evaluating the helpline – the high percentage of 30% of callers who were unsure of where to go demonstrates the addressable market for NurseFirst. Without NurseFirst this group may have visited the ED but with knowledge that NurseFirst exists, they are empowered to utilize non-emergency services more.

However, the low number of callers who had intended to visit the ED before calling shows the need for further publicity for NurseFirst.

Currently, while NurseFirst is styled as a service for residents in the North, there is utility for it to be expanded to other areas of Singapore – this will increase in importance as newer models of care arise – more UCCs for example.

## CONCLUSION

It is early days for NurseFirst – there is great potential for further improvement of its outcomes, and expansion of its service. More time is also needed for the service to be properly evaluated. NurseFirst represents a first step in Woodlands Health's road to building a patient navigation tool that will help direct our residents to the most appropriate site of care for their ailments.

## REFERENCES

1. SCDF Emergency Medical Services 2022
2. Schoenenberger, LK et al. Emergency department crowding in Singapore: Insights from a systems thinking approach. SAGE Open Med. 2016 Oct

## ACKNOWLEDGEMENT

- MOH
- MHA
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