

Incident Review of the Emergency Response Provided to Mr AR on
08/08/22

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This incident review was undertaken to investigate the emergency response provided to Mr AR on Monday 8th August 2022. The request for the review was made on 9th August 2022 by the A/CE of SA Health. The review focuses on the delay in arrival of an ambulance or emergency responder to Mr AR following his triple-zero call.

Incident Description

Summary. Mr AR was a 47-year-old man who called triple-zero at 17:19 on 8/8/22 with pain in his chest and jaw. It was noted in the call that he had a prior history of ischaemic heart disease having experienced a myocardial infarction previously. Documentation taken during the call also noted that Mr AR was breathing normally but felt clammy.

Mr AR was documented to be alone in his car and had pulled into a car park adjacent to Anzac Highway in Plympton.

It was also noted in the call that Mr AR's child was COVID-positive and in isolation at their home.

Timeline.

1. The first call was received at 17:19 when Mr AR was triaged as Priority 2 (target of >90% of calls where the ambulance responds within 16 minutes).
2. A call-back message to Mr AR was initiated at 17:30 to advise that an estimated time of arrival (ETA) for an ambulance was 2 hours.
3. The call-back occurred at 17:51 but it was not possible to establish contact with Mr AR and a voicemail message was left.
4. A second call to SAAS was received at 17:54 from a bystander at the scene who had found Mr AR to be collapsed and unresponsive in his vehicle.
5. CPR was initiated by bystanders at the scene and an AED was noted to be available in the call to SAAS.
6. At 17:55 the SAAS prioritisation was changed to Priority 1 with an immediate response request.
7. A SAAS SPRINT paramedic crew arrived on scene at 18:00 followed by a SAAS solo paramedic at 18:02. A paramedic crew arrived at 18:06 and an extended care paramedic arrived on scene at 18:08.
8. CPR was underway and resuscitation attempts continued with adrenaline, amiodarone and DC shocks.
9. SAFIRE and SAPOL were called to scene at 18:19 to support CPR taking place in a public area.
10. Resuscitation attempts were sadly unsuccessful and were discontinued at 18:31.

Ambulance Service

At the time this incident occurred, SAAS was under significant operational pressure and had escalated to Opstat White at 16:00 that day which continued until the following morning. Opstat White is triggered in the SAAS Capacity Management Plan when 'levels of demand mean SAAS cannot achieve patient response times and patient safety is directly affected'. A system flow meeting had also taken place at 16:00 to review and manage the situation across the LHNs and within the ambulance service.

Operational Context. The SAAS operational situation at the time of the incident is described below:

- There were 12 pending Priority 2 (urgent) patients in the community at 17:15 that were waiting for an ambulance to be dispatched to them.
- Triple-zero call volume – there were 902 triple-zero calls answered between 07:00 on 8/8/22 and 06:00 on 9/8/22 which is 2% above the year-to-date (YTD) average. The highest number of triple-zero calls during the 24-hour period were received between 16:00 and 17:00 – 60 calls – with a further 47 calls received between 17:00 and 18:00.
- Ambulance capacity – SAAS were at 100% utilisation at 17:00 with 0 of 74 crews being available to be tasked in the metropolitan area. At 17:15 utilisation had reduced to 97% with 5 of the 73 rostered emergency and non-emergency crews being available in the metropolitan area to be tasked to a patient.
- SAAS ED activity – 41 crews (56% of SAAS metropolitan capacity) were located at an emergency department at 17:15.
- Delayed Transfer of Care – At the time of the incident, 23 of these crews were delayed in their transfer of care (TOC) to the emergency department by more than 30 minutes. The average TOC delay experienced across all 41 SAAS crews located at a metropolitan emergency department at 17:15 was more than 1 hour.
- The total cumulative TOC delay between SAAS and the emergency departments experienced on 8/8/22 was 151.9 hours.

Call Triage and Response. The initial information provided by Mr AR in his triple-zero call to SAAS suggested that he was experiencing an acute myocardial infarction (heart attack) with typical symptoms and a previous history of ischaemic heart disease. It was also evident in the call that Mr AR was alone in his car without other people around him.

Consistent with other states, acute symptoms of chest pain without evidence of physiological deterioration are typically triaged by SAAS to a Priority 2 response. A Priority 2 response is with a 'lights & sirens' ambulance with a target that 90% of calls are attended within 16 minutes.

The Priority 2 response time could not be met in this case due to the operational pressures described above, and a call-back had been initiated at 17:30 to advise of an ambulance ETA of 2 hours. This was not actioned until 17:53 due to emergency dispatch workload. Mr AR did not respond to the SAAS call-back, and it is likely his condition had already deteriorated. This was confirmed in the call received by SAAS from the scene at 17:54 advising that that Mr AR had collapsed in his car.

The risk of serious cardiac arrhythmia is high soon after coronary vessel occlusion and immediate access to effective resuscitation is potentially lifesaving. Delays in accessing cardiac monitoring, resuscitation and defibrillation when required will impact upon potential survival from a heart attack. The presence of an ambulance paramedic or first responder with a patient at the time of cardiac arrest allows CPR and defibrillation to be initiated immediately with a greater likelihood of a successful outcome. Therefore, the priority in these circumstances must be to bring this capability to the patient as soon as possible after the onset of cardiac chest pain.

Following receipt of a call at 17:54 advising that Mr AR was in cardiac arrest, the first paramedic reached the scene at 18:00 reflecting an appropriate Priority 1 ambulance response.

System Context

There were 1,162 ED presentations to the metro LHNs on 8/8/22 which was 1% higher than the YTD average. Ambulance activity on 8/8/22 tracked the YTD average with 399 arrivals to a metropolitan emergency department.

Activity in the Southern Adelaide Local Health Network area was particularly relevant to the availability of an emergency ambulance crew to respond to Mr AR's call. Presentations to the Flinders Medical Centre (FMC) ED were 4% higher on 8/8/22 compared with the YTD average of 215 and included 78 patients who arrived by ambulance. The high triple-zero call volume between 16:00 and 17:00 is likely to have placed additional pressure on the ambulance service and metropolitan emergency departments during the following 1-2 hours.

It was noted that SAAS have undertaken significant work over an extended period and are committed to minimising handover delays across the health system. SAAS described being unable to shift crews to support specific suburbs due to the TOC delays occurring across all LHNs which prevent the redeployment of resources.

In addition, there has been work done to increase available resources that will potentially reduce delays in the community. SAAS have announced an additional 99 FTE of staff for 2022/23 alongside short-term measures to supplement crewing whilst these staff are recruited too.

Conclusions

- Transfer of Care Delays were experienced across all metropolitan hospitals on 8/8/22. These delays significantly reduced the capacity of SAAS to respond to urgent calls at the time this incident occurred.
- The information that Mr AR provided in his Triple zero call indicated that he was at high risk as he described typical symptoms of chest pain radiating to his jaw with a background history of a previous heart attack. Additionally, he was alone without

someone available nearby to monitor his condition while the ambulance was awaited and to update SAAS if required.

- Cardiac monitoring with immediate access to resuscitation is crucial soon after the onset of a heart attack as serious arrhythmias are commonplace and the chance of a successful outcome in the event of a cardiac arrest diminishes with delay.
- Had a paramedic crew been with Mr AR at the time of his cardiac arrest he may have been successfully resuscitated at the scene or enroute to an emergency department allowing further treatment for his heart attack to take place on arrival there.
- The risk of unattended patients in the community is less visible than those already with a paramedic crew or in an emergency department relying on information obtained during the triple zero call and the SAAS decision algorithm. The urgency of Mr AR's condition was not fully appreciated within the Medical Priority Dispatch System at the time of his initial call, and he was triaged to a Priority 2 response together with other patients waiting in the community.

Recommendations

- Review prioritisation of patients identified as likely to be experiencing a heart attack to ensure they have effective resuscitation available to them as soon as possible. It is recommended that these patients should be prioritised to receive the first available ambulance response.
- Clinical support to assist in despatch decisions when the service is under sustained pressure should be continued to ensure appropriate prioritisation of patients who have the same triage urgency.
- SAAS to consider measures to improve ambulance response capacity during periods of high predicted demand until additional resources are brought on line.
- There is an urgent need to improve whole of hospital and system flows to reduce transfer of care delays and the resultant risk to patients in the community waiting for an ambulance.
- Revise the SAAS and health system escalation triggers and their timing to ensure that an appropriate level of ambulance coverage is always maintained in the community.
- These triggers should be coupled with actions at specific LHN emergency departments that immediately release waiting crews when required to meet the needs of the local community.
- Provide improved visibility on SAAS community responses to LHN emergency departments to enable decision making that ensures the provision of timely care to all patients irrespective of their location.