CORONER'S COURT OF THE AUSTRALIAN CAPITAL TERRITORY

Case Title:	**Inquest into the Death of Maarouf El-Cheikh**
Citation:	**[2023] ACTCD 1**
Decision Date:	**30 January 2023**
Before:	**Coroner Archer**
Decision:	See [20]-[21], [30], [35]-[37], [49], [50]-[61], [67]-[71]
Catchwords:	**CORONIAL LAW** – cause and manner of death – inadequate hospital treatment of sepsis – systemic failings - matters of public safety – delay in coronial processes
Legislation Cited:	*Coroners Act 1977* (ACT), s 3BA, s 13, S 34A, s 52
Cases cited:	*Inquest into the Death of Pamela Vance* [2022] ACTCD 2
File Number(s):	**CD 67 of 2016**

CORONER ARCHER

Jurisdiction

1. On 22 March 2016 Maarouf El Cheikh ("Mr El-Cheikh") died at the Calvary Hospital ("Calvary"). His death was reported to the Coroner by officers from the Australian Federal Police who were asked to come to the hospital by Calvary staff. As no doctor was prepared to sign a death certificate, by virtue of section 13(1)(e) of the *Coroners Act 1997* ("the Act") the Coroner was required to hold an inquest into the manner and cause of Mr El-Cheikh's death and make the findings required by section 52 of the Act. That section of the Act relevantly provides:

> **52 Coroner's findings**
>
> (1) A coroner holding an inquest must find, if possible—
>
> (a) the identity of the deceased; and
>
> (b) when and where the death happened; and
>
> (c) the manner and cause of death; and
>
> (d) in the case of the suspected death of a person—that the person has died.

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(4) The coroner, in the coroner's findings—

(a) must—

(i) state whether a matter of public safety is found to arise in connection with the inquest or inquiry; and

(ii) if a matter of public safety is found to arise—comment on the matter

Events Leading to Mr El-Cheikh's Death

2. From the material subsequently gathered during the inquest, the following background and chronology of events emerges.

3. Mr El-Cheikh was born in Tripoli in Lebanon. He migrated to Australia as a 13 year-old. He lived with his parents and extended family in Sydney. After finishing his schooling, he worked with the NSW State Rail Authority. He and his family moved to Canberra. He was a heavy smoker. He lived alone but was cared for by his family.

4. He had multiple medical conditions including type II diabetes, ischaemic heart diseases with a myocardial infarction in 2015 requiring stenting of the right coronary artery, hypocholesterolaemia, a pre-existing brain injury with hydrocephalus, hypertension, gastro-oesophageal reflux and, significantly, a splenectomy in 1984 for idiopathic thrombocytopenic purpura. It is well recognised that splenectomized patients have an increased risk of developing serious invasive bacterial infections.

5. On or before 21 March 2016 Mr El-Cheikh became unwell at his home. The evidence did not clearly establish when Mr El-Cheikh's decline was first noticed. An ambulance was called and arrived at 19:21. The tests undertaken by the ambulance officers suggested Mr El-Cheikh was very unwell and was likely septicaemic. He arrived at Calvary at 20:09 and was treated thereafter in the Emergency Department of Calvary ("ED").

6. In the ED, Dr Pimpkine at 20:09 assessed Mr El-Cheikh to be agitated and was not able to always answer responsively the questions asked of him. Dr Pimkine's provisional diagnosis was sepsis. His medical records, which contained reference to the splenectomy he had undergone previously, were available before 12.00 on 21 March 2016.

7. Mr El-Cheikh's condition further deteriorated during the night. He was never transferred to the Intensive Care Unit ("ICU"). On the 22 March 2016 he went into cardiac arrest and became asystolic. Calvary staff commenced cardiopulmonary resuscitation (CPR) at 06:43. Despite those resuscitation attempts he remained asystolic and was pronounced dead at 07:10 on 22 March 2016.

The Investigation

8. On receipt of the notification of death, the then Coroner, Coroner Morrison, directed that a post-mortem examination of Mr El-Cheikh take place. The cause

of death identified by the pathologist who conducted the post-mortem examination, Associate Forensic Professor Sanjiv Jain, was streptococcus pneumonia septicaemia due to splenectomy. He recommended a review of the hospital treatment records by an infectious diseases specialist. Accordingly, Coroner Morrison directed that an expert review of Mr El- Cheikh's treatment take place and statements be taken from relevant clinicians.

9. That review was undertaken by two specialists: Dr Astrid Arellano, an infectious diseases physician from Perth, and Associate Professor David Bihari, an intensivist from Sydney. Reports, respectively dated 23 August 2016 and 16 July 2019, were received from them. Both clinicians had extensive experience in their field of expertise. No challenge was made to their qualification to speak as experts in relation to the matters raised as to Mr El-Cheikh's treatment at Calvary.

10. Statements were also received from a number of the treating clinicians. Subsequently, Coroner Morrison sent the expert reports and a summary of the concerns they raised to the legal representatives of those clinicians and Calvary. They were asked for comments as to the sufficiency of the care and treatment provided to Mr El-Cheikh. In response, Coroner Morrison received a series of statements and other documents from treating clinicians. He also received statements from senior clinicians in supervisory or administrative positions at Calvary who reviewed Mr El-Cheikh's care in light of the criticisms made by the experts. They were Dr Godfrey Wright, a Senior Staff Specialist in ICU; Dr Stuart Stapleton, a Senior Staff Specialist in Emergency Medicine, Director of ED at Calvary and Clinical Stream Director for Critical Care (which covers ED and intensive care); and Dr Than Tung Trinh, a Registrar in ICU at Calvary (on the night in question).

11. A statement from Dr Diana Pimkine was received later (September 2022). Dr Pimpkine was at the relevant time a locum registrar at Calvary. Statements of nursing staff were also available to the Coroner.

12. On 16 June 2022 I wrote to lawyers for those clinicians and the family of Mr El-Cheikh and indicated that the court would prepare and forward to them, provisional findings. In response to that indication and to the provisional findings, Calvary provided additional information that detailing changes that had been made to the identification and treatment of sepsis at the hospital since Mr El-Cheikh's death. The structure of my findings follows the structure of the analysis undertaken by the two experts and addresses both the criticisms made by them of the care provided to Mr El-Cheikh and the responses to those criticisms provided by the clinicians referred to above.

A. Monitoring Urine Output

The Criticism

13. Dr Arellano was critical of the level of monitoring and documentation of urine output, noting that there was only one measurement of urine volume by bladder scanner at 04.00 hours on 22 March 2016. He opined that at the very least a urinary catheter should have been in place to assess Mr El-Cheikh's urinary output. The result of that one measurement indicated very low urine output. Output this low was a sign of "severity" in critically ill patients who have (as here) received reasonable intravenous fluid resuscitation. The poor urine output should

have triggered concern and review, including the consideration of intensive care management.

14. Associate Professor Bihari, without significant elaboration, expressed "surprise" that a urinary catheter was not inserted.

Response

15. Dr Mar was the head of ED at Calvary on the night of 21 to 22 March 2016. His statement of 18 March 2018 makes no mention of this issue. He noted that Mr El-Cheikh was observed to be agitated, although he did not say that this affected the treatment he was offered.

16. Dr Stapleton referenced nursing notes that indicated that treating staff were aware that Mr El-Cheikh was producing urine but that the quantities were unknown. The notes also indicated that by 05:40 on 22 March 2016, treating staff were aware of a lack of urine output and that attempts were made to collect urine. He accepted that the monitoring of urine output was important but stated "I believe there were patient specific issues (including altered consciousness and agitation) that would have made accurate urine output monitoring technically difficult". This difficulty was exacerbated in his mind by the heavy workload in ED that night. Sedation to facilitate the insertion of a catheter "may have precipitated cardiorespiratory arrest". He did not identify records that indicated these problems were referred to as a reason why the monitoring of urine output was not in place.

17. Dr Wright, in a statement dated 10 November 2021, indicated that as Mr El-Cheikh was "delirious" and that sedation "would probably" have been needed to tolerate the procedure and ongoing discomfort. Sedation may have "initially" worsened his condition in that there may have been deterioration in the patient's cardiac and respiratory functions. He opined that if that occurred, the safest option was to administer a general anaesthetic thus mandating admission to ICU. In this regard, Dr Wright did not point to any notes indicating these issues were considered. He found that generally, fluid charting was "inadequate" and that it is unknown how much (if any) urine the patient produced during the night.

18. Dr Trinh oversaw the ICU that night. He did not have immediate responsibility for the care of Mr El-Cheikh although, as I discuss below, he did review Mr El-Cheikh for admission to ICU. He provided two statements: the first of 24 July 2018 and the second of 22 February 2022. His first statement did not address urinary output either as a feature of Mr El-Cheikh's presentation when he reviewed him, or as a matter relevant to his decision not to admit him to ICU. In his second statement, he stated that the medical records demonstrated urinary output had been considered because they include references to Mr El-Cheikh "going to the toilet" and "urinating in the bed". He asserted that the insertion of a catheter was "considered" but it was determined to "be not possible due to Mr El-Cheikh's agitation and confusion" and with a risk that Mr El-Cheikh would "pull the catheter out". To safely insert a catheter Mr El-Cheikh would have to be sedated and "possibly" intubated.

Findings

19. I find, consistent with the criticisms made by the experts, that there was inadequate urine output monitoring. Fluid balance charting was inadequate.

Whilst theoretically the insertion of a catheter may have been resisted, this consideration was not reflected in the notes nor was any attempt made. Sedation was a means of addressing this issue if resistance arose. Whilst sedation may have presented other issues, there is no evidence that these were considered at the time to be an obstacle to the insertion of a catheter.

20. Mr El-Cheikh throughout his admission was critically ill and already had developed an acute kidney injury. Proper urine monitoring was an important aspect of his care. The poor level of monitoring made more difficult a proper assessment of both of Mr El-Cheikh's general condition and the consideration of whether he should have been admitted to ICU.

B. Administration of Antibiotics

The Criticism

21. Dr Arellano found that the antibiotics administered covered the streptococcus pneumoniae cultured from his blood by the hospital (after his death) and at autopsy. However, she found that the dosing and timing of the administration of the antibiotics were inadequate, and that the optimal antibiotic management should have been discussed with an infectious diseases physician or microbiologist.

22. Dr Arellano found that Mr El-Cheikh received the first dose of antibiotics (ceftriaxone) 1 g intravenously at 22:45 on 21 March 2016 followed closely by gentamicin 400mg intravenously at 22:50. On the 22 March 2016, he received vancomycin 1g at 01:30 and a second dose of ceftriaxone 1g at 04:20. Dr Arellano opined that she would have recommended an increased dose of ceftriaxone of 2g twice daily intravenously with the first dose preferably administered within 30 minutes and at the latest with an hour of arrival at ED. She went on to say that the dose of vancomycin was "suboptimal for a 100kg man". The presence of severe sepsis required a loading of 25-35 mg suggesting a dose of 2.5g intravenously initially followed by 1g twice daily. She found the gentamicin level was acceptable but administered too late.

23. Associate Professor Bihari expressed the view that the delay in administration of antibiotics was relevant in terms of the eventual clinical outcome, pointing to the fact that appropriate antimicrobials should be administered within one hour of diagnosis of severe sepsis or septic shock.

Response

24. Dr Stapleton noted that antibiotics may have been charted significantly in advance of their administration. He said that the dose of vancomycin was "low". He agreed that the use of gentamicin was indicated and did not contradict Dr Arellano in respect of her assertion that gentamicin was administered too late, saying "the early administration of antibiotics is the goal". He pointed to the applicable *Sepsis Protocol* that suggested administration of antibiotics within 1 hour of possible sepsis being identified. In respect of consulting with an infectious diseases physician, such access was available at the time via the Canberra Hospital (presumably on-line or by phone). Implicitly, he accepted that contact was not made and should have been made.

25. Dr Wright accepted without further comment that:

    a. an infectious diseases expert was available (but not consulted);

    b. the dose of vancomycin was suboptimal;

    c. the dose of gentamicin was administered too late; and

    d. he accepted the opinion of Associate Professor Bihari as to the clinical significance of the delay in administering antibiotics.

26. Dr Mar did not address the antibiotics issue in his statement.

27. Dr Trinh stated that he believed "antibiotics were administered as soon as possible after I saw Mr El-Cheikh at around 0100. I cannot comment about antibiotics administered before this time".

28. Dr Pimkine (whose statement was not available to Dr Arellano and Associate Professor Bihari or any of the other clinicians referred to [10]) indicated that soon after her initial assessment she "began writing up an urgent dose of antibiotics" but felt it necessary to check with her consultant first. He advised waiting for the results of the "formal blood test results". It was only after the receipt of the blood tests that the antibiotics were given.

Findings

29. The opinions or Dr Arellano and Associate Professor Bihari were not challenged. I otherwise have no reason not to accept them.

C. Blood Monitoring

The Criticism

30. Dr Arellano and Associate Professor Bihari made various criticisms in this context:

    a. there was no blood sugar level test to assess if Mr El-Cheikh's mental state could be due to hypoglycaemia or hyperglycaemia;

    b. despite the planned admission to ICU if Mr El-Cheikh's blood pressure decreased below 90mmHg systolic, Mr El-Cheikh remained in ED after 02:55 when the recorded blood pressure was 83/62;

    c. no arterial line was put in place to allow accurate and continuous measurement of blood pressure and repeated sampling of arterial blood as is standard in the treatment of patients with severe sepsis (that sampling permits a measurement of the response of the acid-based disorder to fluid resuscitation). The insertion of the line may have required sedation.

Response

31. Dr Mar did not refer to these issues in his statement.

32. Dr Stapleton pointed to records indicating venous blood gases taken at 2053 showed Mr El-Cheikh's blood glucose level at 9.5. This was supported by laboratory biochemistry testing collected at 20.30 which showed blood glucose level of 9.4. In respect of blood pressure Dr Stapleton answered the question indirectly by saying "an ICU admission had been requested". He agreed that an arterial line would have been "beneficial" in assessing response to therapy. The usual practice was, he said, for ICU staff to arrange invasive monitoring, and this should have been negotiated between the staff involved. He did however repeat that sedation to permit the insertion of an arterial line (as with the catheter) "would have had a high likelihood of leading to cardiorespiratory arrest". In his view, choosing not to sedate Mr El-Cheikh was reasonable.

33. Dr Wright also pointed to the error involved in the assertion that blood glucose levels were not checked. According to him, they were checked four times. He accepted that the blood pressure remained "unacceptably low". He accepted, without further comment, that an arterial line should have been inserted. The ED staff had the staff and equipment to insert an arterial line if required, although it is preferable for this to be undertaken in the ICU. In his view (again by acceptance without comment) Mr El-Cheikh should have had more regular testing of his acid base balance.

Findings

34. I find, contrary to the assertion of Dr Arellano, that there were tests made of blood sugar levels.

35. Given the plan in place in respect of blood pressure, Mr El-Cheikh's blood pressure remained "unacceptably low". This was a reason, amongst others, for Mr El-Cheikh to be transferred to ICU.

36. The placement of an arterial line was indicated for the reasons given by Dr Arellano and Associate Professor Bihari. Mr El-Cheikh was variously described in the notes as "restless", "agitated" and having an "altered mental status". He was observed by nursing staff to pull cardiac monitoring leads off and remove oxygen nasal prongs. Benzodiazepines were discussed as possible sedatives. The insertion of an arterial may have required sedation. However, ventilation would have been possible in those circumstances. Indeed, Dr Trinh noted at 1.00 on 22 March 2016 that if Mr El-Cheikh needed ventilatory support he could be transferred to ICU.

D. Treatment in the Emergency Department

The Criticism

37. Dr Arellano is critical of the failure to admit Mr El-Cheikh to the ICU:

> Mr El-Cheikh was a seriously ill patient upon arrival to the Emergency Department. He had severe lactic acidosis and this alone is strong predictor of death. It is also a sign of severe illness. This plus the rest of his clinical picture should have prompted rapid referral and transfer to an ICU where all his medical issues could have been carefully managed. His severe medical condition was recognised and judiciously documented throughout the night but not acted upon. ……serious consideration should

> have been given for Mr El-Cheikh to move to ICU particularly when his blood pressure remained below 90 mmHg systolic for nearly three hours. .. the treatment able to be provided in the ED did not extend to careful management of electrolytes and acidosis, fluid management, blood sugar level monitoring, blood pressure support for optimal cardiac, renal respiratory and mental function. Moreover, he did not receive any form of non-invasive supportive ventilation such as CPAP or BIPAP to improve oxygen saturations and decrease his work of breathing.

38. Dr Arellano was critical of the lack of documentation surrounding the decision not to admit Mr El-Cheikh to the ICU and the lack of a broad assessment of Mr El-Cheikh's condition in determining whether Mr El-Cheikh should be admitted to the ICU.

39. Associate Professor Bihari believed Mr El-Cheikh should have been admitted to the ICU "as soon as possible" after his admission. He noted that Dr Trinh did not discuss his decision with the on-call consultant specialist. He noted that Mr El-Cheikh's medical history of having had a splenectomy should have alerted treating staff to the risk of having an infection with an encapsulated organism.

Response

40. Dr Mar claimed he did not have a direct involvement in consultations about placing Mr El-Cheikh in ICU and assumed that the ICU teams had been consulted during the shift.

41. Dr Nicole Regner was the Medical Assessment and Planning Unit (MAPU) registrar on the night of 21 to 22 March 2016. The MAPU is a general medical ward. She indicated that given his presentation, Mr El-Cheikh was too unstable for consideration of a transfer to a MAPU ward. Given his unstable presentation she enquired of Dr Mar as to whether the ICU had reviewed the patient. A conversation with Dr Mar and Dr Trinh indicated that Mr El-Cheikh would be transferred to MAPU if he improved and moved to the ICU if his condition deteriorated. She spoke to Dr Trinh several times during the night to confirm that he had spoken to the ICU consultant. He confirmed that he had. She noted that Mr El-Cheikh's condition continued to deteriorate during the night.

42. Dr Wright, without further comment, agreed that given his history of splenectomy, severe sepsis and multi organ dysfunction, Mr El-Cheikh should have been admitted to the ICU as soon as possible. However, there was no obstacle to supportive treatment being commenced in the ED. That said, Dr Wright noted that during the night Mr El-Cheikh's condition was deteriorating. His Modified Early Warning Scores (MEWS), for example. increased from 9 upon arrival at 20:09 to 11 at 02:00 and 14 at 02:55. A MEWS score of greater than 9 is enough to call to an emergency response team and to trigger an ICU consult. Although medical staff were notified of this deterioration, Dr Wright accepted that no meaningful action was taken.

43. Dr Stapleton noted that, although ultimately it was a matter for the ICU to decide whether a patient was admitted to the ICU from ED, it is clear Mr El-Cheikh should have been admitted to the ICU hours earlier than was the case. He noted that ED information systems indicated that consultations with ICU were requested at 23.51 on 21 March 2016 and 04:15 on 22 March 2016. Dr Stapleton opined that

"both the ED consultant on call and ICU consultant should have been made aware of this patient and his condition". He conceded there was a delay in having the information about Mr El-Cheikh's splenectomy made available.

44. I address below Dr Stapleton's overall impression of the significance of the consequence of not transferring Mr El-Cheikh to the ED.

45. Dr Pimkine said that she discussed the case with her consultant and rang Dr Trinh on several occasions to refer Mr El-Cheikh for admission to ICU. Dr Trinh "was not able or willing" to accept the patient into ICU. She stated that she felt the registrar "did not appreciate how unwell the patient was".

46. Dr Trinh acknowledged that Mr El-Cheikh was clearly unwell and was concerned that his condition might worsen. Accordingly, he asked for his condition to be monitored in ED "until morning" and that any deterioration in his condition be reported to him. According to Dr Trinh, ED was the best place to react quickly to any deterioration in a patient. He explained the decision at the time not to consult the ICU consultant was justified given the level of his own experience and the lack of a clear diagnosis. The case, in his experience, was unusual; it was the first time he had encountered someone suffering from Overwhelming Post-Splenectomy Sepsis (OPS) although this diagnosis was not confirmed until after Mr El-Cheikh's death. He said "in hindsight" he should have treated Mr El-Cheikh as having OPS and escalated to the intensivist on call and treated Mr El-Cheikh with more extreme interventions (ICU admission and intubation) earlier. He, and the other registrars in ED and the medical department, could not have anticipated that Mr El-Cheikh would have deteriorated so quickly. He ultimately conceded that the time to bring in the emergency team would have been many hours earlier.

47. In their statements, nursing staff who were on duty on the night, paint a picture of concerns being repeatedly raised about the acuity of Mr El-Cheikh's presentation and that his admission to ICU was indicated. His behaviour was seen as difficult to manage and note was made that this may have been attributable to the effects of his sepsis. The perception of some of the senior nursing staff was that Mr El-Cheikh's level of illness was not being acknowledged. His acuity expressed in terms of his MEWS scores, for example, was very high. In the view of those nurses tasked with his immediate care, Mr El-Cheikh should not have been treated in the ED for such an extended period. Their request for a clinical review of his condition with a view to ICU admission were rejected by Dr Trinh and not actively supported by the ED registrar Dr Mar. Avenues to escalate their concerns were not perceived by them to be present.

Findings

48. The opinions or Dr Arellano and Associate Professor Bihari were not challenged on this issue and are accepted.

E. Overall Level of Care and Contribution to Death of Mr El-Cheikh

The Criticism

49. In respect of aspects of Mr El-Cheikh's care it appears to be agreed that the standard of care accorded to Mr El-Cheikh was "suboptimal" and may have had relevance to Mr El-Cheikh's death.

50. I have referred to those aspects of Mr El-Cheikh's care that Dr Arellano regarded as deficient. In her opinion the minimum expected standard with such a critically ill patient is for:

    a. the case to be discussed with a senior medical practitioner such as the ICU consultant;
    b. following from that discussion, a clear plan developed for his medical care should have been developed (which encompassed the matters set out above); and
    c. consideration given to a transfer to ICU.

51. In Dr Arellano's view, the management he received "did not give him a real chance of survival" and the cardiac arrest "was a predictable outcome". Dr Arellano acknowledges that Mr El-Cheikh was seriously ill "and may not have survived even with ICU care". However, with adequate doses of antibiotics "administered in a timely manner" and with adequate supportive care "there is a chance he may have survived'.

52. Similarly, Associate Professor Bihari expressed the view that while unsure that Mr El-Cheikh death could have been prevented by the measures discussed above, "undoubtedly" the treatment Mr El-Cheikh received was below "the standard of care that is accepted in metropolitan Australia".

    Response

53. Dr Wright agreed with Dr Arellano's opinions as extracted immediately above as to Mr El-Cheikh's survival chances and whether appropriate treatment may have made a difference.

54. Dr Stapleton agreed that death may not have been prevented even with optimal care. He went on to say:

    > I believe Mr El-Cheikh's survival likelihood approached zero, given his severe metabolic derangement, inadequate immune system post splenectomy and the fact that his blood cultures were +ve at 2 hours of incubation. Despite this I agree that his best opportunity required full intensive care level interventions including mechanical ventilation, invasive pressure monitoring guiding optimal fluid resuscitation with vasopressor/inotrope support. The impediment to this appears to have been Mr El-Cheikh not being transferred to the ICU early in his care.

55. He specifically agreed with Dr Arellano's assessment that the management Mr El-Cheikh received did not give him a real chance of survival.

56. Dr Pimkine's view was that the infection Mr El-Cheikh suffered may not have been survivable even with earlier administration of antibiotics or admission to the ICU.

57. Dr Trinh expressed the view that Mr El-Cheikh "had the appropriate treatment for his condition (OPS) right from the start at Calvary Hospital". In his view "it is very likely" that Mr El-Cheikh "belongs to a subgroup of OPS patients who die within the first 24 hours of presentation to a hospital, no matter how appropriate their treatment is".

Findings

58. I reject Dr Trinh's assertion that Mr El-Cheikh had appropriate treatment during his admission at Calvary before his death. Consistent with the findings made above, there were demonstrated shortfalls in Mr El-Cheikh's care.

59. I find that the treatment of Mr El-Cheikh was sub-optimal. I do not find that those deficiencies in his care were the difference between life and death or that they contributed to his death. However, I do find that the sub-optimal standard of care he received did not give him the chance of survival.

60. I make no criticism of individual clinicians. However, as addressed below, there are systemic issues that are highlighted by the standard of care evidence in Mr El-Cheikh's case.

Matters of Public Safety

61. Section 52(4) of the Act requires me to state whether a matter of public safety is found to arise in connection with the inquest. If such a matter does arise, I must comment on the matter.

62. Before addressing that question, I make some further observation to put such issues in an appropriate context. Dr Stapleton provided information as to the pressures that were placed on Calvary and its staff on that night. On 20 March 2016 there was a total of 164 ED presentations and on 21 March 2016 there were 163 presentations. At the time the daily average was about 150 ED presentation. Further, between 20:00 and 24:00 on 20 March 2016 there were 36 ED presentations including Mr El-Cheikh. The effect of that workload was to delay patient assessments and reduce the frequency of observations.

63. The evidence otherwise suggests that the deficiencies in care were not attributable to a single clinician. The responsibility for Mr El-Cheikh's care was shared. Whilst the failure to admit him to the ICU was a significant issue and Dr Trinh central to those decisions, the care he needed (including appropriate monitoring and assessment and early and adequate administration of antibiotics) could have been provided in the ED setting. What is apparent, is that apart from the errant clinical judgments I have identified, there were systemic failings that led to sub-optimal care, particularly:

    a. inadequate or poorly applied sepsis treatment protocols;

    b. restricted access to infectious diseases physicians;

    c. a hesitancy in escalating a patient care issue and the lack of a culture that encouraged staff to raise care concerns, if necessary, with a more senior clinician above clinicians rostered on shift; and

    d. an inadequate number of doctors rostered to overnight shifts.

64. The Coroner was usefully provided with a number of statements from Calvary, including from Ms Narelle Comer, then Director of Clinical Services – Nursing and

Midwifery and Ms Haberecht, the General Manager of Calvary detailing the changes made by Calvary to relevant clinical governance since Mr El-Cheikh's death including:

a. an updated sepsis protocol reflecting changes to international sepsis guidelines;

b. the establishment of a sepsis champion team;

c. implementation from 30 June 2022 of the Australian Commission for Safety and Quality Sepsis Clinical Care Standard which was developed to promote the early recognition, assessment and best practice treatment of patients presenting with signs and symptom of sepsis;

d. the updating of existing Calvary sepsis related policies and procedure to align with the standard;

e. the updating of the Calvary Nurses Program to enhance training in respect of sepsis care;

f. random auditing of records to monitor compliance with changed sepsis protocols and timing and dosing of antibiotics;

g. beginning the introduction of bedside audits of implementation of sepsis protocols to address catheterisation, fluid balance monitoring and timely administration of antibiotics issues;

h. increasing the availability of an onsite infectious diseases expert;

i. improving care escalation processes by:

    i. empowering the Nursing Clinical Manager to call the Emergency Consultant;

    ii. the implementation of a "Speak up for Safety" program to encourage staff to raise concerns about care issues; and

j. improving monitoring processes, including ensuring the Nursing Clinical Manager undertakes at least one round per shift to review nursing management of patients.

65. The development of enhanced patient record management processes has been brought to the Coroner's attention. The implementation of the Digital Health Record (DHR) from 12 November 2022 consolidates information that was previously contained in multiple records (electronic and paper based) into one patient digital care record Amongst other things, the DHR includes an in-built sepsis tool which will trigger consideration of a sepsis diagnosis when inputted data from observations suggest this as a possibility and will suggest a best practice clinical response.

66. Advice was also provided by Dr Stapleton that at the time and in terms of staffing there were only 4 doctors for the overnight shift. Now there are 5 doctors and there is always an emergency consultant on-call overnight.

67. Whilst I find that matters of public safety arise in respect of Mr El-Cheikh's care, I am satisfied that steps have been taken to address those issues by Calvary. On their face those changes are appropriately targeted given the circumstances surrounding Mr El-Cheikh's death.

Formal Findings

68. For the purposes of section 52 of the Act I find that about 07:10 am on 22 March 2016 Maarouf El-Cheikh died at Calvary Hospital, Bruce, in the Australian Capital Territory of streptococcus pneumonia septicaemia due to splenectomy.

69. I find that matters of public safety arise in respect of the care provided to Mr El-Cheikh after his admission on 21 March 2016.

70. I find that the treatment of Mr El-Cheikh was sub-optimal indicating the following systemic failings in the care provided by Calvary Hospital:

    a. inadequate or poorly applied sepsis treatment protocols;

    b. unduly restricted access to infectious diseases physicians;

    c. a hesitancy in escalating a patient care issue and the lack of a culture that encouraged staff to raise care concerns, if necessary, with a more senior clinician above clinicians rostered on shift; and

    d. inadequate number of doctors rostered to overnight shifts.

71. I note that appropriately targeted changes have been made at Calvary Hospital to address those issues although I am not able to assess their adequacy.

72. I make no criticisms of individual clinicians.

Apology to the Family

73. The disposition of the inquest in this case has taken far too long. As I have previously noted in another published decision, *Inquest into the Death of Pamela Vance* [2022] ACTCD 2, section 3BA of the Act requires inquests to be carried out in a way that recognises that the death of a person and an inquest into the person's death, has a significant impact on the person's family and friends. That statutory obligation has not been discharged in this case.

74. On behalf of the Coroner's Court an apology is made to the family for that delay and the poor levels of communication with them as to the progress of the inquest.

I certify that the preceding seventy-four [74] numbered paragraphs are a true copy of the Reasons for Decision of his Honour Magistrate Archer

Legal Officer: Xiao Lin King

Date: 30 January 2023