IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

COR 2022 003353

FINDING INTO DEATH WITHOUT INQUEST

Form 38 Rule 63(2)

*Section 67 of the **Coroners Act 2008***

*Amended pursuant to Section 76 of the **Coroners Act 2008** on 17 October 2024*[1a]

Findings of:	Coroner Ingrid Giles
Deceased:	FHC[1]
Date of birth:	[redacted] 2010
Date of death:	20 June 2022
Cause of death:	1(a) Sepsis
Place of death:	Royal Children's Hospital/Flemington Rd, Parkville, Victoria, 3052
Keywords:	SEPSIS; PAEDIATRIC; AUTISM; ADHD; NEURODIVERSITY; EMERGENCY DEPARTMENT STAFFING; TRIAGE; VITAL SIGNS MONITORING; COVID-19; PARENTAL/CARER ESCALATION; SAFER CARE FOR KIDS

[1a] This version is an amended version of the Finding into the Death of FHC dated 26 September 2024, amended to remove the name of the triage nurse.

[1] This Finding has been de-identified by order of Coroner Ingrid Giles which includes an order to replace the name of the deceased and his family members with pseudonyms for the purposes of publication.

INTRODUCTION

1. FHC was 11 years old when he died on 20 June 2022. FHC lived with his mother, older sister, and maternal grandmother.

2. FHC had a complex psycho-social history, with diagnoses of autism spectrum disorder (**ASD**) level 3, attention deficit hyperactivity disorder (**ADHD**), oppositional defiant disorder (**ODD**), aggressive behaviours, anxiety, and obesity. He was managed by GP Dr Nikolaos Katelis, paediatrician Dr Paul Joffe, and psychiatrist Dr Elizabeth Reed.

3. He was a participant of the National Disability Insurance Scheme (**NDIS**) and had a disability consultant through the Department of Families, Fairness and Housing (**DFFH**). He attended Red Hill Consolidated Primary School. His medications at the time of his death were risperidone, clonidine, lisdexamphetamine, venlafaxine, lamotrigine, and guanfacine.

4. FHC at times displayed aggressive behaviours towards FHC's mother, and the police had become involved on multiple occasions. DFFH Child Protection Services (**Child Protection**) had been involved in the past and FHC was the subject of eight reports between 2 September 2020 and 3 May 2022. The concerns related to FHC's aggressive behaviours and FHC's mother's ability to manage these. Child Protection investigated concerns on two occasions, and the family were supported with a care team to assist.

5. There was no active Child Protection involvement at the time of FHC's death.

THE CORONIAL INVESTIGATION

6. FHC's death was reported to the coroner as it fell within the definition of a reportable death in the *Coroners Act 2008* (**the Act**). Reportable deaths include deaths that are unexpected, unnatural or violent or result from accident or injury.

7. The role of a coroner is to independently investigate reportable deaths to establish, if possible, identity, medical cause of death, and surrounding circumstances. Surrounding circumstances are limited to events which are sufficiently proximate and causally related to the death. The purpose of a coronial investigation is to establish the facts, not to cast blame or determine criminal or civil liability.

8. Under the Act, coroners also have the important functions of helping to prevent deaths and promoting public health and safety and the administration of justice through the making of

comments or recommendations in appropriate cases about any matter connected to the death under investigation.

9. Coroner Sarah Gebert initially held carriage of the investigation into FHC's death. I assumed carriage in July 2023 for the purposes of finalising the investigation and making findings.

10. This finding draws on the totality of the coronial investigation into the death of FHC including evidence contained in the coronial brief. Whilst I have reviewed all the material, I will only refer to that which is directly relevant to my findings or necessary for narrative clarity. In the coronial jurisdiction, facts must be established on the balance of probabilities.[2]

CIRCUMSTANCES IN WHICH THE DEATH OCCURRED

Initial presentation to Rosebud Hospital

11. On 14 June 2022, FHC presented to Rosebud Hospital Emergency Department (**ED**) with his mother, having vomited twice. He was dizzy and was experiencing rib pain. FHC was reviewed at 6:30pm and found to have low blood pressure and a 38.9 degree fever. His heart and respiratory rate were normal. Oral fluids were encouraged, and he was provided with ibuprofen.

12. Further vital signs taken at 8:30pm showed an improvement in his blood pressure and normal temperature, heart rate, and respiratory rate.

13. He was assessed at 8:00pm by the ED Registrar, Dr Sina Sahmeddini (**Dr Sahmeddini**). He had improved clinically and tolerated apple juice and icypoles without vomiting. Examination findings were non-specific with no localised source of infection able to be found. A chest X-Ray was performed due to some mild chest wall tenderness. This was interpreted at the time as normal, but was later reported to show changes "suggestive for atypical or viral pneumonia". Given the history and examination findings, Dr Sahmeddini's impression was a viral infection.

14. At about 10:30pm, Dr Sahmeddini discussed FHC's case with the Peninsula Health paediatric registrar on call at Frankston Hospital, Dr Chiezda Chimbare (**Dr Chimbare**) for advice. Dr

[2] Subject to the principles enunciated in *Briginshaw v Briginshaw* (1938) 60 CLR 336. The effect of this and similar authorities is that coroners should not make adverse findings against, or comments about, individuals unless the evidence provides a comfortable level of satisfaction as to those matters taking into account the consequences of such findings or comments.

Chimbare agreed that FHC was suitable for discharge home as he had tolerated oral intake and his vital signs had normalised.

15. At 11:30pm, FHC was discharged home into FHC's mother's care, with a presumptive diagnosis of a viral infection. FHC's mother was advised of symptoms to be concerned about and when to return to the ED.

Second presentation to Rosebud Hospital

16. FHC returned to the Rosebud Emergency Department on the evening of 15 June 2022. Registered nurse (**the triage nurse**) conducted the triage at 9:45pm. The triage nurse had not yet completed his triage training and was working in the role unsupervised.[3]

17. The visit reason was documented as *"represent from last night with upper abdo pain, diarrhoea, vomiting"*. FHC was also documented as having ADHD, that he did not like crowds, and was febrile. FHC covered his face with clothing when nursing staff attempted to interact with him. The triage nurse attempted to take vital signs, however FHC found the monitors distressing and this was not successful.

18. FHC was allocated a triage Category 3.[4] A note entered at 10:40pm indicates FHC was offered medication for his nausea and vomiting, but he refused. FHC was finding the ED waiting room environment difficult due to the noise and number of people. FHC's mother decided to take him to wait in the car, however hospital staff were reportedly not informed of this. FHC's mother questioned this, and stated that she regularly updated medical staff on FHC's condition, to advise that he was deteriorating.

19. An ED cubicle became available in the early hours of 16 June 2022 and FHC was called back in. He was seen by Registrar Dr Aaron McGinty (**Dr McGinty**). Dr McGinty was the only doctor on site overnight in the ED. FHC's vital signs showed tachycardia, tachypnoea, and that he was afebrile. He was alert with a Glasgow Coma Scale score of 15 out of 15.

20. On assessment, FHC appeared unwell with respiratory distress, mottled skin with poor peripheral circulation and delayed capillary refill time, a blanching rash, cough, and vomiting.

---

[3] Nursing staff require additional training to be able to be able to work unsupervised in an ED triage nurse role. In her statement, Dr Adie outlined that the triage nurse in question had one supervised shift remaining before completing their triage training. There were no fully trained triage nursing staff available for the shift.

[4] The Australian Triage Scale aims to ensure that patients presenting to EDs are treated in the order of their clinical urgency and allocated to the most appropriate assessment and treatment area. Category 3 has a recommended maximum waiting time of 30 minutes for medical assessment and treatment.

He then became febrile. His blood glucose was checked and was low. Oral glucose was given, however he was unable to tolerate it all. His blood glucose was rechecked after this and found to have improved. An IV line was inserted and bloods obtained for further testing at about 12:30am. In discussion with Frankston Hospital paediatric registrar Dr Tarryn Corkery (**Dr Corkery**), a plan was made to commence treatment and then transfer to Frankston Hospital for further management. IV fluids and antibiotics were commenced at 2:45am and IV glucose at 3:35am.

21. Initial bloods tests were indicative of severe illness with metabolic acidosis with a raised lactate and acute kidney injury. In light of these results, Dr McGinty discussed FHC's care with the Paediatric Infant Perinatal Emergency Retrieval (**PIPER**) team at Royal Children's Hospital (**RCH**), who advised to administer an IV fluid bolus and to add additional antibiotic clindamycin. The decision was made for PIPER to retrieve FHC at 3:10am.

22. Whilst awaiting PIPER's arrival, FHC's IV line extravasated and was unable to be used.[5] Reinsertion was delayed due to FHC's aggression. Prior to the extravasation, all of the antibiotic ceftriaxone and some dextrose fluids were able to be given. Due to the lack of viable IV access, further resuscitation efforts were delayed.

23. PIPER arrived at 4:50am and FHC was administered further fluids, antibiotics, and was started on inotrope medication.[6] He remained agitated during this time, however was still able to breathe on his own and did not require breathing support. PIPER departed Rosebud Hospital at 6:25am. After departure, further blood test results became available which showed markedly raised inflammatory markers and multiorgan dysfunction with a severe metabolic acidosis, deranged liver and kidney function, and coagulopathy.

Admission to Royal Children's Hospital (RCH)

24. FHC arrived at the Paediatric Intensive Care Unit (**PICU**) at RCH at about 7:45am. Shortly after this, he had a rapid deterioration in his conscious state, with poor cardiac output, and tachycardia. He was intubated and central venous access was obtained. He experienced a large vomit during intubation and subsequently aspirated. He had ongoing hypotension and his blood tests continued to worsen with worsening lactic acidosis. Due to his deterioration, he was placed on extracorporeal membrane oxygenation (**ECMO**).[7] FHC went on to develop

[5] Extravasation refers to the leaking of a fluid or medication into extravascular tissue from a peripheral IV cannula.
[6] Medications that increase the strength of cardiac contractions.
[7] An extracorporeal technique of providing prolonged cardiac and respiratory support to persons whose heart and lungs are unable to provide an adequate amount of oxygen, gas exchange or blood supply to sustain life.

multiorgan failure and required haemofiltration.[8] He developed rhabdomyolysis[9] and compartment syndrome on 18 June.[10]

25. FHC was continued on broad spectrum antibiotics and started on intravenous immunoglobin. He was managed as a patient with presumed septic shock with multiorgan failure. The medical speciality teams involved included paediatric medicine, infectious disease, cardiothoracic surgery, paediatric surgery, and plastic surgery.

26. On the morning of 19 June 2022, computed tomography (**CT**) imaging of FHC's brain showed extensive brain oedema with obliterated extra-axial spaces and third and fourth ventricles and cerebellar tonsillar herniation. Lack of radiocontrast uptake demonstrated lack of blood flow to the brain which was therefore indicative of brain death. Following this report, there was a family meeting and the CT findings were discussed with FHC's parents. Given the severity of FHC's condition and unsurvivable brain injury, the medical team recommended cessation of ECMO support. FHC passed away on 20 June 2022.

IDENTITY OF THE DECEASED

27. On 20 June 2022, FHC, born 18 August 2010, was visually identified by his mother who signed a formal statement of identification to this effect.

28. Identity is not in dispute and requires no further investigation.

MEDICAL CAUSE OF DEATH

29. On 24 June 2022, Forensic Pathologist Dr Brian Beer from the Victorian Institute of Forensic Medicine (**VIFM**) conducted an autopsy. Dr Beer reviewed the Victorian Police Report of Death Form 83, post-mortem CT scan, VIFM contact log, preliminary examination report, medical deposition, and medical records from HUB clinic and Royal Children's Hospital, and provided a written report of his findings.

30. The autopsy showed features consistent with generalised sepsis. There was extensive blotchy skin reaction, pleural and epicardial blotchy appearance, widespread engorgement of vessels by neutrophils.

---

[8] Renal replacement therapy which is used in the intensive care setting. It is usually used to treat acute kidney injury, but may be of benefit in multiple organ dysfunction syndrome or sepsis.

[9] Muscle tissue breakdown which results in the release of a protein myoglobin into the blood.

[10] A condition caused by pressure build-up from internal bleeding or swelling of tissues. The pressure decreases blood flow, depriving muscles and nerves of required nourishment.

31. The blood C reactive protein (**CRP**) was markedly raised – 336mg/L. This is consistent with systemic sepsis.

32. The microbiology results are as follows:

    - Blood cultures – no growth
    - Lung swabs – scant Staph aureus and Candida albicans +
    - Urine and bladder swab – Candida albicans +
    - Bowel contents candida albicans +++

33. Virology did not detect any viruses, and FHC was COVID-19 negative.

34. There was moderate steatohepatitis in the liver, which may reflect the moderate background obesity metabolic syndrome. Other potential causes at this borderline age of 11 may include impaired fatty acid metabolism or lysosomal or peroxisomal storage.

35. There were no injuries found at autopsy that may have caused or contributed to the death.

36. The vitreous biochemistry was unremarkable.

37. There was growth of Candida albicans from the bowel contents, and this was also grown from the urine/bladder swabs and lung swabs. This finding is of unclear significance, and noting that it was isolated from multiple sites may be a possible post-mortem contaminant.

38. The post-mortem blood cultures were negative, but there had been intensive antibiotic treatment instituted, and a time delay until post-mortem sampling. While noting the prudent caveat placed on the Streptococcus pyogenes PCR result, a possible bacterial organism has been identified.

39. Based on the information available to him, Dr Beer was of the opinion the death was due to natural causes.

40. Dr Beer provided an opinion that the medical cause of death was 1 (a) sepsis.

41. I accept Dr Beer's opinion.

FAMILY CONCERNS

42. In a letter to the Court in July 2022, FHC's mother outlined her concerns regarding medical care provided at Rosebud Hospital ED. These included:

a) That FHC was displaying signs of sepsis at his initial presentation to Rosebud Hospital ED, but was not diagnosed or treated accordingly;

b) A question as to why his condition was (mis)diagnosed as a virus and he was discharged home;

c) A difference in interpretation of the chest X-Ray that had been performed during his presentation on 14 June 2022. The family had initially been told there was nothing of concern, however the formal report indicated there was pneumonia;

d) The lack of vital signs taken, particularly blood pressure, as it was low the previous night, at triage when FHC returned on 15 June 2022;

e) The wait of approximately three hours before FHC was seen by a doctor, despite being very unwell;

f) Lack of communication regarding the seriousness and urgency of FHC's condition whilst in the Rosebud ED prior to transfer; and

g) A question as to why the transfer to RCH took so long.

43. Upon receipt of these concerns, and in the interests of a comprehensive coronial investigation, I requested the Coroners Prevention Unit (**CPU**) review the material and seek additional information from the health services involved.

44. The CPU was established in 2008 to strengthen the prevention role of the coroner. The CPU assists the coroner with research in matters related to public health and safety and in relation to the formulation of prevention recommendations. CPU staff include health professionals with training in a range of areas including medicine, nursing, and mental health; as well as staff who support coroners through research, data and policy analysis.

Statements and additional material obtained

Dr Sina Sahmeddini, Statements dated 1 March 2023 and 27 May 2024

45. In his statements to the Court, Dr Sahmeddini outlined that he was a junior emergency medicine registrar at Peninsula Health in his second year of training when he reviewed FHC. In this role, he was the most senior doctor at the Rosebud ED the night that FHC presented.

Dr Aaron McGinty, Statement dated 23 February 2023

46. Dr McGinty outlined that he was working as an emergency registrar in his first year at Rosebud Hospital on 15-16 June 2022. He stated that there was no consultant present overnight, but there was a consultant available on call.

47. Dr McGinty stated that FHC was not reviewed by a senior ED doctor or paediatric doctor, as he was the only doctor on site. The ED consultant was on call but was 20-30 minutes away. Dr McGinty stated that the discussions between him and pediatric registrar Dr Corkery, PIPER team, and the ambulance coordinator took over an hour. After these discussions, he updated the ED consultant on call. By this stage, PIPER were due to arrive and would reach Rosebud before the consultant would.

Dr Meredith Adie, Statements dated 27 February 2023, 13 November 2023, and 20 May 2024

48. Dr Adie was the Acting Clinical Director of the Rosebud ED at the time of FHC's presentation there. When FHC presented to Rosebud ED on 15 June 2022, there were normally two registrars and two residents until midnight, then one registrar overnight. Overnight there was no consultant present but one was on call for advice and attendance if required.

49. Dr Adie outlined there was a deficit of medical staff on 15 June 2022, due to a deficit in the morning shift which was unable to be filled. Hence the afternoon doctor came in early to cover, which led to an earlier finishing time, leaving a deficit between 7:30pm and midnight.

50. Dr Adie stated there is no access to on-site paediatric review at Rosebud Hospital. If there are concerns about a paediatric patient, phone consultation is made with the Frankston Hospital paediatric registrar. There are no formal indications as to when to refer to the paediatric team. Dr Adie stated that Rosebud ED follows the RCH statewide paediatric clinical practice guidelines.

51. Dr Adie outlined the training and experience required for nursing staff at Rosebud ED to be allocated the triage role. They must have at least two years' experience in emergency nursing and have completed the Peninsula Health Triage Learning Package, training for adult and paediatric life support skills and management of critically ill patients, and two to three supervised triage sessions, the final one to be assessed by a clinical nurse educator.

52. Dr Adie explained that vital signs were not taken at triage on 15 June as it was attempted by the triage nurse but was unsuccessful as FHC found the attachment of monitors distressing.

53. Dr Adie considered that FHC's triage score was appropriate on his presentations on 14 and 15 June, however on both occasions he waited longer than his triage time to be seen. The hospital policy of escalation to a senior doctor was not followed.

54. The CPU considered there to be a discrepancy between the hospital guidelines and Dr Adie's statements. The 'Emergency Department Triage Procedure' clearly states that all children should be seen within an hour of presentation. It does not specify the time frame for vital signs to be taken. In her first statement, Dr Adie stated that for paediatric patients, vital signs should be monitored every half hour until seen by medical staff. Peninsula Health has since advised the Court that this statement was made in error. In her second statement, Dr Adie stated that vital signs are not required to be taken at triage for paediatric patients in Rosebud ED, but should be taken in accordance with their triage category time. Peninsula Health confirmed this is to be determined on the basis of a triage nurse's primary assessment which involves observations of the patient's general appearance, pain assessment, and neurological status. A triage category is then allocated in accordance with the Australian Triage Scale. This determines the maximum time a patient ought to wait for medical nursing assessment and treatment.

55. Dr Adie stated that it was not recommended nor known by staff that FHC was taken to wait in the car. Prior to COVID-19, Rosebud ED had a dedicated children's waiting room and it could be used to assist in diminishing sensory overload in people with neurodivergence. At the time of FHC's presentation, that room was being used as an isolation area. This area has since been restored back to a Paediatric Waiting Area.

56. In her first statement, Dr Adie outlined that discussion with a senior ED doctor is only mandated if there is a paediatric patient requiring intubation, PIPER transfer, or paediatric cardiac arrest, which was also reflected in the policy. In her second statement, Dr Adie

attached the *Guidelines for Calling ED Consultant Overnight* policy, which appears to have changed since her initial statement. The changes include:

> *Indications for calling the consultant on call:*
> - *Any time the Senior ED Registrar requires senior assistance managing an unwell patient or if the involvement of the on-call consultant will influence care*
> - *Any paediatric resuscitation*
> - *Any PIPER or ARV transfers that were not already known about or discussed previously*
>
> *Situations when Rosebud consultant on call is to attend ED:*
> *Rosebud is covered by a single junior ED Registrar overnight so when any unstable patient presents, the workload is likely to be overwhelming. Therefore the Rosebud on call consultant should attend ED in the following situations:*
>
> - *ARV or PIPER transfers*
> - *Patient needs intubation (MICA should be called if this is urgent)*
> - *Unstable breathing and circulation that do not respond to first line treatment*

57. Dr Adie outlined that paediatric vital signs at Rosebud Hospital are documented on paper charts, while the remainder is in the electronic medical record. In the case of abnormal vital signs, this is not able to be seen on the electronic record so is not flagged as an extra prompt. Dr Adie advised the incorporation of the paper charts into the electronic record is strongly supported and is listed as a future project for Peninsula Health. The timeframe for completion is yet to be announced.

Sentinel Event case review

58. FHC's death was reported to Safer Care Victoria (**SCV**) as a sentinel event and subsequently a sentinel event review was conducted. A copy of the report was obtained by the Court.

59. The review panel interviewed staff members involved in FHC's care. The panel felt that there was incomplete information for an appropriate assessment to be achieved when FHC was triaged on 15 June 2022. Contributing factors for the incomplete information were noted to be no waiting room nurse allocation, nursing staff skill mix issues resulting in a novice triage nurse with incomplete training to be allocated to triage, and no appropriate space to assess the patient.

60. The review outlined the busyness and acuity of the Rosebud ED on the night of 15 June 2022, and made the following findings:

a) ‘Nursing skills mix issues resulted in the allocation of a nurse with incomplete triage training to the triage role. As a result, the hospital guideline on representation was not followed, which may have contributed to an absence of escalation resulting in a further delay to medical assessment’;
b) ‘A shortage of key decision makers contributed to a large number of patients waiting to be seen. This contributed to the delay in medical assessment of the patient’;
c) ‘The usual space for paediatric patients in the ED was utilised for suspected COVID-19 patients. This resulted in the lack of a quiet and less triggering environment for FHC, which may have contributed to the incomplete assessment at triage’;
d) ‘The escalation policy was not followed due to the following factors:
    i. The escalation criteria are unclear and the frequency at which these criteria should be reassessed is not specified;
    ii. The specified actions to be taken are not compatible with out of business hours practice and staffing; and
    iii. Perceived barriers around calling on-call leaders.

    These may have contributed to the delay in medical assessment and management’.
e) ‘After midnight there was a single medical officer rostered to cover the ED. When a significant number of patients are waiting to be seen, and there is limited space to review patients, it is inevitable that delays to assessment occur. This contributed to delayed assessment and management of this patient’.

61. The review further identified the following ‘lessons learnt’:

a) There was a lack of awareness regarding the triage guidelines for representing patients, and paediatric waiting times, which may have contributed to the lack of escalation and absence of a follow up management plan for the patient.
b) A standard discussion had lapsed during COVID-19 peaks. Although not a direct contributing factor to this incident, these meetings can be opportunities for escalation and assistance with flow initiatives.
c) There was a delay in contacting the on-call consultant. These factors delayed the potential provision of support by the on-call consultant.
d) A lack of consumer escalation information in the waiting room may have contributed to an absence of communication to the triage nurse.

CPU REVIEW AND ASSESSMENT OF CONTRIBUTING FACTORS

Sepsis

62. Sepsis is a life-threatening condition which occurs due to the body's response to an infection. It is a major cause of morbidity and mortality in children. Septic shock is sepsis with evidence of cardiovascular organ dysfunction, of which hypotension is a late sign. Sepsis can lead to rapid organ dysfunction and as such it is important to diagnose and treat sepsis quickly. Treatment is with antimicrobials, intravenous fluids, and other supportive care.

63. Sepsis can be difficult to diagnose prospectively, as initially the signs and symptoms can mimic other conditions. Often the diagnosis is clear in retrospect. Most children who have a fever do not have sepsis. Therefore, in a child presenting with fever, the difficulty lies in differentiating sepsis from other illnesses. Whilst it is crucial not to miss a diagnosis of sepsis, it is also important not to over-diagnose as this would lead to unnecessary interventions and use of limited resources.

64. The CPU noted that in Victoria there is no widely agreed upon set pathway for identifying paediatric sepsis, nor is there a single test or investigation that can diagnose sepsis. Rather, clinicians must utilise their clinical assessment, including timely vital signs and physical examination, and serial reassessment. Investigations such as blood tests are often helpful but are not a pre-requisite to making a diagnosis of sepsis.

65. Peninsula Health advised the Court that in April 2024, the health service began trialling a Paediatric Sepsis Pathway within the Emergency Departments. In accordance with this pathway, if a triage nurse identifies a paediatric patient with signs of infection, and the patient looks unwell or is presenting with additional red flags, the paediatric patient will be escalated within ED accordingly to encourage early recognition and treatment of sepsis.

Assessment of health care provided

Initial presentation, 14 June 2022

66. The CPU considered that the medical care provided during this presentation was reasonable. Although FHC was initially hypotensive on his first set of vital signs, on subsequent observation his blood pressure had normalised. On examination, there were no abnormal findings or source for infection identified. Appropriately, his assessment and management plan was discussed with the Peninsula Health paediatric registrar and a chest X-Ray was

performed. FHC was observed in the ED for a reasonable period of time. At the time of discharge, he had tolerated some oral intake and his vital signs normalised. Discharge with safety netting was not unreasonable.

67. The CPU noted that formal reporting of X-Rays by a radiologist is not routinely available overnight, and as such it is common practice for X-Rays to be interpreted by ED clinicians. The chest X-Ray was interpreted by Dr Sahmeddini as being normal, however subsequent formal reporting noted changes suggestive of possible atypical or viral pneumonia. Viral pneumonia does not require antibiotic treatment and the antibiotic used to treat atypical pneumonia does not provide good coverage against Group A Streptococcus. Further, X-Rays can lead to false positive diagnoses. It is noted that FHC's autopsy did not demonstrate findings consistent with pneumonia.

68. Dr Sahmeddini provided an additional statement to the Court and advised that although non-specific complaints of FHC's may not have been included in the documentation, all complaints raised were addressed. Dr Sahmeddini outlined that complaints such as weakness are common with acute illnesses. Dr Sahmeddini noted that there was no mention of breathing difficulties at the time of this discharge, although FHC was coughing. Dr Sahmeddini confirmed he undertook an examination of FHC to see if there was any rash on his trunk. FHC's thighs were not examined as there was no mention in the history of this.

69. Dr Sahmeddini advised the medical records do not suggest that FHC required supplemental oxygen. His oxygen saturation levels were within normal limits (95% on room air was the lowest documented oxygen saturation). Dr Sahmeddini advised that if low oxygen saturations were present, a significant lung disease such a pneumonia, or upper/lower airway involvement in the process would be suspected, and an admission would be required.

Second presentation, 15-16 June 2022

70. The care FHC received during his second presentation to Rosebud Hospital is considered by the CPU to be suboptimal. The CPU broadly agreed with the sentinel event review findings and recommendations. The CPU considered that some of these require further discussion and action, as outlined below.

<u>Triage process and monitoring of vital signs in ED</u>

71. The CPU noted that a triage assessment involves a combination of the presenting problem and general appearance of a patient, and may be combined with vital sign observations. A number

of factors contributed to FHC's incomplete triage assessment and lack of subsequent monitoring on 15 June 2022.

72. Firstly, FHC was triaged by a relatively inexperienced triage nurse who had yet to complete their training. CPU considered that this contributed to the incomplete triage assessment and lack of appreciation of the potential significance of FHC's return to the ED. Lack of experience may also have contributed to the inability to take vital signs at presentation. However, it must be noted that this nurse had only one additional supervised triage shift until they completed their training. It is plausible therefore that even if triage had been done by a nurse who had completed training, a similar situation may have occurred. Importantly, further monitoring and assessment was hindered by the lack of appropriate waiting area, and lack of additional nursing staff.

73. The CPU is of the opinion that the current Peninsula Health policy regarding monitoring of vital signs for paediatric patients in ED is unclear. A set of vital signs taken at triage can assist greatly in assessment and assignment of a triage category. It is acknowledged that in the medical community, there is no clear consensus on whether vital signs should be taken at triage, and there are some circumstances where vital signs would be unnecessary. However, in the case of paediatric presentations, stronger consideration should be made to take vital signs at the point of triage.[11]

74. The CPU reviewed a Western Australian Coronial finding into the death of Aishwarya Aswath Chavittupara,[12] a seven-year-old girl who died from sepsis at Perth Children Hospital in April 2021. This finding noted, as there is no consensus amongst the medical community whether vital signs are necessary to always be taken at triage, that if vital signs are not taken at triage (as not every hospital has this policy and/or it is not always necessary), there needs to be a clear time frame (e.g. after 30 minutes or by triage category time) when vital signs *should* be taken.

Recognition of sepsis

75. Prompt recognition of sepsis is crucial but can be challenging. A key factor in increasing the chances of recognising sepsis early is ongoing monitoring with timely serial assessment and observations. This in turn relies on adequate staffing.

[11] https://www.health.gov.au/resources/collections/emergency-triage-education-kit
[12] https://coronerscourt.wa.gov.au/I/inquest_into_the_death_of_aishwarya_aswath_chavittupara.aspx

76. In the investigation into the death of Aishwarya Aswath Chavittupara, it was noted that while observations are important, serial observations are even more helpful, as the doctors can then identify a trend. It was noted that it is important for ED staff to keep the possibility of sepsis at the forefront of their minds.

Staffing of the ED

77. The sentinel event review focused on changing guidelines for escalation in the case of staffing constraints. Whilst it is important to have clear escalation policies, the CPU noted that this alone does not mitigate the risk of being understaffed.

78. Staffing constraints in the context of the COVID-19 pandemic were noted as an issue in the sentinel event review. At the time of FHC's death, Rosebud ED averaged approximately 22,000 ED presentations per year. Any ED has to make decisions to staff their unit according to expected presentations. However, the CPU is of the opinion that the level of the Rosebud ED nursing and medical staffing at the time of FHC's death was suboptimal, and remains as such currently.

79. The CPU notes that, since FHC's death, additional nursing staff *have* been added to Rosebud Hospital to provide triage/ED waiting room assistance from 9:00am-12:30am daily and considers this an appropriate action. However, it should be noted that having additional nursing staff in an ED waiting room is also a mitigation strategy and should not replace patients obtaining a comprehensive medical assessment in a timely manner according to their triage category.

80. Although the sentinel event review acknowledged the effect of not having adequate medical staff in the ED overnight, no clear action has been taken by Peninsula Health in response to this. Although appropriate changes have been made to the escalation policy, this is again a mitigation strategy.

81. Escalation to the ED consultant to physically attend the hospital could have been done after recognition of the severity of FHC's illness. However, it is unlikely that this would have changed the outcome, and the CPU considers that it was appropriate for PIPER to be called prior to the ED consultant for management advice and request for transport. However, the sentinel event review did appropriately highlight that calling the on-call consultant can be done by the nursing team if the medical team is otherwise occupied.

82. From Dr Adie's statement, the CPU noted that it does not appear that additional medical staff have been added to the overnight roster since FHC's death. The 2021 Australasian College for Emergency Medicine (**ACEM**) guidelines suggest for a hospital of Rosebud's size, there should be at least two non-consultant level doctors present, with one consultant or higher doctor on call. The 2024 Guidelines provide that there should be four doctors working overnight, with a consultant on call.[13] Without adequate staffing, regardless of the escalation policy, patient care may be compromised. The CPU considered that this serves to transfer organisation risk to individual clinicians.

83. Given the size of Rosebud Hospital, the CPU considers it reasonable that there are no on-site paediatric doctors as there is access to the Frankston Hospital paediatric team for advice.

84. Peninsula Health advised the Court that its rostering practice prioritises filling Rosebud Hospital shifts due to historical challenges related to the Rosebud site location being some distance from the CBD. Further, it has implemented strategies to prioritise staff replacement due to late personal leave, including payment incentives and re-allocation of staff rostered to the Frankston site to the Rosebud site. Despite these changes, fulfilling the desired medical staffing levels, particularly out of hours, at Rosebud Hospital, can be difficult.

Engagement with neurodiverse patients

85. Given the prevalence of autism in children,[14] it is important that suitable facilities are provided to patients with neurodiversity. One way in which this can be done is through providing an appropriate environment that is appropriate for neurodivergent patients. By their nature, emergency departments are busy, bright, and loud. However, to provide appropriate care to those with neurodiversity, provision of a separate waiting area that minimises some of this sensory stimulus is required.

86. The CPU acknowledges that the COVID-19 pandemic necessitated the re-configuration of space, and this resulted in a lack of appropriate waiting environment for FHC. The paediatric waiting area has now been reinstated.

---

[13] https://acem.org.au/getmedia/91f69ba9-67be-4841-acc9-5df62986498c/G23-Guidelines-for-constructing-a-senior-EM-workforce

[14] A recent study found one in 31 Victorian children (3.3%) were autistic. This finding was based on data collected between 2013-18 (before and during the rollout of the NDIS). Barbaro J, Sadka N, Gilbert M, et al. Diagnostic Accuracy of the Social Attention and Communication Surveillance–Revised With Preschool Tool for Early Autism Detection in Very Young Children. *JAMA Netw Open.* 2022;5(3):e2146415; doi:10.1001/jamanetworkopen.2021.46415.

Opportunities for parental / carer escalation

87. The CPU acknowledges the work Peninsula Health has done in implementing the Care Call system. This Care Call system allows family members or carers who are concerned that their loved one is getting sicker to escalate their concerns. A specific phone number for a "Care Call" is provided for this process of escalation.

88. The CPU is aware that lack of clear escalation processes for parental/carer concerns is part of a widespread issue and has been a factor in many child deaths reviewed at the Court. Currently, there is a broader piece of work underway through Safer Care Victoria through the 'Safer Care for Kids' initiative. This work has been undertaken in response to a review of the increased number of sentinel events reported in 2021-22, which resulted in three broad recommendations. One of these recommendations is to deliver a state-wide patient escalation process, to empower patients and carers to voice unresolved concerns and receive timely responses from their health service. The CPU supports the state-wide system in order to streamline processes and make the system user friendly for consumers.

Integrated use of ViCTOR Charts

89. The CPU notes that whilst Peninsula Health uses the Victorian Children's Tool for Observation and Response (**ViCTOR**) chart to document vital signs of paediatric patients, this chart is only available in paper form and is not integrated into the hospital's electronic system in which the rest of the ED documentation is recorded. Although not directly contributory to FHC's death, the lack of integration means it is more difficult to alert clinicians of abnormal vital signs/concerns, putting patients at risk of adverse outcomes.

90. Another key recommendation of the Safer Care project is to mandate the ViCTOR chart wherever children and young people have vital signs recorded. This is a commendable recommendation, however it must be noted that enabling various electronic medical records to integrate ViCTOR charts may not be straightforward and requires significant IT involvement.

91. Peninsula Health has indicated in relation to this issue that its Executive and Emergency Departments are strongly supportive of the incorporation of ViCTOR charts into the EMR. It is listed as a future project, however the time frame to completion is yet to be announced.

Summary of findings

92. The CPU considered that the main contributing factors leading to FHC's death included a lack of trained triage nursing staff, which led to vital signs not being taken at or shortly after triage. There was a lack of nursing staff overall, which led to an inability to monitor patients in the ED waiting room. There was also insufficient medical staff overnight which led to wait times exceeding recommended limits.

93. Other factors which impacted care included the COVID-19 pandemic. As well as impacting on staffing levels, it also meant that the normal paediatric ED waiting room was not available, and there was a lack of facilities accommodating those with neurodiversity. FHC ended up waiting in the car to be seen by staff, where he was unable to be monitored.

94. Further, there was a lack of clear parental/carer escalation process to flag concerns to nursing/medical staff. There was an unclear escalation policy, which led to potential delays in treatment once FHC was seen.

95. The CPU acknowledges the effect that the COVID-19 pandemic had on workforce shortages, patient flow, and reconfiguration of hospital space. With the COVID-19 state of emergency now declared over, the paediatric waiting room has been reinstated to its original purpose. However, while it is likely some staff shortage pressures have resolved, the current medical staffing at Rosebud Hospital does not meet the recommended ACEM guidelines.

96. I accept the findings of the CPU.

FINDINGS AND CONCLUSION

97. Pursuant to section 67(1) of the *Coroners Act 2008* I make the following findings:

    a) the identity of the deceased was FHC, born [redacted] 2010;

    b) the death occurred on 20 June 2022 at Royal Children's Hospital/Flemington Rd, Parkville, Victoria, 3052, from sepsis; and

    c) the death occurred in the circumstances described above.

98. Having considered all of the circumstances, I find that there were missed opportunities in the provision of care to FHC when he returned to the Rosebud ED on 15 June 2022. Had vital signs and a more thorough assessment occurred either at or shortly after triage on this date,

staff would have likely recognised earlier the fact that FHC was critically unwell. This would have prompted earlier intervention which would have optimised his chances of survival.

99. Having so found, I acknowledge the steps taken by Peninsula Health since the time of FHC's death to promote systems improvements, including in relation to carer escalation processes, and the trialling of a Paediatric Sepsis Pathway. I am hopeful that these initiatives will improve clinical practice for future patients in similar circumstances to FHC, when considered in conjunction with the comments and recommendations I make below.

COMMENTS

Pursuant to section 67(3) of the Act, I make the following comments connected with the death:

To: Safer Care Victoria

1. I endorse Safer Care Victoria's 'Safer Care for Kids' initiative, and support a statewide parental/carer escalation process and electronic integration of ViCTOR charts wherever children and young people have vital signs recorded.

2. In particular, I note the recent coronial recommendation in the finding into the death of Noah Souvatzis, and urge that consideration be given to incorporating a question to be asked by clinicians about parental and carer concerns as a core vital sign in paediatric patients.[15]

RECOMMENDATIONS

Pursuant to section 72(2) of the Act, I make the following recommendations.

To Peninsula Health:

1. Clarify the practice around vital sign monitoring in the Emergency Department for paediatric patients. If not taken at triage, vital signs should be taken within the Australian Triage Category scale, or within 30 minutes of triage (whichever is sooner). Vital signs should continue to be taken every 30 minutes thereafter until a patient is seen by medical staff.

[15] Findings into the death of Noah Andrew Souvatzis dated 6 August 2024, accessible on the Coroners Court of Victoria website at https://www.coronerscourt.vic.gov.au/sites/default/files/COR%202021%20007004%20Form%2037-Finding%20into%20Death%20Following%20Inquest_Signed.pdf.

2. Continue efforts to bolster medical staffing levels at Rosebud Hospital Emergency Department in order to ensure they are in accordance with the Australasian College for Emergency Medicine guidelines.

I convey my sincere condolences to FHC's family for their immeasurable loss, and thank FHC's mother for her active and considered participation in the coronial investigation.

DIRECTIONS

Pursuant to section 73(1B) of the Act, I order that a de-identified copy of this finding be published on the Coroners Court of Victoria website in accordance with the rules.

I direct that a copy of this finding be provided to the following:

FHC's mother, Senior Next of Kin

FHC's father, Senior Next of Kin

Peninsula Health

Annabelle Mann, Royal Children's Hospital

Consultative Council on Obstetric and Paediatric Mortality

Department of Families, Fairness, and Housing

Safer Care Victoria

Australasian College of Emergency Medicine

Liana Buchanan, Commission for Children and Young People

Signature:

CORONER INGRID GILES

Date : 26 September 2024

NOTE: Under section 83 of the ***Coroners Act 2008*** ('the Act'), a person with sufficient interest in an investigation may appeal to the Trial Division of the Supreme Court against the findings of a coroner in respect of a death after an investigation. An appeal must be made within 6 months after the day on which the determination is made, unless the Supreme Court grants leave to appeal out of time under section 86 of the Act