IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

COR 2021 004394

FINDING INTO DEATH FOLLOWING INQUEST

Form 37 Rule 63(1)
*Section 67 of the **Coroners Act 2008***

Amended pursuant to section 76 of the *Coroners Act 2008*, as at 20 February 2026[1]

INQUEST INTO THE DEATH MAX PETER MCKENZIE

Findings of:	Coroner David Ryan
Delivered on:	5 February 2026
Delivered at:	Coroners Court of Victoria 65 Kavanagh Street, Southbank, Victoria
Inquest hearing dates:	18, 19 & 28 November 2025
Counsel Assisting the Coroner:	Rachel Ellyard of counsel Instructed by Katrina Sonneveld, Solicitor, Coroners Court of Victoria
Dr Ben McKenzie & Tamara McKenzie:	Daniel Wallis of counsel Instructed by Maurice Blackburn
Eastern Health:	Sebastian Reid of counsel Instructed by Lander & Rogers
Ambulance Victoria	Naomi Hodgson of counsel Instructed by Meridian Lawyers
Keywords:	Anaphylaxis – asthma – emergency medical treatment – adrenaline – ventilation – intubation

[1] Amendments have been made to the cover page to correct the name of counsel for family, and to paragraph 6 to reflect the correct timing of Max's EpiPen prescription.

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INTRODUCTION

1. On 19 August 2021, Max Peter McKenzie (**Max**) was 15 years old when he passed away at the Royal Children's Hospital.

2. Max was born on 7 January 2006. He is deeply mourned by his loving family which includes his parents, Dr Ben McKenzie and Tamara McKenzie, his sisters, Lucy and Ella, and baby brother, Charlie. He is warmly remembered for his kindness, curiosity and energy.

3. In moving Coronial Impact Statements delivered to the Court, Max's family conveyed with warmth and affection their experience and memory of Max, and their grief, devastation and loss at his passing.

4. Ben has engaged in an enormous amount of advocacy, study and education to increase the awareness of the community and the medical profession in relation to the risks of anaphylaxis and the most effective way to treat it. His dedication and focus, with the support of Tamara and their children, has been influential and inspirational, ensuring that the community continues to learn from Max and his story.[1]

BACKGROUND

5. Max was a high school student at Camberwell Grammar who had a talent for debating, performing and kayaking. He was an intelligent, energetic boy who loved his family and embraced life.

6. Max's medical history included asthma. He was also allergic to tree nuts and peanuts. He used asthma inhalers and was prescribed an EpiPen as a toddler when his food allergies were diagnosed.

[1] www.livetomax.com.au; www.amax4.org.

CORONIAL INVESTIGATION

Jurisdiction

7. Max'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.

8. The Coroners Court of Victoria (**the Court**) is an inquisitorial court.[2] The purpose of a coronial investigation is to independently investigate a reportable death to ascertain, if possible, the identity of the deceased person, the cause of death and the circumstances in which the death occurred.

9. The cause of death refers to the medical cause of death, incorporating where possible, the mode or mechanism of death.

10. The circumstances in which the death occurred refers to the context or background and surrounding circumstances of the death. It is confined to those circumstances that are sufficiently proximate and causally relevant to the death.

11. The broader purpose of coronial investigations is to contribute to a reduction in the number of preventable deaths, both through the observations made in the investigation findings and by the making of recommendations by coroners. This is generally referred to as the prevention role.

12. Coroners are empowered to:

    (a) report to the Attorney-General on a death;[3]

    (b) comment on any matter connected with the death they have investigated, including matters of public health or safety and the administration of justice;[4] and

[2] Section 89(4) of the Act.
[3] Section 72(1) of the Act.
[4] Section 67(2) of the Act.

(c) make recommendations to any Minister or public statutory authority or entity on any matter connected with the death, including public health or safety or the administration of justice.[5]

13. These powers are the vehicles by which the prevention role may be advanced.

14. It is important to stress that coroners are not empowered to determine civil or criminal liability arising from the investigation of a reportable death. Further, they are specifically prohibited from including a finding or comment, or any statement that a person is, or may be, guilty of an offence.[6] It is also not the role of the coroner to lay or apportion blame, but to establish the facts.[7]

15. The standard of proof applicable to findings in the coronial jurisdiction is the balance of probabilities and I take into account the principles enunciated in *Briginshaw v Briginshaw*.[8]

16. It was not mandatory under the Act for an inquest to be held into Max's death. However, on 6 April 2023, his family's lawyers submitted a request to the Court pursuant to section 52(3) of the Act seeking that an inquest be held into Max's death. At a mention hearing on 23 June 2025, I advised the interested parties that I had determined to hold an inquest in the exercise of my discretion pursuant to section 52(1) of the Act. The inquest was held on 18, 19 and 28 September 2025.

CIRCUMSTANCES IN WHICH DEATH OCCURRED

17. There will always be some uncertainty in relation to the exact timing of the sequence of some of the events surrounding the medical treatment provided to Max on 6 August 2021. Although the timing of some events can be relied upon as being exactly recorded (subject to synchronisation issues), such as those generated in Ambulance Victoria (**AV**) records by the Computer Aided Despatch system or the ZOLL monitoring equipment, most have been manually recorded by the clinicians and generally after the event. Further, the ability of

[5] Section 72(2) of the Act.
[6] Section 69(1) of the Act. However, a coroner may include a statement relating to a notification to the Director of Public Prosecutions if they believe an indictable offence may have been committed in connection with the death. See sections 69(2) and 49(1) of the Act.
[7] *Keown v Khan* (1999) 1 VR 69.
[8] (1938) 60 CLR 336.

those clinicians and Max's parents to accurately recall the precise timing of events in their written statements prepared some years later was obviously limited.

18. On 6 August 2021 at around 1.00pm, Max ate some apple crumble at his grandmother's house in Canterbury. Max and his grandmother had been unaware that the apple crumble contained nuts, and Max began to experience an anaphylactic reaction. At around 1.25pm, Max's grandmother telephoned Tamara advising that he was having an allergic reaction. Tamara drove to the house and observed that Max was alert, but he told her that "*he felt sick in the stomach and felt like he needed to use his Ventolin*".[9]

19. At around 1.40pm, Max administered his EpiPen along with his Ventolin. At around 1.50pm, Tamara contacted emergency services after having a brief telephone conversation with Ben, who is an experienced emergency physician.

20. An Advanced Life Support crew from AV arrived at the house in an ambulance at 1.57pm. The crew consisted of a Clinical Instructor (**CI**) and a Graduate Paramedic (**GP**). The paramedics assessed Max while he was sitting on a bed in the house. The CI observed that Max "*did not look profoundly unwell at the time*" but there was increased work of breathing although no stridor.[10] Max reported that he experienced a tightness in his chest soon after eating the apple crumble and also described feeling a tightness in his abdomen. He stated that he considered he was experiencing anaphylaxis rather than asthma.

21. Aware that Max had already administered his EpiPen, the paramedics applied a spacer to his Ventolin inhaler which he administered while a dose of adrenaline was prepared.

22. At around 2.03pm, the CI called a MICA[11] for backup after he observed that Max's condition was deteriorating with a "*dramatic increase in his work of breathing*".[12]

23. At around 2.07pm, Max was given a dose of intramuscular (**IM**) adrenaline by the GP. Shortly afterwards a nebuliser was also applied. No obvious change in Max's condition was observed. His oxygen saturation levels were noted to be 93% and he was observed to

[9] CB – Tab 7.
[10] CB10-1.
[11] Mobile Intensive Care Ambulance.
[12] CB10-2

be tripoding[13] and becoming anxious and distressed. The CI decided that Max required transfer to hospital and the GP retrieved a Multipurpose Chair (**MPC**) from the ambulance while he prepared to obtain intravenous (**IV**) access, which was achieved at around 2.09pm. By this time, the CI observed that Max had deteriorated and was "*extremely unwell, with obvious physiological changes*".[14]

24. At around 2.12pm, the GP administered a further dose of IM adrenaline and the MICA paramedic arrived. The MICA paramedic undertook an assessment of Max and considered that he was in severe respiratory and psychological distress, and he decided that he should be transferred to Box Hill Hospital (**BHH**), which was an approximate six-minute drive from the house. At around this time, it was noted that the nebuliser was not functioning properly in that, although it was delivering oxygen, it was not "*misting*" and also delivering bronchodilators. It was decided to prioritise Max's extraction and address this problem in the ambulance.

25. At around 2.16pm, the paramedics extracted Max from the house in the MPC, down the five steps from the porch, along the path to the front gate and to the ambulance. The MICA paramedic recalled that the extraction was "*rapid and occurred without incident*" although the CI stated that Max's condition was deteriorating rapidly and he was becoming more anxious.[15]

26. At around 2.20pm, Max was transferred onto a stretcher and loaded into the ambulance. As he was being transferred to the stretcher, the CI recalled that Max became more distressed and expressed a concern that he would die.[16] The MICA paramedic stated that there was no improvement in his condition and his oxygen saturation was 83%.

27. At around 2.23pm, the MICA paramedic administered a further dose of IM adrenaline and then commenced preparation for an adrenaline infusion. He recalled that Max was very

[13] A position often adopted by a person in respiratory distress involving bending forward to relieve shortness of breath.
[14] CB10-3.
[15] CB11-2.
[16] There is a record of this being said as early as 2.12pm; CBM1-14.

distressed and agitated and was pulling at the monitoring equipment and wrapping his arms around the support rails. A working nebuliser was also applied at around this time.

28. At around 2.24pm, Max had a seizure which lasted about 30 seconds. Max's position was stabilised on the stretcher by the paramedics, and he was observed to be unconscious, bradycardic and not breathing.[17] The MICA paramedic took over the management of Max's airway from the CI, who had been ventilating him with a Bag Valve Mask **(BVM)**. They both found that ventilation was difficult with a "*brick bag*" effect.[18] Max remained unconscious thereafter.

29. At around 2.25pm, the MICA paramedic was concerned that Max was "*going to imminently arrest*" and he took Max's pulse which he recalled was 40 beats per minute. He then administered a 500mcg bolus of IV adrenaline. Max's ventilation and skin colour were then noted to improve.[19] At around this time, the GP collected equipment from the house and then went to the MICA vehicle. She recalled that the CI had instructed her to drive the MICA vehicle to the hospital.

30. The MICA paramedic stated that he decided not to attempt to intubate Max in the ambulance as his ventilation had improved after the administration of IV adrenaline, and the process would have delayed their arrival to BHH.

31. The GP was not qualified to drive the ambulance under Code 1 conditions with "*lights and sirens*" so it was decided that the CI would drive the ambulance and the GP would assist the MICA paramedic. Tamara, who was sitting in the passenger seat of the ambulance at this stage, observed the CI go to the MICA vehicle which was parked across the road from the ambulance. The GP recalled being instructed to get into the back of the ambulance.[20]

32. At 2.29pm, the CI pressed the button on the mobile data terminal in the front of the ambulance to record that they were "*Loaded*". The ambulance departed for the hospital

[17] The oximeter lost trace between 2.21 and 2.25pm and the quality of the trace was poor when it returned. Cardiac monitoring had not yet been established due to Max's agitation and distress. See CBM1-149-CBM1-173.
[18] CB11-3; CB10-4.
[19] CB11-3
[20] Tamara took a photograph from the ambulance timestamped 2.27am which depicted the CI walking towards the MICA vehicle. See CB-Tab 7.

shortly afterwards at around 2.31pm. Tamara has a vivid and recurring memory that around this time, Max screamed out that he was going to die and she sought to reassure him.

33. On the way to the hospital, the MICA paramedic continued to ventilate Max with the BVM while the GP provided assistance. Tamara contacted Ben who made his way to BHH after being notified of Max's critical condition.[21] At around 2.32 pm, the CI requested the assistance of a second MICA paramedic as he was concerned that Max may suffer a cardiac arrest. It was ultimately decided to proceed to BHH and not rendezvous with the additional MICA paramedic as they were very close to the hospital when they crossed paths. At 2.33pm, the GP connected defibrillator pads to Max's chest and electrocardiogram (**ECG**) monitoring was established.

34. Counsel for Max's family submitted at the inquest that, consistent with Tamara's recollection of Max's calling out to her once the ambulance was in motion and the ZOLL data, the episode of bradycardia observed by the MICA paramedic was likely to have occurred not at 2:24 but at around 2.33pm, after the ECG monitoring had been established. He further submitted that the administration of IV adrenaline was therefore likely to have occurred at around this time. I do not accept this submission or the counterfactual which it contains.

35. It is understandable and not uncommon that people's reasonable recollections of the same events may differ in some respects, particularly in stressful and dynamic circumstances. I am satisfied that in their respective statements, Tamara and the paramedics have given accounts which are faithful to their recollections. Although there may be some uncertainty in relation to the precise timing and sequence of events, I am broadly satisfied that the treatment provided to Max by the paramedics was delivered in accordance with the chronology in their statements, which is in turn consistent with the medical records.

36. A review of the ZOLL data generated after ECG monitoring was established discloses that Max was bradycardic from 2.33pm until 2.35pm. After recently reviewing this data, the MICA paramedic speculated "*that this may have been a continuation of the previous episode of hypoxia which eventually recovered after receiving IV adrenaline and being*

[21] Tamara sent a text message to Ben at 2.32pm advising that Max was "*in pre-cardiac arrest*"; CB6-2.

manually ventilated".[22] I accept this explanation and, on balance, I am satisfied that the onset of Max's bradycardic episode occurred at around 2.24pm before the ambulance left for the hospital and that he remained unconscious thereafter.

37. In reaching this view I place particular weight on the fact that the CI has stated that this episode occurred while he was in the back of the ambulance and that both he and the MICA paramedic observed the bradycardia. This strongly supports the view that the episode occurred before the ambulance left the scene rather than, as Tamara recalled, while the ambulance was in motion. Further, although ECG monitoring had not yet been established, the ZOLL monitor would have also been recording Max's heart rate from the oximeter which re-established its monitoring at 2.25pm. The CI recalled that the "*pleth wave was unreliable for most of the time Max was monitored. Therefore, we had to make a concentrated effort to periodically keep the monitoring still to see a reliable reading*".[23]

38. While recognising Tamara's very clear memory that Max's final words to her were said after the ambulance was in motion, I consider it likely that she is recalling words said by Max earlier in the sequence of events.

39. At around 2.33pm, the CI called BHH on the radio and notified staff that they had a "*15 year old, anaphylactic slash asthmatic*" who was "*pre-cardiac arrest*" and they were about five minutes away.[24] The ambulance arrived at BHH at around 2.36pm. Max was transferred to a resuscitation cubicle in the Emergency Department (**ED**) and the MICA paramedic provided a handover to ED staff.

40. The Eastern Health medical records documented at handover that Max was 15 years old with a history of anaphylaxis and asthma who had experienced shortness of breath and abdominal pain at home that afternoon and had deteriorated on the way to hospital. It was further recorded that two doses of IM adrenaline were administered, a nebuliser was applied and BVM ventilation was provided. The medical records did not document the complete history of the adrenaline doses administered to Max (including the original EpiPen dose administered by Max and the IV bolus). It is not known whether this

[22] CB14-3.
[23] CB13-2.
[24] CB10-4.

information was omitted in the handover by the MICA paramedic or whether it was handed over but not recorded by ED staff.

41. At around 2.40pm, Max was transferred from the AV stretcher. The ED resuscitation team included a number of staff, including two emergency physicians. The emergency physician who received the handover from the MICA paramedic (**EP1**) assumed the team leader role while the more senior emergency physician (**EP2**) managed Max's airway. Max was observed to be unconscious and receiving BVM ventilation. During the handover, Max had a seizure and EP1 directed that midazolam be administered and IM adrenaline was also administered. Despite BVM ventilation, his oxygen saturation remained poor, with readings of between 43-87%. Despite these signs, EP2 noted in the medical records that Max was easy to ventilate.

42. EP2 stated that the plan was "*to stabilise Max whilst simultaneously preparing for intubation*" and "*the focus of initial management was to optimise oxygenation and to reduce anaphylaxis, and to try to prevent Max from suffering a cardiorespiratory arrest*". He was concerned that cardiorespiratory arrest would likely occur if intubation was attempted prior to his condition being stabilised.[25]

43. At around 2.46pm, a paediatric Code Blue[26] was called which EP2 considered was required "*due to the combination of Max's critical instability and the multiple simultaneous tasks the resuscitation team were required to perform*".[27]

44. At around 2.49pm, an adrenaline infusion was commenced and a further IM dose was administered. A number of other specialist and experienced staff attended the ED in response to the Code Blue, including an anaesthetist (**A1**), a dual qualified anaesthetist and ICU[28] specialist (**A2**)[29] and a paediatrician. EP1 provided a handover to these clinicians.

[25] CB20-2.
[26] A Code Blue is a call broadcast in a hospital setting for medical assistance in the event of a cardiac or cardiorespiratory arrest.
[27] CB20-3.
[28] Intensive Care Unit.
[29] A2 recalled arriving at the ED at 2.52pm.

45. After the Code Blue was called, the role of Team Leader was implicitly transferred to EP2, who was observed to move to the foot of the bed, while A1 took over airway management with BVM ventilation. A2 stated that her impression when she arrived at the ED was that Max's oxygen saturation was extremely low at 22% and there was "*very limited time before he suffered a cardiac arrest*".[30] After the handover, she considered that Max required immediate intubation and the Team Leader agreed that they should prepare for the procedure.

46. At around 2.55pm, Max became bradycardic with a heart rate of 44 beats per minute and EP2 directed that cardiopulmonary resuscitation (**CPR**) be commenced. A further bolus of IV adrenaline was administered and the ECMO[31] team was called to attend. A2 recalled that there was profuse vomiting which was being suctioned by A1.

47. At around 2.56pm, CPR was ceased while A1 made an attempt at intubation. He was unable to visualise the airway and insert the Endotracheal Tube (**ETT**). He then continued BVM ventilation with suctioning. At around 2.57pm, Ben arrived in the resuscitation cubicle and commenced CPR on his son before another clinician took over.

48. At around 2.59pm, A2 made a further attempt at intubation but was unable to insert an ETT due to profuse vomiting. Rocuronium was then administered as requested by A2. At around 3.00pm, she made another attempt at intubation but was still unable to insert an ETT. She recalled then shouting words to the effect of "*get ready for front of neck access*" which was repeated back to her by the paediatrician, thereby closing the communication loop. Ben also recalled stating in a loud voice that Max needed a surgical airway. A2 made another unsuccessful attempt to clear the vomit and insert an ETT tube while waiting for the equipment to perform a cricothyroidotomy.[32]

49. At around 3.01pm, A2 used a scalpel to make a horizontal incision into Max's neck but she was unable to push her finger through the cricothyroid membrane. When she removed her finger to receive the scalpel from another staff member and extend the incision, Ben

[30] CB19-2.
[31] Extracorporeal membrane oxygenation.
[32] A life-saving emergency procedure to create a surgical airway. This is a rarely performed procedure which most clinicians will never have to perform in their careers: T136-T137.

assisted by pushing his finger through the membrane. The bougie[33] was then inserted and A2 threaded the ETT with Ben's assistance, completing the cricothyroidotomy.

50. At around 3.02pm, Ben took over BVM ventilation which was observed to be difficult but oxygen levels gradually increased. CPR was continued. A2 stated that she was suspicious that the ETT may have been in the right main bronchus and she requested a bronchoscope to review its positioning. Ben stated that he "*declined this intervention*" as "*the risks were too high to interrupt oxygenation in the face of an improving clinical condition*".[34]

51. Return of spontaneous circulation was consistently achieved at around 3.10pm. ECMO was commenced at 3.29pm, after which oxygen saturations increased to 97%.

52. At 4.37pm, a chest X-ray confirmed that the tip of the ETT was in the right main bronchus and there were bilateral pneumothoraces. Max was transferred to the ICU and his chest was drained.

53. Later that evening, Max was transferred to the ICU at the Alfred Hospital by AV.

54. On 7 August 2021, Max's cricothyroidotomy was converted to a surgical tracheostomy. Over the following days, Max's condition stabilised, he regained consciousness and ECMO was disconnected. However, scans revealed that he had sustained an acute brain injury.

55. On 13 August 2021, Max was transferred to the ICU at the Royal Children's Hospital. Max spent his time in hospital surrounded by family who provided him comfort, support and reassurance. He passed away on 19 August 2021 at around 7.00am after experiencing a cardiorespiratory arrest.

SOURCES OF EVIDENCE

56. The Court conducted inquiries and prepared a Coronial Brief including statements from the forensic pathologist, Max's parents, various medical practitioners and paramedics who treated and cared for Max, relevant medical records and reports from various internal

[33] A rod used to help guide an ETT into the trachea during intubation.
[34] CB6-5.

reviews. It also includes reports from a number of independent experts obtained by the Court and the interested parties.

Other investigations

57. Section 7 of the Act requires the coroner to liaise with other investigative authorities and to not unnecessarily duplicate inquiries and investigations.

58. Eastern Health and AV each conducted separate reviews into the circumstances leading to Max's death in the form of a Root Cause Analysis and In Depth Case Review respectively. His death was also reported to Safer Care Victoria (**SCV**) as a sentinel event, and they conducted a Multi-Agency Review which resulted in a report dated February 2023. Ben and Tamara participated in this review process.

59. The SCV panel made the following relevant findings:

    (a) Due to Max's rapid deterioration at the scene, the clinical support able to be provided by the despatched ambulance crew, including the additionally requested single MICA paramedic, did not meet his evolving clinical requirements. This impacted on the quality and safety of Max's care such as ongoing treatment and monitoring, as well as timely prehospital notification and the limited information conveyed to BHH;

    (b) Adrenaline doses administered pre-hospital were not consistent with anaphylaxis clinical practice guidelines. This was influenced by resource limitations such as a single MICA delivering care, and resource allocation to enable a safe transport to hospital;

    (c) Limited clinician exposure in assessing and managing paediatric patients at risk of deterioration created heightened stress and anxiety. In combination with limited experience in intubating critically unwell paediatric patients this contributed to a cautious approach to managing Max's airway;

    (d) Max's vital signs (pulse, blood pressure and spontaneous respiratory efforts) distracted the ED team from treatment of hypoxia and delayed urgency to secure

his airway. This contributed to a delay to intubate on arrival to the ED, as the initial focus deviated from prioritising "*airway, breathing, circulation*" including the management of hypoxia and establishing an adrenaline infusion prior to intubation attempt;

(e) The treating ED team had difficulty identifying a clear leader for Max's resuscitation given the number of clinicians present in the resuscitation bay. The rotation of roles, such as team leaders taking on clinical tasks such as CPR, further led to role confusion;

(f) The risk for rapid deterioration and death from anaphylaxis in the setting of brittle/poorly controlled asthma is not consistently highlighted in the national/statewide guidelines;

(g) Anaphylaxis guidelines do not clearly highlight signs of hypoxia as an indication for escalation of therapy, which contributed to the delay in securing Max's airway;

(h) There are separate state-wide clinical guidelines for emergency management of severe asthma and anaphylaxis management. When patients present with a dual diagnosis this creates confusion regarding care management priorities in a high-pressure environment;

(i) Existing consumer facing information from national bodies does not highlight dual diagnosis of anaphylaxis with underlying asthma as high risk for rapid deterioration/death; and

(j) Engagement with Max's family was not consistent with expectations of the ACSQHC[35] Australian Open Disclosure Framework, and where applicable National Safety and Quality Health Service Standards (**NSQHSS**), and Incident Management Guide (**IMG**).

[35] Australian Commission for Safety & Quality in Health Care.

60. The SCV panel made the following relevant recommendations:

(a) AV to consider changing to IAED,[36] to enable evidence-based feasibility assessment of adding an additional question to the international MPDS[37] call script for anaphylaxis to allow incoming paramedics to be aware of the dual diagnosis pre-arrival;

(b) AV to develop and implement Escalation of Care Clinical Practice Guidelines (CPG A0113) to support staff on how to escalate care and to whom, and additionally support staff around requesting assistance, with the goal to provide a robust framework for paramedics to request additional resources to allow for the concurrent provision of interventions in the critically unwell patient;

(c) AV to include critically unwell paediatric education in yearly education delivery to support early recognition and timely escalation;

(d) SCV to identify themes in children with both asthma and anaphylaxis based on synthesis of data from relevant organisations from the past five years to identify and implement state-wide improvements in the safety of care among Max's cohort of patients;

(e) SCV to conduct a thematic analysis of paediatric sentinel events to identify and implement state-wide improvement opportunities across the Victorian health sector;

(f) SCV to emphasise at a state level the necessity of education and training in the assessment and treatment of acutely unwell children at risk of deterioration;

(g) EH to reintroduce multidisciplinary simulation training in the emergency department for critical patient management;

(h) SCV to contact the Australian and New Zealand College of Anaesthetists to recommend the development and implementation of a scenario for children with

[36] International Academies of Emergency Despatch.
[37] Medical Priority Dispatch System.

both asthma and anaphylaxis with a focus on airway management in their training courses for registrars, as well as other continuous education courses for anaesthetist fellows and consultants;

(i) SCV to contact the Australian College of Emergency Medicine to recommend the development and implementation of a scenario for children with both anaphylaxis and asthma with a focus on airway management in their ACME simulation course (Advanced and Complex Medical Emergencies), as well as other continuous education courses for emergency doctor fellows and consultants;

(j) EH to introduce mandated roles visible on uniform so that roles are able to be easily identified by everyone in the room;

(k) EH to create a policy where anyone who has not been assigned a designated clinical/non-clinical role is directed outside the resuscitation area;

(l) SCV to contact relevant peak bodies to present the findings of the SCV Multi-Agency Review and any evidence gathered with a proposal that they review guidelines for the management of anaphylaxis in the setting of asthma and develop a process to educate both health professionals and the community about the risk associated with a dual diagnosis of allergy asthma;

(m) Relevant peak bodies to align all guidelines for advanced acute management of anaphylaxis, and if available asthma, to embed consistent messaging regarding the risk for rapid deterioration and death and the importance of oxygenation and airway securement (especially in the setting of asthma in adolescents);

(n) AV to provide education around increased risk of patient cohort with dual diagnosis of asthma and anaphylaxis;

(o) AV to emphasise the high risk of dual diagnosis patients in existing guidelines;

(p) AV to implement the outcomes of national anaphylaxis/asthma guideline improvement as a result of the SCV Multi-Agency Review;

(q) EH to update the current Open Disclosure standard to meet the Statutory Duty of Candour (SDC) and ensure reference to communication with family is clearly articulated;

(r) EH to align the updated Open Disclosure standard with patient and Family Feedback/Complaints handling and Incident Reporting and Management standards;

(s) EH to establish a system and process for supervision and support for all participants in the Open Disclosure process;

(t) All health services to adopt SVC's published consumer engagement process;

(u) EH to improve and standardise recording of prehospital notifications to ensure all relevant information is captured;

(v) AV to review their procedures to consider the simplification of the requirement of handover for critically unwell patients; and

(w) AV to replace nebuliser delivery device to prevent small parts from falling on the ground while being used.

Expert reports

Dr Stephen Rashford

61. The Court obtained expert reports from Dr Stephen Rashford, an emergency medicine specialist employed as the Medical Director of the Queensland Ambulance Service (**QAS**). In his reports, he made the following relevant comments in relation to Max's care and treatment at BHH:

(a) Max required additional adrenaline as part of his treatment by AV paramedics;

(b) The initial failure of the nebuliser to deliver bronchodilators is unlikely to have been a significant contributor to Max's deterioration. Further, it is highly unlikely that it would have prevented his deterioration, given his rapidly declining trajectory;

(c) Under normal circumstances, the two most experienced paramedics should have been in the back of the ambulance treating Max;

(d) BHH was a suitable and the most appropriate destination to transport Max;

(e) The MICA paramedic made the correct decision to defer intubation, not rendezvous with the secondary MICA team, and not delay the arrival at BHH;

(f) The notification provided to BHH from AV paramedics was sufficient for receiving clinicians to recognise the severity of Max's presentation and initiate a full resuscitation team reception. Ideally, the notification would have been made earlier, just before leaving the scene although it would have had little effect upon reception at the hospital (extra 2-3 minutes);

(g) Given that Max arrived at hospital about 3 minutes after the notification, it is not surprising that an escalating resuscitation team concept transpired;

(h) It would be unusual for treating paramedics to not handover that a patient had administered an EpiPen, IV adrenaline had been administered, and a brief period of bradycardic arrest was experienced. IV adrenaline administration was a critical element of his treatment. The potential omission of these details at handover should not have affected the identification for the immediate resuscitation interventions required to treat Max;

(i) Max arrived at BHH in a very precarious condition and his breathing efforts were ineffective (and he may have been in respiratory arrest). His primary issue was rapid onset of profound bronchospasm, complicated by reducing consciousness due to hypoxia and hypercarbia (raised blood carbon dioxide levels). His bradycardic arrest was due to hypoxia, rather than anaphylaxis syndrome;

(j) It is highly unlikely that Max was able to be adequately ventilated upon arrival at BHH despite EP2's recollection that he was "*easy to bag*";

(k) For patients suffering bronchospasm, the general tenant is that endotracheal intubation is avoided unless profound respiratory failure occurs, or cardiac arrest is

likely. On this basis, most clinicians will attempt to avoid intubation and mechanical ventilation unless absolutely necessary;

(l) The priority on Max's arrival at BHH should have been to progress to Rapid Sequence Intubation (**RSI**), while also aggressively administering ongoing intravenous adrenaline and nebulised bronchodilators;

(m) The cricothyroidotomy allowed successful cannulation of the trachea with an ability to ventilate Max;

(n) Max should have been intubated by way of RSI shortly after arrival in the ED. This was the only appropriate option. This should have been undertaken by the most experienced airway operator;

(o) Max required a higher dose of adrenaline infusion upon his arrival to BHH;

(p) The administration of rocuronium after the first failed intubation attempt likely added nothing to improve intubation conditions;

(q) The vomitus/debris in Max's airway would have made a video laryngoscope a problematic technique;

(r) It is likely that there was no upper airway swelling present upon Max's arrival to the ED and the significant swelling and oedema noted later likely represented a combination of swelling secondary to airway trauma from previous intubation attempts and the progression of Max's general inflammatory status with his acute illness;

(s) Ben's AMAX4 algorithm should only apply to the specific scenario of unconsciousness, severe bronchospasm and hypoxia complicated by ineffective breathing. However, this cohort is small and extremely complicated;

(t) There was no delay in the secondary AV team being called;

(u) The cause of Max's seizure upon arrival at hospital was almost certainly hypoxia and the primary treatment for this condition is to correct low oxygen levels.

However, he could understand why midazolam was administered as the clinicians would have wanted to terminate the seizure activity rapidly as airway management is almost impossible in those circumstances. But the administration of midazolam may reduce respiratory rate and added to the need for urgently securing his airway by way of RSI;

(v) Max suffered an extreme, rapidly progressive episode of anaphylaxis, manifested primarily as life threatening bronchospasm;

(w) Max was critically ill upon arrival at hospital and it is likely his chances of survival were less than 50%, probably significantly lower;

(x) Max's death would not be classified as a preventable death. Max's anaphylaxis was at the extreme end of 'severe' and he rapidly deteriorated despite treatment. In this context, his mortality risk was significant, even with the most ideal treatment; and

(y) It is likely a more proficient reception at hospital would have improved his chances of survival to a degree. However, this would have been marginal/incremental, with the lethality of his presentation remaining high.

Dr Andrew Numa

62. Ben and Tamara's lawyers obtained expert reports from Dr Andrew Numa, an Intensive Care & Respiratory Physician employed at the Royal Children's Hospital in Sydney, and Mr Tony Hucker, a Critical Care Paramedic employed as the Director of patient Safety and Quality with the QAS.

63. In his report, Dr Numa made the following relevant comments in relation to Max's care:

(a) Death is an uncommon but well recognised complication of anaphylaxis, and even in cases where treatment is completely appropriate and timely, mortality can still occur;

(b) Max's death was avoidable;

(c) AV should have administered first dose of IM adrenaline earlier (within 1-2 minutes of arrival);

(d) AV should have administered IV adrenaline earlier rather than persisting with IM adrenaline;

(e) Max should have been provided with earlier supplemental oxygen;

(f) The MICA paramedic should have intubated Max at 2.26pm when he became unconscious after seizure;

(g) Max was in an extremely perilous condition (refractory anaphylaxis) upon arrival at hospital with a high risk of a poor outcome but still could have survived;

(h) EP2's comments about Max being *"easy to bag"* are misguided and clearly erroneous given his hypoxia. Mask ventilation was failing to adequately oxygenate Max;

(i) Upon arrival at hospital, Laryngeal Mask Airway (**LMA**) could have been attempted (although less likely to be effective given laryngeal oedema) while preparations for intubation were made. Establishment of a secure airway should have been an immediate priority;

(j) Muscle relaxant should have been administered prior to first intubation attempt, which should have been much earlier. A delay of 16 minutes was inordinate;

(k) It is difficult to state with certainty whether an earlier attempt at intubation by AV or by ED staff would have been successful, but earlier attempts at intubation would have had a higher probability of success;

(l) The endotracheal tube inserted after the cricothyroidotomy was positioned incorrectly in the right main bronchus which continued to cause hypoxia and collapsed left lung. A correctly sited tube would have resulted in better oxygenation and possibly avoided need for ECMO. The failure to recognise and correct the

placement of the tube was an easily reversible cause of post-arrest hypoxia which almost certainly contributed to Max's neurological injury;

(m) Max's volume resuscitation was inadequate to maintain circulation and facilitate drug distribution;

(n) The sequential failures by AV and ED staff ultimately led to Max not surviving. If an adequate airway had been established in Max prior to his cardiac arrest he would almost certainly have survived his anaphylactic episode;

(o) The initial failure of the nebuliser would not have impacted on Max's outcome in a significant way;

(p) Regardless of the completeness of the history provided by AV to ED staff, the most cursory examination of Max upon arrival would have been sufficient to highlight the gravity of the situation and the urgent need for escalation of care;

(q) The timing and dose administration of adrenaline at hospital was appropriate. However, an adrenaline infusion takes time to prepare in the back of an ambulance with only two officers, one of whom is very inexperienced; and

(r) The timing of supplemental oxygen being administered to Max was appropriate.

Mr Tony Hucker

64. In his report, Mr Hucker made the following relevant comments in relation to Max's care by AV:

(a) The timing of AV's initial dose of IM adrenaline was appropriate although it would also have been reasonable to administer an earlier dose;

(b) Max needed more adrenaline to counter his rapid deterioration. It would have been appropriate to give IV adrenaline soon after MICA paramedics arrived;

(c) Driving an ambulance in emergency conditions by a junior paramedic who is inexperienced may be dangerous. However, it would be reasonable for a graduate

paramedic to have driven the vehicle without the use of warning devices at normal speed which would have allowed the two most senior paramedics to be in the back of the ambulance with Max. This would have been an appropriate strategy given the short distance to the hospital;

(d) MICA should have been called to the scene earlier and the arriving MICA paramedic should have called a second MICA paramedic upon his arrival or earlier by the first crew;

(e) There was no unreasonable delay in Max's departure for hospital;

(f) AV should have intubated Max when his conscious state deteriorated. They would have been in a better position to prepare for this process if the second MICA paramedic had been called to the scene earlier; and

(g) Earlier notification to the BHH from AV paramedics would have been helpful however, the distance to the hospital was short and the paramedics would have been extremely busy.

Dr David Armstrong

65. Eastern Health's lawyers obtained expert reports from Dr David Armstrong, a Paediatric Respiratory & Sleep Physician employed at Monash Children's Hospital, and Dr Sean Rothwell, a Consultant Emergency Physician and Director of the Emergency Trauma Centre at the Royal Brisbane and Women's Hospital.

66. In his report, Dr Armstrong made the following relevant comments in relation to Max's care:

(a) Most cases of anaphylaxis require only a single dose of adrenaline;

(b) Max's hypoxic seizure recorded at 2.24pm indicated that he was suffering from severe hypoxia and the pathological process of anaphylaxis was getting ahead of attempts to reverse the process;

(c) Max's condition prior to arrival at BHH was poor and he was in extremis at the time of arrival;

(d) The only way Max's death could have been prevented is if the episode of anaphylaxis could have been prevented or of it had been less severe (ie if a single dose of adrenaline was all that was needed to resolve his symptoms); and

(e) Max's low pH in combination with his presentation to hospital of being unconscious, cyanosed and requiring bag valve mask ventilation are strong indicators that he was going to suffer a poor outcome.

Dr Sean Rothwell

67. In his report, Dr Rothwell made the following relevant comments in relation to Max's care:

(a) Max was critically unwell and in peri-arrest on arrival to BHH. His immediate needs were to address his ventilation and oxygenation issues, treat his acute anaphylaxis, and manage his airway;

(b) The ultimate goal of Max's treatment would have been to allow for airway protection and to attempt to provide optimal positive pressure ventilation. At the same time treatment of his anaphylaxis would continue, in the hope of reversing some of his severe bronchospasm;

(c) A change to Max's immediate treatment at BHH would not have altered his subsequent clinical deterioration;

(d) With the benefit of hindsight, endotracheal intubation was unlikely to succeed regardless of the strategy and a surgical airway and subsequent ECMO due to poor ventilation were inevitable;

(e) The short notification time to ED staff from AV impacted their ability to fully prepare for Max's arrival. It is unlikely to have changed the outcome for Max;

(f) Max's condition and requirement for a surgical airway was very rare and likely a "once-in-a-career" event for the practitioners involved;

(g) Max had severe hypoxia and acidosis and his risk of cardiac arrest when given induction drugs for intubation was very high;

(h) With the benefit of hindsight, Max had severe bronchospasm that was refractory to high doses of adrenaline therapy, but the treating clinicians would have required a period of time, however brief, to come to that conclusion;

(i) In Max's case, the clinicians balanced the very real risk of a possible cardiac arrest on induction combined with a likely difficult airway, with the risk of an attempt at improving his oxygenation using bag mask ventilation;

(j) With the benefit of hindsight, an earlier attempt at intubation would ultimately achieved the surgical airway sooner. It is difficult to say with any surety if Max's outcome would have been different if an earlier intubation strategy had been used;

(k) It was inevitable that Max's profound acidosis and hypoxia would lead to a cardiac arrest. This would have happened sooner if intubation was attempted sooner but, with less staff present, it may have taken longer to eventually secure an endotracheal tube; and the time to securing ECMO would have been similar; and

(l) The clinicians involved in Max's care were following practice that would be widely accepted in Australia by a significant number of respected practitioners in the field of emergency medicine as competent professional practice at the time. Hindsight offers an alternative approach which may or may not have made a difference in Max's outcome.

Dr Warwick Butt

68. Lawyers for AV obtained an expert report from Dr Warwick Butt, an Intensive Care Physician employed at the Royal Children's Hospital. In his report, Dr Butt made the following relevant comments in relation to Max's care:

(a) An extra dose of intramuscular adrenaline administered by AV on arrival at BHH may have been beneficial but given his presentation, it is unlikely to have had a major impact on his condition;

(b) Max had refractory ingestion anaphylaxis and further doses of intramuscular adrenaline administered during his treatment by AV would have been unlikely to have impacted the events that followed; and

(c) When Max was handed over to ED staff at BHH, he had a pulse and at no stage had he received external cardiac massage or suffered asystolic cardiac arrest. Children with low saturations but with persistent heart rate and blood pressure will usually survive.

INQUEST

69. The inquest ran over three days and evidence was given by the following witnesses:

(a) Dr Victoria Francis (Forensic Pathologist);

(b) Dr Rashford;

(c) Dr Numa;

(d) Mr Hucker; and

(e) Dr Armstrong.

70. Dr Rashford, Dr Numa, Mr Hucker and Dr Armstrong gave evidence concurrently at the inquest. Dr Butt and Dr Rothwell were unavailable but their reports were provided to the members of the panel and were referred to during the panel's concurrent evidence. The concurrent evidence included clarifications and, in some instances, variations of the evidence contained in the experts' witness statements in light of the opinions of other experts. Where relevant I have preferred the evidence of the witnesses as contained in their oral evidence over any conflicting evidence in their expert reports. On a number of issues the panel was in broad agreement, and the areas of dispute were narrowed in the oral evidence.

71. This finding is based on the evidence heard at the inquest, as well as the material in the Coronial Brief (including material tendered during the inquest) and the submissions made by counsel assisting and the interested parties following the conclusion of the evidence. I will refer only to so much of the evidence as is relevant to comply with my statutory obligations and for narrative clarity.

72. A number of factual disputes arose from the evidence given at the inquest. Many of these disputes were exposed by the questioning of counsel for the interested parties in the reasonable pursuit of their clients' interests. However, it has not been necessary to resolve all of those disputes in order to make the findings necessary under section 67 of the Act.

Scope of the inquest

73. The following issues[38] were investigated at inquest:

    (a) Max's medical cause of death;

    (b) Whether the medical care provided to Max on 6 August 2021 by AV paramedics and Eastern Health clinicians was reasonable and appropriate; and

    (c) Whether there are any prevention opportunities arising from the circumstances of Max's death

74. Max's family submitted that the AV paramedics and a number of Eastern Health clinicians who provided treatment to Max on 6 August 2025 should have been called to give evidence at the inquest. I determined that it was not necessary to call those witnesses in order to make the findings required under section 67 of the Act with respect to the cause and circumstances of Max's death, and to reasonably and appropriately explore the relevant prevention opportunities.[39]

[38] These issues were drawn from the scope of the inquest which was identified at the directions hearing held on 23 June 2025.
[39] Ruling in Relation to Scope of Inquest dated 6 November 2025 (Annexure A).

IDENTITY OF THE DECEASED

75. On 19 November 2023, Max was visually identified by his father, Dr Ben McKenzie.

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

MEDICAL CAUSE OF DEATH

77. On 23 August 2021, Dr Victoria Francis, Forensic Pathologist at the Victorian Institute of Forensic Medicine performed an autopsy and prepared a report of her findings dated 22 February 2022.

78. Toxicological analysis of post and ante-mortem blood samples identified the presence of morphine, gabapentin, levetiracetam, diazepam (and its metabolites), paracetamol and clonidine. These drugs were administered in the course of medical treatment.

79. In her report, Dr Francis stated that the clinically described features of Max's arrest did not appear to be typical of an asthma attack. It was also noted that Max had sustained hypoxic ischaemic encephalopathy.

80. She reported that the cause of his cardiorespiratory arrest on 19 August 2021 could not be identified.

81. Dr Francis expressed the opinion in her report that the cause of death was '*1(a) Cardiorespiratory arrest of unknown aetiology in the setting of a recent anaphylactic event*'. Further, she expressed the opinion that Max's death was due to natural causes.

82. Although the specific cause of Max's arrest on 19 August 2021 could not be identified, Dr Francis stated in evidence at the inquest that his experience of anaphylaxis on 6 August 2021 was a significant event in his trajectory from which he never truly recovered. She further stated that a possible cause of his arrest was autonomic instability.

83. Dr Francis stated in evidence that the main finding at autopsy was hypoxic ischaemic encephalopathy, and that it would not be inappropriate to include reference to it in the formulation of Max's cause of death.

84. In the circumstances, taking into account the evidence of Dr Francis, I am satisfied that the appropriate formulation of the cause of death is '*1(a) Cardiorespiratory arrest of unknown aetiology complicating hypoxic ischaemic encephalopathy in the setting of anaphylaxis*'.

MEDICAL CARE PROVIDED TO MAX

Ambulance Victoria

Oxygen

85. The evidence establishes that Max was not critically unwell upon the arrival of AV paramedics at 1.57pm, although he began to deteriorate soon afterwards at around 2.03pm. He was given supplemental oxygen soon after at 2.07pm. As stated in evidence by the panel, the earlier that Max was provided oxygen therapy, the better in terms of the treatment of his anaphylaxis, and ideally it would have been provided soon after 2.03pm when Max began to deteriorate.[40]

86. However, the paramedics required a brief period to assess Max upon arrival before proceeding with treatment for anaphylaxis, which included the preparation and administration of adrenaline. The CI was also engaged in calling MICA for backup at around this time. In the circumstances, I am not satisfied that the provision of oxygen was unreasonably delayed, and the expert evidence does not suggest that it would have ultimately altered Max's trajectory.

Adrenaline

87. The panel agreed in evidence that the early use of adrenaline is critical regardless of whether a patient is being treated for a serious case of anaphylaxis or asthma. Dr Numa stated that it is very uncommon for a person suffering from anaphylaxis not to respond to one or two doses of adrenaline (less than 2%). Max was accordingly in a small cohort of patients whose anaphylaxis is refractory to adrenaline.

[40] T55-T57.

88. The AV guideline on anaphylaxis (CPG A0704) emphasises that the primary treatment for anaphylaxis is adrenaline. The adrenaline administered to Max by the paramedics was not in accordance with the timing provided in the guideline. It recommends that IM adrenaline be administered every five minutes as required, and that an infusion be prepared if the initial two doses are ineffective.[41] The first dose of adrenaline given to Max by paramedics was administered about 10 minutes after they arrived at the scene.

89. Given that Max was known to suffer from anaphylaxis and had already administered his own EpiPen, Dr Numa considered that AV paramedics ought to have administered their first dose of IM adrenaline within the first five minutes of their arrival at the scene.[42] Dr Rashford agreed that the first dose could have been given a few minutes earlier but, given that Max's anaphylaxis evolved over the first ten minutes, he also considered that the "*broader context*" needed to be understood including the time taken to initially obtain a history from a patient, consider the treatment options and prepare medication.[43]

90. Ideally, as found in the SCV report, further adrenaline may have been able to be administered in the ambulance on the way to the hospital had the MICA paramedic been assisted by a more experienced paramedic. As it was, the GP was not qualified to drive the ambulance in emergency conditions, and the MICA paramedic was managing a very challenging and critical situation under significant cognitive pressure. Further, Dr Numa stated that at that point, "*all the adrenaline in the world*" was not going to "*overcome what was essentially a mechanical problem*", and that intubation was required.[44]

91. I consider that Max's deteriorating condition required the administration of earlier and more frequent adrenaline, consistent with the AV guideline. However, I acknowledge that the AV paramedics were managing a rapidly evolving and distressing situation with the added challenge of an inexperienced member of the team. In the circumstances, I am satisfied that they reasonably managed the competing treatment priorities for Max with the available resources as they facilitated his urgent transport to hospital. Further, consistent

[41] CB8-21.
[42] T84.
[43] T83; T86.
[44] T99.

with the evidence of the panel, I am satisfied that there was no unreasonable delay at the scene.[45]

Intubation

92. Dr Rashford considered that the MICA paramedic made the right decision in deciding not to attempt to intubate Max prior to his transport to hospital.[46] Mr Hucker considered that the MICA paramedic ought to have called for a second MICA paramedic after his arrival at the scene, and that Max's deteriorating condition warranted an attempt to intubate him in the ambulance.[47] Dr Numa acknowledged that it was a difficult decision and that it would have been a "*high-risk intubation*".[48]

93. I am not critical of the MICA paramedic in not calling a second MICA soon after his arrival at the scene. Although another MICA paramedic would have provided a better opportunity for Max to receive more focussed and expert treatment in the ambulance, I consider that the paramedics appropriately responded to the escalating events leading to his deterioration as they unfolded before them, with a priority to transport him to hospital. However, despite their best efforts, with his severe bronchospasm, Max could not be consistently and adequately ventilated while in the ambulance and he was suffering from hypoxia on arrival at BHH.

94. I prefer the evidence of Dr Rashford on this issue. Although Mr Hucker stated that he had actual experience in intubating patients in similar circumstances,[49] given the risks associated with the procedure outside hospital, I am satisfied that it was reasonable for the MICA paramedic to prioritise attempting to stabilise Max and transport him to BHH. Given that the hospital was only around five minutes away, I consider that this was a reasonable decision rather than calling and waiting for the arrival of a second MICA paramedic.

[45] T90.
[46] T66-T68.
[47] T64-T65.
[48] T69.
[49] T75.

95. As the panel acknowledged, intubation has its own risks and it takes time to prepare for the procedure. There was no guarantee that Max could have been intubated without complication, and I consider that it was reasonable to proceed to hospital where he could be treated in a more suitable environment by a multidisciplinary team of expert clinicians.

Handover

96. The evidence in relation to the handover provided by the MICA paramedic to staff at BHH suggests that it either provided an incomplete summary of the treatment provided to Max by AV, or that it was not fully recorded in the hospital records. In any event, the panel considered, and I accept, that given Max's clearly perilous presentation upon arrival at hospital, the information recorded as having been provided in the handover was reasonable in the circumstances.[50]

Eastern Health

Intubation

97. The first attempt to intubate Max did not occur until about 15 minutes after his arrival in the ED. The panel agreed that Max's condition was critical upon his arrival to BHH and that he was in extremis as a result of his hypoxia with a high risk of cardiac arrest. They considered that it should have been clear to ED clinicians that Max was not able to be effectively oxygenated[51] and that a decision needed to be made to proceed to intubation within minutes of his arrival in the ED.

98. Dr Rashford stated in evidence:

"*As a principle before we undertake…a rapid sequence induction in critically unwell patients, we will try to optimise their condition due to…the potential for severe haemodynamic compromise and sometimes precipitating cardiac arrest and hypoxia during the procedure.*

[50] T118-T120
[51] The panel considered that EP2's note in the medical records that Max was easy to ventilate was erroneous and not consistent with his condition; T123-T124.

…but generally speaking…there is a time where you just have to act…and the ability to optimise the patient further is greatly reduced in this setting where you have inadequate air movement, with non-invasive forms of airway management…"[52]

99. Dr Numa agreed with Dr Rashford and stated in evidence:

"*Everything entails risks and there are risks in embarking on procedures and there are often greater risks in delaying that perilous journey…*

…induction of anaesthesia, of intubation is a high-risk procedure but [in Max's case] *it's less risky than not doing it*" [53]

100. I agree with the panel that Max's best chance of survival upon arrival at BHH required a mechanical airway to be established as soon as possible. The emergency physicians prioritised stabilising Max's condition in preparation for intubation and were legitimately concerned about the risk that the procedure may trigger a cardiac arrest. However, I consider that the risks associated with intubation were outweighed by the risk of delaying the procedure which was the only treatment option that was likely to be effective given Max's perilous condition.

101. A paediatric Code Blue was called six minutes after Max's arrival at the ED. Given Max's critical condition and the likelihood that intubation would be required, it is understandable that ideally a team of the most experienced and qualified clinicians would be sought to be assembled to undertake the task. However, Max's condition required more immediate action by the suitably qualified and experienced clinicians already present in the ED. In the event, intubation was further delayed while the broader team arrived in response to the Code Blue and handover was provided. Further, I accept the finding of SCV that there was difficulty in identifying a clear leader for Max's resuscitation. This may have contributed to the collective delay in proceeding to intubation.

[52] T120.
[53] T121.

102. As Dr Numa stated in evidence:

"*If you've got an unconscious deeply cyanosed apnoea patient in front of you, had a hypoxic fit, this is a patient who's dying in front of your eyes. The time to do something is now. And the most experienced person in the room has to attempt airway access*" [54]

103. Once intubation was first attempted on Max at around 2.56pm, the panel considered that the timing of the sequence of events as it unfolded to the securing of an airway with a cricothyroidotomy was reasonable. The consensus of the panel was that intubation should have been attempted sooner, before Max had a cardiac arrest at 2.55pm. Dr Rashford considered that he would have expected Max to be intubated in "*well under 10 minutes*" after his arrival in the ED.[55]

104. Dr Rothwell considered that the emergency physicians adopted a reasonable approach by attempting to stabilise and ventilate Max in preparation for intubation. However, with the benefit of hindsight, he stated that an earlier attempt at intubation would ultimately have achieved a surgical airway sooner.

105. I consider that reasonable care in the circumstances required that the attempt to intubate Max should have been made sooner than it was. I agree with Dr Rothwell that "*the treating clinicians would have required a period of time, however brief*" to initially assess Max, and they were clearly weighing competing considerations in relation to his care. However, his best opportunity for survival required the establishment of a secure airway as soon as possible and only a short time should have been needed to make that apparent to all present.

PREVENTION

106. Dr Armstrong did not consider that Max's death was preventable. He stated that there was "*never a time when-to my reading-that the clinicians were on top of the problem…I think that the severity and the rapidity with which the pathological sequence of events occurred, left clinicians trying to catch up from the moment AV arrived*".[56]

[54] T126; T131.
[55] T129.
[56] T150.

107. Dr Numa stated that Max's death was "*potentially preventable*" as there were "*opportunities to do things better. To do things in a more timely fashion*". He considered that Max was "*denied the best opportunity for survival*".[57] However, Dr Numa also stated that "*all those things could have happened* [optimal treatment] *and he may still not have survived*".[58]

108. Later in his evidence, on the basis of a counterfactual put by counsel for Max's family that assumed Max did not receive IV adrenaline in the ambulance until around 2.34pm, Dr Numa considered that Max would have likely survived (with the risk of a brain injury) if he could have been successfully intubated within five minutes of his arrival in the ED.[59] However, as stated earlier, I do not accept that counterfactual and further, I am not comfortably satisfied on the evidence that Max would have been able to be successfully intubated and ventilated within this time frame.

109. I prefer the evidence of Dr Armstrong on this issue in which he stated that a secure airway within that timeframe "*would have improved his chances of survival, but not guaranteed them*". He noted that although intubation secures the airway and provides a more efficient way of delivering ventilation, "*it doesn't get around the fact...that there was widespread bronchospasm and ventilation via an endotracheal tube has its own problem and issues when the bronchospasm is so severe*".[60] This is also consistent with the earlier evidence of Dr Numa in which he stated, in the context of intubation occurring in the ambulance, that it would not have been a "*straightforward*" procedure.[61]

110. In his report, Dr Rashford stated that he did not consider that Max's death was preventable. In evidence, he elaborated that he considered that the issue of preventability was a "*difficult question*". He stated that Max's chances of survival were impacted by "*some delays in care*" and in particular, he considered that the "*delay in securing a definitive airway was critical*". He further stated that "*realistically once Max had the cardiac arrest in the Emergency Department, I think the chances of him surviving were zero*". However, he was

[57] T151.
[58] T152.
[59]T187; T190-T191.
[60] T189
[61] T69.

not able to express a definitive opinion that Max's death was preventable in the circumstances.[62]

111. I accept Dr Rashford's evidence and in terms of preventability, I am satisfied that Max was unlikely to survive after he had experienced the episode of cardiac arrest at around 2.55pm.[63] Further, Max may not have survived even if an airway could have been established soon after his arrival in the ED and he still may have suffered a cardiac arrest given his perilous condition.

112. The panel agreed that Max was in extremis on his arrival as a result of his hypoxia with a high risk of cardiac arrest. I accept the evidence of Dr Rashford that he had *"significant mortality"* at this stage because there had already been an episode of bradycardia and *"even though we have to do the endotracheal intubation and then the mechanical ventilation I'm not sure how he's going to tolerate that given his current state"* and *"even the appropriate actions of intervening may precipitate a cardiac arrest*.[64]

113. Max suffered a very serious episode of refractory anaphylaxis and his was one of the rare cases that does not respond to initial doses of adrenaline. Consistent with the evidence of the panel, I am satisfied that treatment of Max's anaphylaxis on 6 August 2021 required the administration of earlier and more adrenaline by AV paramedics and the earlier establishment of a mechanical airway by Eastern Health clinicians upon his arrival to BHH. This would have given him the best opportunity for survival because it would have increased the potential for oxygen to circulate in his body to reduce the risk of cardiac arrest.

114. However, I am not satisfied that his death was preventable as a result of the treatment by paramedics and clinicians on that day. It *may* have been, but I am not able to be comfortably satisfied that it *was* preventable. It is possible that Max's experience of refractory anaphylaxis was one of the rare cases that may have resulted in a poor outcome even with

[62] T153-T154.
[63] On the evidence the cardiac arrest was caused by Max's body being so deprived of oxygen that there was not even enough to keep his heart beating; T173.
[64] T105-T106.

the best treatment and that even with earlier action to establish an airway he may still have suffered a cardiac arrest and/or hypoxic brain injury.

Guidelines & Training

115. There was no evidence that Max's care and treatment was inappropriately influenced by the guidelines for the treatment of anaphylaxis. However, noting some differences in the recommended approaches in the AV guideline to adrenaline therapy for asthma and anaphylaxis, the panel considered that it would be logical for a consistent approach to be articulated.

116. Max's family submitted that AV should consider changes to the operational deployment and supervision of graduate paramedics and the responsibility for escalation of care. AV responded to these proposals and I broadly accept that, with one exception, changes to the current system are not supported by the circumstances of this case.

117. The exception is in relation to the ability of graduate paramedics to drive under Code 1 conditions before they become operational under the direct supervision of a Clinical Instructor. In this case, it is likely that the presence of the MICA paramedic and the CI in the back of the ambulance while the GP drove it to hospital, would have lessened the overall cognitive load of the treating paramedics and provided a better opportunity for the administration of adrenaline in accordance with the AV guideline.

118. Dr Rashford noted that in Queensland, "*all graduate paramedics undergo emergency driving training during their induction period, prior to entering on road practice*".[65]

119. AV submitted that the current practice "*gives graduate paramedics a period of non-emergency driving and an opportunity to adapt to the cognitive load required for clinical care before increasing the cognitive load again by increasing their driving responsibilities*".[66]

[65] CB26-9.
[66] Response on behalf of Ambulance Victoria to the Recommendations proposed by Max's Family in Closing Submission dated 12 December 2025.

120. Consistent with the situation in Queensland, I see a benefit in graduate paramedics being specifically trained to drive in emergency conditions before they assume the cognitive load required for providing clinical care. Where care has been escalated with the attendance of a MICA paramedic, this would provide the flexibility for the patient to be treated in the back of the ambulance by the most qualified and skilled paramedics, while the graduate paramedic drove the ambulance.

FINDINGS AND CONCLUSION

121. I am satisfied that the clinicians who looked after Max on 6 August 2021 did their very best to care for him and to provide treatment that would lead to his recovery. Max experienced a severe episode of refractory anaphylaxis and the circumstances of his deterioration and resuscitation were rare and incredibly challenging for everybody involved. In particular, it is difficult to imagine the distress experienced by Max's parents as they witnessed and desperately responded to their son's deterioration.

122. With the benefit of hindsight, it is possible to map a chronological pathway which may have led to Max's survival, which is dependent on an alternate and consecutive series of clinical and operational decisions being made at particular junctures in the chronology. In my view, this does not inevitably lead to the conclusion that Max's death was preventable, or that the various decisions made by the clinicians in this case, at those particular junctures, were unreasonable in the circumstances.

123. However, I am satisfied that for Max to have had the best opportunity for recovery, he required the administration of earlier and more adrenaline while being treated by AV paramedics, and more critically, the earlier establishment of a secure airway by Eastern Health clinicians.

124. Having held an inquest into Max's death, I make the following findings, pursuant to section 67(1) of the Act:

(a) the identity of the deceased was Max Peter McKenzie, born on 7 January 2006;

(b) his death occurred on 19 August 2021 at the Royal Children's Hospital, 50 Flemington Road, Parkville, Victoria, from cardiorespiratory arrest of unknown aetiology complicating ischaemic hypoxic encephalopathy in the setting of anaphylaxis; and

(c) the death occurred in the circumstances set out above.

COMMENTS

Pursuant to section 67(3) of the Act, I make the following comments connected with Max's death.

125. Max's death was a tragedy which has devastated his family and friends. It has also had a significant impact on the clinicians who cared for him. The inquest was a necessary but challenging and distressing process for all involved and it is clear that the circumstances of Max's death have led to significant clinical reflection. Ben's ongoing advocacy with the support of his family has significantly contributed to this process.

126. People who choose to train and be employed to provide emergency medical treatment are generally motivated to help people. This is a noble purpose of great benefit to the community. It is important that the clinicians we rely upon to deliver critical care in challenging conditions are provided space to allow them to reflect on tragic experiences and learn from them so as to inform their future practice.

127. The nature of their work is unique in that the stakes can be so high. It is generally in the interest of the community that they are supported to recover and learn from these traumatic experiences, remain in their professions, and become better and more effective clinicians.

RECOMMENDATIONS

128. I have noted the relevant recommendations made in the SCV Report and the evidence of EH and AV in relation to their implementation. I consider that those recommendations are reasonable and appropriate and I do not propose to repeat them, but I have formulated a number of recommendations which I consider are appropriate and clearly arise from the evidence given at the inquest. I have also noted the significant amount of work and education carried out by Ben.

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

    (i) That Ambulance Victoria review its separate guidelines for the treatment of asthma and anaphylaxis to ensure consistency in relation to adrenaline therapy.

    (ii) That Ambulance Victoria ensure that graduate paramedics undergo emergency driving training during their induction period before entering on-road clinical practice.

I am grateful for the valuable assistance provided to me in this investigation by Counsel Assisting Rachel Ellyard and Solicitor Katrina Sonneveld.

I convey my sincerest sympathy to Max's family.

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

Pursuant to section 49(2) of the Act, I direct the Registrar of births, Deaths and Marriages to amend the cause of death to the following '*1(a) Cardiorespiratory arrest of unknown aetiology complicating hypoxic ischaemic encephalopathy in the setting of anaphylaxis*.'

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

Dr Ben McKenzie and Tamara McKenzie, c/o Maurice Blackburn

Eastern Health, c/o Lander & Rogers

Ambulance Victoria, c/o Meridian Lawyers

Safer Care Victoria

Royal Children's Hospital

Senior Constable Patrick Wall, Coronial Investigator

Signature:

Coroner David Ryan

Date:06 February 2026

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 inquest. 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.