IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

COR 2019 4069

FINDING INTO DEATH FOLLOWING INQUEST

Form 37 Rule 63(1)

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

Aboriginal and Torres Strait Islander readers are advised that this content contains the name of a deceased Aboriginal person (as a pseudonym). Readers are warned that there may be words and descriptions that may be culturally distressing.

Inquest into the Death of Sasha[1]

Delivered On: 17 July 2023

Delivered At: Coroners Court of Victoria
65 Kavanagh Street, Southbank VIC 3006

Hearing Dates: 5 and 6 December 2022

[1] A pseudonym used pursuant to an order made on 24 November 2022 per section 55(2)(e) of the *Coroners Act 2008*. According to the same order, Sasha's family members are identified throughout by reference to their relationship to Sasha rather than by name.

Findings of:	Coroner Paul Lawrie
Representation:	for Central Gippsland Health Service Ms N. Hodgson of Counsel instructed by Minter Ellison for the Department of Families, Fairness and Housing Ms R. Singleton of Counsel instructed by Lander & Rogers for Sasha's father Ms S. Gold of Counsel instructed by the Victorian Aboriginal Legal Service
Assisting the Coroner:	Senior Constable L. Thomson
Keywords	Child 'in care', Bicuspid aortic valve, Endocarditis, Pneumococcal infection, Septic shock, Heritable disease history

I, Coroner Paul Lawrie, having investigated the passing of SASHA and having held an inquest in relation to this death on 5 and 6 December 2022 at Southbank find that the identity of the deceased was SASHA born on 10 June 2007, aged 12 years, and the death occurred on 2 August 2019 at Royal Children's Hospital, Parkville, from:

1a: HYPOXIC ISCHAEMIC ENCEPHALOPATHY COMPLICATING AN AORTIC ROOT ABSCESS (OPERATED) IN THE SETTING OF BICUSPID AORTIC VALVE, PNEUMONIA, PNEUMOCOCCAL SEPTIC SHOCK AND INFLUENZA B INFECTION

I find, under section 67(1) (c) of the ***Coroners Act 2008*** ('the Act') that the death occurred in the following circumstances:

At approximately 10.00am on 28 July 2019, Sasha was taken to the Emergency Department (**ED**) of the Sale Hospital after having been unwell since 12 July 2019. Sasha had suffered worsening 'flu-like' symptoms and vomiting for which she had been taken to general practitioners on 18, 23 and 27 July 2019. At Sale Hospital, Sasha was provisionally diagnosed with a viral infection and dehydration. At 11.45am blood samples were taken for biochemical and microbiological analysis. Sasha was admitted to the paediatric ward that afternoon.

On 30 July 2019, the blood culture results showed a *Streptococcus pneumoniae* infection and antibiotics (Ceftriaxone) were commenced. Other investigations included a chest x-ray and electrocardiogram (**ECG**), which appeared normal.

On the morning of 31 July 2019, Sasha became increasingly unwell, with hypotension and tachycardia. At 11.46am a Medical Emergency Team (**MET**) call was initiated. Within a few minutes Sasha stopped breathing and had no circulatory output. Cardiopulmonary Resuscitation (**CPR**) was initiated and a spontaneous heartbeat was restored.

It was decided to urgently transfer Sasha to the Royal Children's Hospital (**RCH**) under the care of the Paediatric Infant Perinatal Emergency Retrieval (**PIPER**) Team which arrived at Sale Hospital at 2.45pm. However, at 3.15pm, Sasha suffered a second cardiac arrest requiring CPR for 30 minutes. She was then transferred to the RCH, arriving at 6.10pm. As Sasha was being placed on life support she suffered a third cardiac arrest.

Sasha remained in a critical condition and it was discovered that she had an abscess on her aortic root. On 1 August 2019, she underwent an aortic valve and root replacement surgery which took place from 1.00pm to 9.30pm. During this procedure it was determined that Sasha was suffering from infective endocarditis. It was also seen that she had a structural abnormality of her aortic valve, namely that the valve had a bicuspid structure.

Following the surgery, further neurological investigation revealed that Sasha had suffered brain death following a period (or periods) of hypoxic ischemia and she passed at 5.45pm on 2 August 2019.

INTRODUCTION

1. Sasha was born on 10 June 2007 at Sale Hospital. She was 12 years old when she passed on 2 August 2019.

2. Sasha was both her mother and father's first child – respectively, they were 16 and 17 years old when Sasha was born. Sasha's father did not live together with Sasha's mother but she described him as still being 'a part of her [Sasha's] life growing up.' For the first 4 to 6 months of Sasha's life she would regularly stay with her father and paternal grandmother at their home in Sale. Before Sasha was 8 months old, her father and paternal grandmother moved to Queensland and Sasha and her mother visited them interstate in 2008. For a period after this, Sasha's father moved between Victoria and Queensland.

3. Sasha's father is Aboriginal and is a proud Palawa man. He was born with aortic stenosis, a congenital valvular heart disease. In 2009 he had surgery to replace his aortic valve, after which he required review by a cardiologist every two years.
4. From 2 years of age (2009), Sasha attended local day care. She enjoyed this environment and was very active. For example, she had swimming lessons twice a week.

5. When Sasha was 4 years old (2011) she attended a local kindergarten. It was at about this time she was diagnosed with autism / Asperger's Syndrome.

6. In 2011 the then Department of Health and Human Services (now known as the Department of Families, Fairness and Housing, (**DFFH**[2]) became directly involved in Sasha's care. On 2 May 2011, she became subject to a Custody to the Secretary Order. This was converted to a Care by Secretary Order from 1 March 2016. During this period Sasha was in the day-to-day care of her maternal grandmother. On 11 December 2017, a Long-Term Care Order (**LTCO**) was made, placing Sasha in the care of her maternal grandparents.

7. After the LTCO was made, from 30 October 2018, Sasha's case was contracted to the Gippsland & East Gippsland Aboriginal Co-operative (**GEGAC**). Over the period GEGAC was engaged in Sasha's case, it had primary responsibility for day-to-day case management and communication with Sasha's carers and family. Child Protection (within the DFFH) retained overall responsibility for Sasha's case planning and the significant decisions in her life.

8. From August 2012 to 2018, Sasha was under the care of paediatrician, Dr Sylvia Welgemoed. In late 2012 Sasha had diagnoses of Attention Deficit Hyperactivity Disorder (**ADHD**) and Autism Spectrum Disorder. She was also noted to have difficulties going to sleep and night-time restlessness, as well as exhibiting repetitive behaviours. Her maternal grandmother recalled that Sasha took Ritalin in the morning to help her concentrate and Melatonin and Cataphres to help her sleep at night. In July 2018, Sasha came under the care of a new paediatrician.

9. Sasha also saw a regular general practitioner (**GP**) and received care from various specialists, including a psychologist, speech pathologist, and a paediatric respiratory and sleep physician. She was not diagnosed with any cardiac condition until the critical events of July 2019.

10. Sasha attended two local primary schools, transferring to the second school at the end of Grade 1.

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[2] For simplicity, the Department will be referred to in these findings as the DFFH, irrespective of the actual departmental name at the particular time.

EVENTS OF JULY – AUGUST 2019

First signs of illness

11. From 7 July to 12 July 2019, Sasha attended a DFFH sponsored camp at Emerald. She was in good health when she started the camp but returned with symptoms of a head cold.

12. On 18 July 2019, Sasha's maternal grandmother took her to Dr Young GP at Maffra Medical Group. Dr Young assessed Sasha's condition to be the result of a viral respiratory tract infection.[3] The clinical notes record that Sasha had suffered two days of a worsening cough with thick white sputum and coryza. She was not exhibiting any fever, rigors or chills.[4] Ultimately, paracetamol was recommended.

13. On 23 July 2019 Sasha's symptoms were not improving and so her maternal grandmother took her to Dr Hanafi GP at Stratford Medical Clinic. Sasha had not been a patient of the Stratford Medical Clinic before, and this was the only occasion on which she attended. Dr Hanafi recorded that Sasha had a history of a cough and running nose which had started 5 days earlier. She had a mild fever the night before and a bloody nose on the day she presented. On examination Dr Hanafi found that Sasha had no respiratory distress and no active nose bleed. Further, her chest sounds were clear and her temperature was normal. Dr Hanafi similarly diagnosed Sasha with a viral illness and advised that she take a simple analgesic and Bisolvon cough syrup.

14. On 25 July 2019, Sasha attended an Open Day at Sale College but remained unwell and was vomiting during the day. She was collected early by her maternal grandmother, who was also becoming unwell at about that time.

15. On 26 July 2019, Sasha and her maternal grandmother both went back to see a GP at the Maffra Medical Group. It is not apparent which doctor the pair visited on this occasion as the consultation is not referred to in the statements of either Dr Young or Dr Marosszeky (whom the pair subsequently saw the following day) or the clinical notes held by the

[3] Dr Young – CB 022
[4] CB 023

practice. Nonetheless, Sasha's maternal grandmother stated that she and Sasha visited the practice on this day and were both told to take Panadol and Nurofen. This is accepted.

16. On Saturday, 27 July 2017, Sasha and her maternal grandmother returned to the Maffra Medical Group and saw Dr Marosszeky. He met Sasha only on this occasion and recorded that she had been unwell for 10 to 12 days. Further, that Sasha's mother, maternal grandmother and younger sister had also been unwell, with her younger sister having been hospitalised and receiving intravenous fluids, but that her mother and sister had improved without any antibiotics.

17. Sasha's symptoms were coryza, sinusitis, nausea, vomiting and constipation. On examination, amongst other observations, she was found to have clear chest sounds and a temperature of 38.4°C. Dr Marosszeky's impression was that she was most likely suffering from influenza, however he could not rule out glandular fever, bacterial sinusitis, or viral meningitis. He prescribed ondansetron for nausea and advised trialling a nasal spray. He also advised maintenance of fluid intake and arranged for Sasha to have a nasal swab that day and to have blood and urine tests with a plan for her to return for review the following Monday (29 July 2019).

Admission to Sale Hospital – 28 July 2019

18. On Sunday, 28 July 2018, Sasha's was still unwell with symptoms including vomiting and chest pain. Sasha's uncle took her to the Sale Hospital where she was triaged at 10.43am. She had a temperature of 36.9°C and a pulse of 148 beats per minute (**bpm**).

19. At 12.12pm Sasha was seen by Dr Sivabalan in the ED, he stated:

> *Most of the history I obtained was from a collateral history from the Uncle of the patient who accompanied her. She presented with a 1 week history of fever and myalgias and had reduced fluid intake and had vomiting for the past 2 days … Her past history included autism spectrum disorder for which she was on clonidine …*[5]

[5] Dr Young – CB 032

20. On examination Dr Sivabalan found that Sasha had a fever of 38°C and a pulse of 150 bpm. Her oxygen saturation was 99% and her conscious state was normal. Her blood sugar was also with the normal range. There was no neck stiffness or rashes and Sasha's chest sounds were equal and clear. Dr Sivabalan listened to Sasha's heart sounds, and in this regard he stated, '*Given the heart rate I could not appreciate a murmur*'.

21. Sasha was moved to a resuscitation cubical where she was given an intravenous (**IV**) fluid bolus of normal saline, together with ondansetron[6] and paracetamol. A blood sample was taken at 11.45am[7] for a full blood count, electrolytes, blood cultures and C-reactive protein (**CRP**). A nasopharyngeal swab was also taken to check for influenza. Dr Sivabalan's provisional diagnosis was a viral infection with severe dehydration – with another differential diagnosis of sepsis.

22. At 12.50pm[8] the initial blood test results were returned which showed a high CRP[9], indicative of severe inflammation or bacterial infection, and an elevated white cell count[10] and neutrophil count[11]. Her results for urea, electrolytes and creatinine were normal.

23. At 1.00pm, Sasha was examined by Dr Checchini, Paediatric Trainee. Her notes[12] record that she listened to Sasha's heart and heard dual heart sounds with a possible soft murmur at the upper left sternal edge (a 'flow murmur'). It was also noted that Sasha had pain in her lower abdomen. Dr Checchini recorded her impression as, *'? influenza ? UTI dehydration*'. The management plan at that stage included: admitting Sasha to the paediatric ward; a consultant review of the possible heart murmur later that day; maintenance of IV fluids; provision of paracetamol, ibuprofen and ondansetron as required; follow up of testing for influenza; and investigation of possible urinary tract infection (**UTI**).[13]

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6 An anti-emetic medication.
7 CB 179 and CB 317
8 CB 317 and CB 318
9 164mg/L
10 15.3 – against a reference range of 4.0 to 10.0
11 12.2 – against a reference range of 2.0 to 7.0
12 CB 256 – recorded as 'DHS ? soft murmur at ULSE'
13 Dr Subiramanian – CB 037

24. Shortly after the review by Dr Checchini, Sasha was reviewed by Dr Subiramanian, Consultant Paediatrician who stated:

> *I reviewed* [Sasha] *shortly after Dr Checchini's review, and spoke with* [her] *mother in the Emergency Department. I listened to* [Sasha's] *heart and did not hear any murmur. By that time, her fever had settled. It is very common for a child to have a 'flow murmur', which is a benign murmur where the blood flow through the heart is more turbulent (noisy) when the blood flow is faster than normal – e.g. exercise, fever, heart beating faster. This was thought to be the explanation of Dr Cecchini's finding of a murmur earlier in the day.*
>
> *I reviewed Dr Cecchini's notes and agreed with her management plan. Our impression at that time was of a viral illness, but we needed to exclude UTI and abdominal surgical causes. We did not commence antibiotics at that time as this can sometimes mask a surgical presentation and delay the diagnosis.*[14]

25. At 4.20pm, Sasha was transferred from the Emergency Department to the paediatric ward. The nursing notes upon admission to the ward record that a PCR[15] test was negative for influenza [A and B] and respiratory syncytial virus.[16]

26. At 9.15pm, Sasha was reported to be without fever and taking fluids orally. She complained that she had 'pain in chest' which was followed by a cough. Sasha slept overnight and appeared settled and without fever.

29 July 2019

27. At 9.00am on 29 July 2019, Sasha was again reviewed by Dr Subiramanian and Dr Checchini. She had a negative screening result for a UTI but she had ongoing abdominal pain, and pain and tenderness in her lower right abdomen. Other signs on examination did not support a diagnosis of appendicitis but this still needed to be excluded. Dr Subiramanian stated:

> *I listened to her heart and lungs and observed she had dual heart sounds with no murmur, and her chest was clear with equal air entry bilaterally. …*

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14 Dr Subiramanian – CB 037
15 polymerase chain reaction
16 CB 258 and CB 314

> *My assessment was still that of a viral illness, however, I considered that surgical conditions that lead to abdominal pain and infection should be assessed and excluded.*[17]

28. The management plan at this time included: repeat blood test that day for inflammatory markers; ultrasound of the abdomen; surgical review that afternoon; and Omeprazole and Mylanta as preliminary management for potential gastritis.

29. At 10.54am, Sasha underwent an abdominal ultrasound and the radiologist concluded there no was ultrasound evidence of appendicitis.

30. At 12.15pm, Sasha was seen by the surgical team. By this time the results of the repeat blood test for inflammatory markers were available and these showed CRP and white cell counts that had reduced since the earlier test, but which were still high.[18] The impression of the surgical team was that Sasha was suffering from a viral illness and that appendicitis was unlikely. The plan was to conduct an abdominal MRI[19] if Sasha's abdominal pain continued and there were no signs on ultrasound.

31. At 7.50pm[20], Sasha was noted to be calm, doing 'colouring in', and watching television. She had no fever but complained of chest pain. The Nurse in Charge was notified and Dr Subiramanian was contacted – he stated:

> *… I received a telephone call from nursing staff who advised that* [Sasha] *had been complaining of chest pain. I do not recall the content of this conversation; however, the nurse has noted that I was not concerned the chest pain was cardiac-related, and did not consider an ECG*[21] *to be necessary. During her admission,* [Sasha's] *chest pain symptoms were communicated by nursing staff on a few occasions as being related to anxiety, which was reportedly worse when certain family members were present.*[22]

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17 Dr Subiramanian – CB 037

18 White cell count had reduced from 15.3 to 10.2 (against a reference range of 4.0 to 10.0); CRP had reduced from 164 to 152.

19 Magnetic Resonance Imaging

20 Dr Subiramanian stated that the time of this contact was 11.50pm (see CB 038) but it is more likely to have occurred at 7.50pm, which is the time recorded in the contemporaneous nursing notes (see CB 261 to 262).

21 Electrocardiogram

22 Dr Subiramanian – CB 038

32. At 9.15pm, the nursing notes on the Progress Sheet record that Sasha was relaxed and that she said her pain had decreased and she was feeling better.

30 July 2019

33. At 12.35am, Sasha was noted to be '*very settled*'.

34. At 1.22am, the preliminary results of Sasha's blood culture were faxed to the paediatric ward – these showed a Pneumococcal infection. Dr Meryta May, Paediatric Infectious Diseases Consultant, in her expert witness statement noted:

> *The significant preliminary result of a positive blood culture containing Gram positive cocci on Gram stain was faxed to the ward at 01:22hrs on 30/7/19. The ward nurse pinned this to the chart and the Nurse in Charge (NIC) was informed. The time of the fax is not recorded in the notes. There was no recorded verbal transmission of the result from the laboratory to the ward staff.*
>
> *There was no recorded verbal transmission of the result from nursing staff to medical staff either before or during the ward round when* [Sasha] *was reviewed at 10:15hrs. It is not known if the NIC communicated the result to any medical staff. No medical staff were present in the hospital overnight. …*
>
> *The medical staff were informed the blood culture isolate was Streptococcus pneumoniae (Pneumococcus) by a follow-up call from the laboratory to advise the identification and preliminary sensitivities of the organism at 10:49hrs.*[23]

35. At 4.22am, Progress Sheet notes record, '*Path results for blood cultures showed gram + cocci NIC notified and path clipped to outside of folder*'.[24]

36. At 10.15am, Dr Subiramanian and Dr Cecchini saw Sasha during their ward round. It was noted that Sasha's abdominal pain had improved and her abdominal ultrasound was normal, however she had developed diarrhoea and had been vomiting overnight. Dr Subiramanian was concerned that Sasha still had a fever of unknown origin and ordered further investigations including: a stool culture, chest x-ray, ECG, testing for Cytomegalvirus and Epstein-Barr Virus, and CRP.

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[23] Dr May – CB 064
[24] CB 262

37. At 10.49am, a paediatric trainee received a call from the pathology department advising that the blood culture taken on 28 July 2019 had returned positive for *Streptococcus pneumoniae*. This was reported to Dr Subiramanian who immediately ordered a broad-spectrum IV antibiotic, ceftriaxone. Dr Cecchini updated Sasha's medication chart to this effect at 11.30am.[25]

38. At 12.30pm, the first dose of ceftriaxone was administered.[26]

39. At 2.35pm, an ECG was conducted.[27] This was reviewed by Dr Subiramanian and found to be normal. A note on the ECG printout records, '*no chest pain*'. Sasha's chest x-ray was also reviewed and found to be normal. She was commenced on IV maintenance fluids at 2.45pm.

40. After receipt of the blood culture results, Dr Subiramanian held a case conference to discuss Sasha's ongoing management with two other paediatricians, Dr Stephen Reid and Dr Sohail Rana. The consensus was that the current management plan was appropriate and it was agreed that, if Sasha did not respond after 48 hours of antibiotic treatment, tertiary input would be requested.[28]

41. At 5.30pm, Sasha's temperature was 38.2°C. She was given paracetamol and the paediatrician was notified.

42. At 11.00pm, it was noted that Sasha had spent most of the evening resting in bed – she was alert and appropriate but had periods of significant pain and nausea. She still had a temperature of 38.2°C.[29]

31 July 2019

43. At 4.00am, Sasha got out of bed to go to the toilet. She had mild abdominal pain and was given a heat pack. The attending nurse noted Sasha had mild tachycardia but also observed

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25 CB 334
26 CB 334
27 CB 302
28 Dr Subiramanian – CB 039
29 CB 265

that her vital signs had been taken after she had walked to the toilet. Sasha then settled back to sleep.[30]

44. At 5.45am, it was noted that Sasha's IV cannula was leaking. Consequently, IV fluids were stopped pending review by the paediatrician later in the morning. Sasha was also dry retching at this time and so she was given antiemetic medication.

45. At 7.15am, Dr Subiramanian was updated regarding Sasha's progress overnight – he reviewed her between 8.00am and 9.00am and stated in respect of this review:

> *She was afebrile, and her last* [high] *temperature had been at 6.00pm the previous day. Her systolic blood pressure had decreased from 95 to 85, her heart sounds at S1 and S2 were good, her perfusion was good, she had normal bowel sounds, and her abdomen was soft with no specific tenderness. She was very pale and had recently vomited (yellowish fluid), and she was not tolerating oral fluids. Prior to my arrival,* [Sasha] *became distressed with the discussion of having to have another IV cannula inserted, and at that stage we believed that contributed to her throwing up. …*
>
> *I considered that a fluid bolus was required, and that further assessment needed to be made with a venous blood gas in light of* [Sasha's] *tachycardia and pallor. This proved to be difficult as* [Sasha] *became distressed with the re-siting of the cannula. A decision was made to commence the fluid bolus first and attempt blood gas sampling following completion of the fluid bolus. I recommended ceftriaxone be continued, and planned to review Sasha again later that afternoon.*[31]

46. At 9.30am, Sasha's heart rate was 150 bpm and she had a low blood pressure of 85/55. At 10.00am her heart rate was 160 bpm and her temperature was 35.5°C. At 10.15am her heart rate was 157 bpm. At 11.00am, Sasha's heart rate was 160 bpm and she was seen to have a reduced level of consciousness.

47. At 11.33am, blood gas was analysed and this showed an abnormal blood lactate level of 7.8 mmol/L.

48. At 11.45am, the Nurse in Charge was called to review Sasha.

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30 Dr Subiramanian – CB 039 and CB 265

31 Dr Subiramanian – CB 039

MET call and critical care at Sale Hospital

49. At approximately 11.46am, as nursing staff were performing further blood gas sampling, Sasha became more distressed. She was seen to have a pulse greater than 155 bpm and nursing staff concluded she was also hypotensive – they were unable to obtain her blood pressure.[32]

50. Dr Subiramanian returned to the ward at 11.50am as part of the response to the MET call. He assessed Sasha's airway and breathing and was concerned about impending respiratory arrest. High flow oxygen was provided but Sasha's breathing quickly became irregular and, in less than a minute, she stopped breathing.

51. At 11.54am a 'Code Blue' was called to get additional support and commence CPR.[33] With a defibrillator attached, Sasha was recorded as having 'no shockable rhythm' and manual CPR continued. Treatment included additional IV access for fluid and adrenaline. At 11.59am, Sasha was still recorded as having 'no shockable rhythm'.

52. By 12.01pm, after two cycles of CPR, Sasha had a detectable peripheral pulse but her blood pressure was unrecordable. She was intubated at 12.05pm

53. At 12.10pm, Dr Subiramanian assessed that Sasha was in a state of circulatory failure secondary to sepsis and required ongoing resuscitation, stabilisation and transfer to tertiary paediatric care.[34] At about the same time, members of Sasha's family arrived, shortly after having been notified of the emergency.

54. Also, at the same time[35], the PIPER Team, based at the Royal Children's Hospital in Parkville, were notified. The RCH provided advice: to continue with airway and breathing support; to employ further inotropic (heart function) support with nor-adrenaline and vasopressin infusion; and to continue fluid resuscitation with isotonic fluids (saline) and colloids (fresh frozen plasma). Additional antibiotic cover was also administered.

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32 CB 278
33 Dr Subiramanian – CB 040 and CB 282
34 Dr Subiramanian – CB 040
35 PIPER records note the referral time as 12.07pm – CB 367

55. At 12.32pm, Sasha was moved into the Sale Hospital's Critical Care Unit (**CCU**) and by 12.49pm the PIPER Team was en route, arriving at Sale Hospital at approximately 2.45pm.[36]

56. At 3.15pm, Sasha suffered a second cardiac arrest and received CPR for 30 minutes. Her heart remained in a state of pulseless electrical activity throughout and Sasha required four cycles of CPR before spontaneous pulse activity was detected.[37]

Transfer to RCH

57. At 4.45pm, Sasha was transferred to the Air Ambulance and flown to the RCH. Her condition remained critical throughout. She arrived at 6.10pm and was admitted directly to the RCH Paediatric Intensive Care Unit requiring mechanical ventilation and high doses of medication to maintain her blood pressure.[38] She was placed on advance life support (ECMO[39]) which requires the insertion of cannulas. Sasha suffered a further cardiac arrest at the time of cannulation.

58. An echocardiogram revealed that Sasha had a large aortic root abscess.

59. On the morning of 1 August 2019, both Sasha's pupils were observed to be fixed and dilated and her neurological outlook was very poor. Nonetheless, it was decided to perform an urgent aortic root replacement to provide a chance of recovery. The surgery was performed the same day between 1.00pm and 9.30pm.

60. On 2 August 2019, further neurological investigation revealed that Sasha had no brain or brain stem activity and, after counselling with Sasha's family, a decision was made to withdraw active life support. Sasha passed at 5.45pm that afternoon.

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36 CB 370
37 CB 040 and 370
38 CB 046 and 048
39 Extracorporeal Membrane Oxygenation

THE CORONIAL INVESTIGATION

61. Sasha's passing 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.

62. 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.

63. 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.

64. Victoria Police assigned an officer to be the Coroner's Investigator for the investigation of Sasha's death. The Coroner's Investigator conducted inquiries on my behalf, including taking statements from witnesses – such as family members, treating doctors, and the forensic pathologist – and submitted a coronial brief of evidence. The coronial brief was supplemented with Sasha's medical records and multiple expert witness statements.

THE CORONIAL INQUEST

65. The scope of the inquest was set as follows:

    1. *Sasha's conditions prior to admission at Central Gippsland Hospital, including medical and social*
        a. *Medical treatment provided to Sasha*
        b. *Family's concerns as to how they were treated by staff at the hospital*
        c. *Assumptions made about Sasha's condition, and whether genuine complaints were presumed to be related to her anxiety and Autism presentation*
    2. *Treatment provided at Central Gippsland Hospital*

3. Was Sasha's death preventable?

66. The inquest was conducted over two days, 5 and 6 December 2022 and the following witnesses were called:

- Sasha's father;
- Ms Jenny Jones – Principal Practitioner for outer Gippsland area, DFFH;
- Elizabeth Clements – Child Protection Policy Manager, DFFH (also adopting the statement of Mr Shane Wilson – Child Protection Policy Director, DFFH);
- Ms Kelli Mitchener – Director of Quality and Learning, Central Gippsland Health Service;
- Dr Meyrta May – Paediatric Infectious Diseases Consultant, St Andrew's and Wesley Hospitals; and
- Dr Christopher Pappas – Paediatrician, Cabrini Hospital

67. This finding draws on the totality of the coronial investigation into Sasha's passing, including the oral evidence and the material contained in the coronial brief. The brief will remain on the coronial file, together with the inquest transcript.

68. 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.[40]

FINDINGS CONCERNING SPECIFIC AREAS OF INQUIRY

Response to Sasha's symptoms during the initial period at Sale Hospital

69. Sasha's father has submitted that nursing and medical staff at Sale Hospital incorrectly dismissed Sasha's repeated complaints of chest pain, concluding that it was related to anxiety or her diagnoses of Asperger's Syndrome and or / ADHD.[41]

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[40] 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.

70. The first note in the Progress Sheet relating to chest pain is at 9.15pm on 28 July 2019: '*Pt states 'pain in chest' and followed by a cough. Regular analgesia given and pt stated was effective*.'[42] There was no chest pain noted on Sasha's initial assessment in the ED at 12.12pm that day or in the initial assessment at the paediatric ward at 1.00pm, neither of which accords with the statement of her uncle who took her to hospital. He stated:

> *Because* [Sasha] *had autism, she was hard to read at times when it came to pain tolerance …*[43]
>
> [Sasha] *kept complaining of chest pains. At this stage, I thought that maybe it was her autism or anxiety causing chest pain.*[44]

71. There is no note of any chest pain when Sasha was reviewed by Dr Subiramanian and Dr Checchini the following morning at 9.00am.[45]

72. Sasha's aunt visited in the evening on 29 July 2019. She stated that her sister, who had had been with Sasha for several hours, reported to her that Sasha had '*been crying in agony from chest pain (since 5pm)*'.[46]

73. The relevant progress note for that evening records at 7.50pm:

> *Pt sleeping @ beginning of shift. Pt has been calm, colouring in bed & watching TV. Has tolerated small diet & fluids. Has not had family in attendance until approx. 1830hrs. Obs all stable & WNL*[47]*, afebrile. Pt had own shower and performed own hygiene. Pt complained of cont chest pain, NIC notified, paediatrician Dr Saba called, not concerned that it is chest/cardiac related, does not want an ECG. 4mg Ondanestron given IV. Pt had a med-large vomit. States that feels a little better. …*[48]

74. There are several differences between the matters recorded in this note and the recollection of Sasha's aunts which do not require a determination. The fact that the nurse responded to the complaints of chest pain and escalated the issue is significant however and

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41 Sasha's father's submissions at paragraph 43
42 CB 258
43 Sasha's uncle – CB 014
44 Sasha's uncle – CB 015
45 CB 259
46 Sasha's aunt (in a statement jointly signed by both sisters) – CB 018
47 within normal limits
48 CB 261-262

demonstrates responsiveness to the symptoms rather than dismissal. I am satisfied that the view at that time, that the reported pain was not thought to be associated with a cardiac cause, was the result of the diagnostic challenges of Sasha's presentation (discussed below) rather than the nursing or medical staff dismissing the complaints.

75. Sasha had an ECG at 2.35pm on 30 July 2019 and on the printout, it was noted '*no chest pain*'.[49] The ECG was then reviewed by Dr Subiramanian.

76. The next note of chest pain is at 3.40pm on 30 July 2019: '*Omeprazole commenced 20mg daily for gord + central chest pain which has been reviewed by paed HMO*.'[50]

77. Dr May included Sasha's intermittent chest pain among the non-specific symptoms when she considered the delayed diagnosis of endocarditis. She did not consider that the intermittent chest pain should have been regarded differently by the medical staff and thereby led to a different diagnostic path.[51]

78. I am satisfied that Sasha's reports of chest pain in the period 28 July 2019 to 30 July 2019 are properly characterised as intermittent and that the response of the nursing and medical staff was reasonable in the circumstances of Sasha's presentation. It is not the case that the chest pain was dismissed, it was recorded and considered – but not attributed to a cardiac cause or suspected to be so connected. Significantly, neither Dr May or Dr Pappas suggest that it should have been.

Passage of information concerning Sasha's father's cardiac history

79. In her written statement, Sasha's mother recalled telling a nurse about Sasha's father's cardiac history. Referring to an interaction apparently taking place in the late afternoon or in the evening prior to 7.45pm on 28 July 2019, she stated:

> *I stayed overnight with her,* [Sasha] *was complaining of that* [sic] *her heart was sore, she was pointing to her heart, I told the nurse (Lauren* [,] *she had blonde hair) on duty that her father had heart issues, the nurse replied, "yes, we know we have*

[49] CB 302
[50] CB 264
[51] T151

written it down and that she has already had Panadol". I went back to the room, at around 7.45pm, I was laying down with [Sasha] ...[52]

80. The key elements of this recollection are that: the interaction took place in the children's ward (after Sasha had been transferred there); Sasha's mother gave the information to a nurse by the name of 'Lauren'; and that this nurse had blonde hair.

81. Kelli Mitchener, Director of Quality and Learning at Central Gippsland Health Service (**CGHS**), stated that there were no nurses named 'Lauren' rostered to work in the ED, the Women's and Children's Ward, the Critical Care Unit or as a hospital co-ordinator during Sasha's admission.[53]

82. Ms Mitchener gave evidence that she had also made direct inquiries of: the nurse in charge for the relevant shift in the Women's and Children's Unit; the Nurse Unit Manager of the Critical Care Unit; and the nurse in charge of the ED. Ms Mitchener conceded that she had not spoken to all the nurses with whom Sasha's family may have had contact, but maintained that she had checked all the rosters and '*there isn't a nurse or a doctor named Lauren*.'[54]

83. The submissions on behalf of CGHS refer to the nursing note made at 9.15pm[55] and Ms Mitchener's opinion that this note is consistent with the interaction between Sasha's mother and the nurse. I am not persuaded this is correct. The timing of the entry at 9.15pm appears to be too late be referable (either in whole or in part) to a conversation with Sasha's mother having occurred, on her account, at some time before 7.45pm. There is an earlier note made at 4.35pm, apparently by the same nurse, but it also does not appear to be referrable to the subject interaction between the nurse and Sasha's mother. Both notes appear to be signed, 'C. Lucas'.

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52 Sasha's mother – CB 004
53 K. Mitchener – CB 431
54 T129.07
55 CB 258

84. In short, the nursing notes for the relevant period do not contain any information of this character, and otherwise they do not assist in the determination of what may have been reported by Sasha's mother, or to whom.

85. I am satisfied that Ms Mitchener made all reasonable inquiries concerning this issue and I accept that there was no nurse or doctor on the roster named 'Lauren'. Whilst Sasha's mother no doubt spoke to a nurse that evening, I cannot be satisfied that the information that Sasha's father had 'heart issues' was effectively communicated within the conversation.

The option of early antibiotic treatment

86. Sasha's father has submitted that:

> *The Court should accept the evidence of Dr May to the effect that antibiotics could and should have been commenced upon admission, due to the clinical findings at presentation to ED on 28 July 2019 … Earlier antibiotic cover would have at least delayed Sasha's precipitous decline and possibly given more time for escalation of treatment.*[56]

87. In Dr May's written statement, she opined:

> *… IV antibiotics commenced at admission may have had a modest impact on* [the] *severity of her clinical course, that is, her clinical decline may not have been as precipitous. However the lack of positive findings suggestive of endocarditis and the normal results of her ECG and Chest X-ray performed on 30/7/19 suggest that even if IV antibiotics had been started at admission there were still very few clinical indicators to alert clinicians to the severity or location of the underlying focus of the disease.*[57]

88. In evidence, Dr May stated:

> *… so I guess in many cases, the assessment is felt to be a viral illness, then antibiotics are not commenced. In my opinion, there was a whole lot of factors there that may have – even though the diagnosis was not clear at all, there were factors*

[56] Submissions on behalf of Sasha's father at paragraph 44.
[57] Dr May – CB 066

> *there …* [which] *were sufficient to suggest that antibiotics may have been appropriate. …*
>
> *Those factors combined with her being non-specifically unwell and multiple presentations to multiple care were reasonable indicators to suggest that antibiotics should have been considered. …*
>
> *It was proposed that she may have a viral infection but there's some other factors there which suggest that antibiotics could have been considered. I list those other factors, they would involve multiple presentations to medical care in the past few days, a high white cell count, a high CRP which is an indication of inflammation and while not specific to infection would be unusual in a viral infection …*[58]
>
> *… in my opinion, it would have been reasonable given those initial abnormal blood tests and those findings to consider including antibiotics in that supportive care even though a diagnosis wasn't clear.*[59]
>
> … [at admission or shortly thereafter] *that's when I believe antibiotics should have*[60] *been commenced or could have been commenced based on the laboratory features that would suggest that although a viral illness was thought of clinically, there were laboratory features to suggest that perhaps there was something more serious there.*[61]

89. Dr Pappas did not agree that antibiotics should have been administered upon Sasha's admission. In his written statement, he said:

> *… I believe that the earliest reasonable administration of antibiotics was six hours prior to them actually being administered, that is, at the time of the notification of the positive blood culture to the nursing staff.*[62]

90. In his oral evidence in answer to the question whether a broad-spectrum antibiotic might be indicated if there was any suspicion of a bacterial infection (and therefore potentially indicated at the time of Sasha's admission), Dr Pappas stated:

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58 T144-145
59 T147
60 The use of the expression 'could have' rather that 'should have' was later clarified in Dr May's evidence at T180.
61 T152
62 Dr Pappas – CB 082

That could be done … I think whether you do it or not depends on what you think the diagnosis is, the doctors felt she had influenza. The family apparently had influenza. The influenza test was positive, or it became positive and I think it was reasonable to assume that this was influenza in which case antibiotics would not be indicated.[63]

… It would be a bad policy to be giving broad spectrum antibiotics at low thresholds for suspicion of bacterial infection.[64]

91. Dr Pappas later explained the clinical judgement challenges in circumstances such as those present in Sasha's presentation:

…. It's a clinical judgement that doctors have to make all the time, and they need to distinguish between viral infections and bacterial infections all the time there's the clinical judgement here with the factors being, was it influenza B or was it influenza B plus something else or was it just something else like … invasive bacterial infection. So there are a number of things that can help you make that decision including those tests that you've mentioned and also including the degree of illness that you consider the child to have. So invasive bacterial infection usually involves the child having a degree of illness which makes them significantly unwell. They look very sick. …

… you're asking me would I have given antibiotics at the first presentation? Look, I don't know. I'd have to consider all these things and I would have been influenced by the family having influenza B and the positive influenza B test; yes.[65]

92. As previously noted, Dr Subiramanian reviewed Sasha, shortly after 1.00pm on 28 July 2019. He stated,

I reviewed Dr Cecchini's notes and agreed with her management plan. Our impression at that time was of a viral illness, but we needed to exclude UTI and abdominal surgical causes. We did not commence antibiotics at that time as this can sometimes mask a surgical presentation and delay the diagnosis.[66]

93. When Dr Subiramanian next reviewed Sasha (again with Dr Cecchini) at 9.00am on 29 July 2019, he had the results of Sasha's nasal swab taken the day before. This showed a negative result for respiratory syncytial virus and influenza A and B. Additionally, Sasha's

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63 T205
64 T206
65 T221-222
66 Dr Subiramanian – CB 037

urine screen did not indicate a UTI but she was still complaining of abdominal pain and pain and tenderness in her lower abdomen. Dr Subiramanian stated,

> *My assessment was still that of a viral illness, however, I considered that surgical conditions that lead to pain and infection should be assessed and excluded.*[67]

94. Sasha underwent an abdominal ultrasound at 10.54am which did not show any signs of appendicitis. Additionally, Sasha's kidneys were normal and there were no other adverse signs.

95. At 12.15pm, Sasha was reviewed by the surgical team. They considered that Sasha was unlikely to have appendicitis and they too held an impression that she had a viral illness.

96. I am satisfied that Sasha's initial presentation (that is, from the time of admission until the evening of 30 July 2019) was non-specific and that the treating clinicians did consider the use of antibiotics over this period. Although Dr May and Dr Pappas differed on the question whether antibiotics were indicated from the outset, I conclude that this was a question upon which the minds of paediatricians could reasonably differ.[68]

97. I am satisfied that, in all the circumstances over this initial period, it was a reasonable decision not to administer antibiotics.

Communication of blood test results and subsequent antibiotic treatment

98. The first direct evidence that Sasha was suffering from a bacterial infection was the preliminary result of a positive blood culture containing Gram positive cocci received on the morning of 30 July 2019. This result was faxed to the paediatric ward at 1.32am[69] but it was not noted by nursing staff until 4.55am. At that time the results were attached to Sasha's records and noted on her progress sheet as follows:

> *0455 When checked Pt afebrile, normal ranged respiratory rate. Regular medications to be administered APC. Nil vomiting, nil abdo pain noted /*

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67 Dr Subiramanian – CB 037
68 Dr May also agreed with this proposition: T183
69 Dr May – CB 064

voiced. Path results per blood cultures showed gram + cocci. NIC notified and path clipped to outside of folder. [70]

99. Apart from notifying the Nurse in Charge, it seems no further action was taken by nursing staff overnight and no action was taken until medical staff were made aware of the results after a follow up telephone call from the laboratory at 10.49am. The bacteria had been identified as *Streptococcus pneumoniae* (Pneumococcus).

100. At 12.30pm Sasha was commenced on IV ceftriazone. She also had a chest X-ray and ECG and the results of both appeared normal.

101. These events resulted in a delay of more than 9 hours before medical staff become aware of the pathology results.

102. The submissions on behalf of CGHS note that there is no evidence of the fax being received by nursing staff prior to the 4.55am note on the progress sheet.[71] However I note that the evidence of the 1.22am fax comes from CGHS itself, via the statement of Dr Harvey Lee, Executive Director of Medical Services.[72]

103. Ms Mitchener testified that the pathology results should have [also] been communicated by telephone and that these results fell into a category requiring this more urgent form of notification.[73]

104. Dr May considered the delay was significant.[74] Dr Pappas stated that the delay would generally be considered significant and would have put Sasha at greater risk of developing septicaemic shock or extension of her bacterial infection.[75] Moreover, when Dr Pappas considered the delay as part of his written statement, and thought it significant, this was based on a delay calculated to be 6 hours (from 4.55am to 10.49am)[76] rather than 9 hours.

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70 CB 262
71 CGHS submissions – footnote 44
72 Dr Lee – CB 060
73 T130
74 T150
75 T214
76 Dr Pappas – CB 079

105. I accept that the laboratory should have also communicated the results by telephone but it is difficult to conclude that this would have avoided the delay. The difficulty lies in the fact that notification of the Nurse in Charge by the ward nurse at 4.55am still did not result in any consequential notification of the medical staff.

106. It is very concerning that facsimile transmissions are still being used for important medical information. They are difficult to trace; they do not create an easily accessible communication trail; they are troublesome to send to multiple recipients, and they are vulnerable to being lost or overlooked. If laboratories and hospitals insist on using this long-outdated technology, the method must be supported by other means to ensure firstly, that the communication has been received and secondly, that the recipient understands the importance of the information.

107. Ms Mitchener detailed the response of CGHS to the issue in her first statement:

> *Communication of pathology results that are a potential concern are now reported directly to the consultant and are not reported only to the ward. More recently, the laboratory has agreed to email a copy of the pathogen result to the Director of Medical Services (DMS) so the DMS has oversight with the treating team for appropriate and timely intervention.*[77]

108. This is a sensible change which I commend. Nonetheless, CGHS should consider all circumstances where the communication of important information may still depend solely on facsimile transmission. The delay of 9 hours in Sasha's case very clearly demonstrates the inadequacy of this method of communication for critical purposes.

109. Accordingly, I recommend that CGHS take all steps as may be required to eliminate facsimile transmission as the sole means of communication of critical clinical information. This process should involve a consideration of all likely instances of the communication of such information, including internal and external communications. I would expect this recommendation would be considered by all Victorian health services and so the Department of Health has been included in the list of persons and entities for distribution.

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[77] K. Mitchener – CB 414

The potential for an earlier diagnosis of infective endocarditis

110. A principal question is whether infective endocarditis should have been diagnosed (or, at least suspected) at an earlier stage when Sasha was in the Sale Hospital. This question is closely linked to the concerns raised by Sasha's family that her complaints of symptoms were not properly considered by medical and nursing staff, and that information concerning Sasha's father's cardiac history was not considered at all.

111. Dr May's opinion concerning the potential for an earlier diagnosis was summarised in her statement as follows:

> *... given that the repeat blood culture from 31/7/19 remained negative, the lack of obvious findings of endocarditis on examination, the normal chest X-ray and ECG from 30/7/19, and non-specific symptoms (intermittent abdominal and chest pain and nausea), it is likely the diagnosis of complex endocarditis would have been delayed, even in the presence of empiric antibiotics.*[78]

112. Dr May also considered the potential for an earlier echocardiogram, which may have revealed the endocarditis and led to earlier surgical intervention. However, her opinion was that there was insufficient clinical indication to suggest that an urgent referral for an echocardiogram should have been made. The basis for the 'insufficient clinical indication' was the normal chest X-ray and ECG, and the absence of significant cardiac abnormalities on examination.[79] In evidence, Dr May further explained that there were 'key considerations' in the diagnosis of endocarditis which were absent, namely, a heart murmur and a fever.[80] This was Dr May's conclusion notwithstanding consideration of a clinical picture that included Sasha's intermittent chest pain and the initial blood test results indicating a high white blood cell count and high CRP.[81]

113. In evidence, Dr May further explained that pneumococcal endocarditis is very rare and has a high mortality rate (greater that 20%) even in cases where there is an early diagnosis. In this context Dr May further stated:

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78 Dr May – CB 070
79 Dr May – CB 070
80 T173-174
81 T173

> *... So Sasha definitely had a delayed diagnosis, but on reviewing the findings or the presentation, then ... there's no evidence there for the doctors to conclude that she had endocarditis in those first couple of days*.[82]

114. Dr Pappas considered that Sasha's initial symptoms, when she presented at the Sale Hospital, were the result of influenza and that she was probably carrying pneumococcus but the bacteria were not causing her any illness. However, the demands placed on her immune system by the influenza allowed the pneumococcus in the 'carrier state' to develop into invasive disease and bacteraemia (demonstrated from the results of the initial blood culture). Sasha was unwell and miserable, but not to the extent that would be consistent with a severe invasive bacterial disease. Although the bacteria were present in Sasha's blood, there was no focal pneumococcal infection giving rise to symptoms associated with the focus of the infection, That is, until Sasha's rapid deterioration on 31 July 2019. Dr Pappas further explained that, once a focal pneumococcal infection starts, it progresses very quickly.[83]

115. Although Dr Pappas could not say when it was likely the pneumococcus 'seeded' into the tissues of the heart and onto the aortic valve, his opinion was that Sasha's rapid deterioration occurred soon (within hours) after the development of the aortic root abscess. He observed that the presence of such an abscess would cause a patient to be critically unwell, rather than mildly or moderately unwell.[84] He also explained that a diagnosis of an aortic root abscess could have only been made with an echocardiogram.[85]

116. As to the likelihood of a diagnosis of endocarditis, even with evidence of a positive blood culture for pneumococcus, Dr Pappas said of the diagnostic process:

> *... so if a child was in hospital under my care and I was told that this child has got – is growing a positive blood culture for pneumococcus, my mind would not jump to endocarditis being a possible complication because it must be rare and it's not the first thing I think of. I'd be more thing of '... How sick are they?', because that's*

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82 T152-153
83 T200-203
84 T203-204
85 T226

important. 'Have they got pneumonia, have they got meningitis, have they got some other focal infection?'[86]

117. Dr May held a different view concerning the likely timing of the development of the abscess. She considered that formation was likely to be already taking place at the time of admission[87] based upon her view that it was the cause of Sasha's reported chest pain.[88] Dr May further explained that, in her view, the abscess may have been forming without the usual signs that Sasha was obviously systemically very unwell, because of the focal infection being 'walled off' from the body as part of its protective response.[89]

118. In light of the differing views from two eminent witnesses concerning the likely timing of the development of the abscess, it is not possible to conclude whether it is more likely that the abscess was already developing at the time of Sasha's admission or whether it developed only hours before her rapid deterioration.

119. However, on the question of the potential for an earlier diagnosis of endocarditis, the evidence of Dr May and Dr Pappas reveals concordant opinions – namely, that it was reasonable for the doctors treating Sasha not to have diagnosed endocarditis prior to her rapid deterioration on 31 July 2019. I accept their conclusion.

The likely progression of Sasha's illness and the efficacy of antibiotic treatment generally

120. The decision whether to administer antibiotics from the outset, and the delay in administration of antibiotics after the pathology results were available, were two principal areas of inquiry in the inquest. However, overlaying these two issues, is the broader question whether antibiotic treatment alone, commenced at any stage, would have resolved the focal infection involving Sasha's aortic valve and altered her clinical course. Dr May and Dr Pappas were of the same view – antibiotics alone were not sufficient – the development of the abscess meant that Sasha required surgery to survive.

121. Dr Pappas' opinion concerning the likely course of Sasha's illness was, in summary:

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86 T218
87 T163
88 T165
89 T166

> *It appears that* [Sasha] *was suffering a pneumococcal infection for at least 66 hours before her condition deteriorated. This included a 20 hour period of appropriate antibiotic cover. Her condition unexpectedly and rapidly deteriorated over a 4 hour period, progressing to shock and cardiopulmonary arrest.*
>
> *I do not believe that in this particular case the delay in antibiotic administration had an adverse effect on outcome. There was potential for deterioration whilst she was not receiving antibiotic therapy, but this did not occur. Her condition remained stable during the time between the initial blood culture and the notification of the result to the nursing staff. In the 6 hours between the initial blood culture report and the medical staff becoming aware of the blood culture result, her condition did not change.*[90]

122. Dr Pappas also explained the potential limited efficacy of antibiotics once a focal infection has developed in tissue, such as cardiac valve tissue, which itself has a sparse blood supply. In short, antibiotics may not penetrate very well into the infected tissue and bacteria can still multiply in those tissues despite the antibiotic treatment.[91]

123. Dr May's opinion was that, if IV antibiotics had been commenced on admission, this may have had a modest impact on the severity of Sasha's clinical course. However, even if this had occurred, there were few clinical indicators to alert clinicians to the severity or location of the underlying focus of the disease. Furthermore, IV antibiotics alone would not have been sufficient to prevent significant damage to Sasha's aortic valve or resolve the abscess.[92] In evidence, Dr May agreed that there was a higher likelihood that the early administration of antibiotics would have delayed Sasha's eventual decline but could not quantify the degree of likelihood.[93] Importantly however, Dr May's ultimate view was that antibiotics alone would not have resolved the abscess and, for Sasha to have survived, she required surgical intervention.[94]

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90 Dr Pappas – CB 080
91 T208
92 Dr May – CB 066
93 T171
94 T167

124. I accept the opinions of Dr Pappas and Dr May in this regard and find that the administration of antibiotics alone, regardless of the time of commencement after admission, would not have altered the ultimate development of Sasha's aortic root abscess.

Role of the DFFH – familial health history of a child in care

125. The remaining question bearing upon the potential for an earlier diagnosis or, at least, suspicion of endocarditis or other form of valvular disease, is Sasha's father's history of aortic stenosis. More specifically, the issue is whether there should have been an awareness of the hereditary potential for Sasha to have the same valvular disease or some other structural cardiac abnormality. Sasha's father required a transplant of his aortic valve in about 2009, when he was 20 years old.[95]

126. Although Sasha had not been diagnosed with any cardiac abnormality before she fell ill, Sasha's father submitted that the DFFH should have sought information about his cardiac history which, in other circumstances[96], could have been passed to the treating doctors so that they could properly consider whether Sasha may also have had a structural cardiac abnormality.

127. Sasha's father submitted that the DFFH never sought information concerning the family medical history. He also gave evidence that, if he had been asked about his health history, he would have readily informed the DFFH and provided access to his medical records as needed.[97] I accept this to be so.

128. Dr Pappas explained the link between having a bicuspid aortic valve and an increased risk of bacterial endocarditis. Put simply, the increased risk of endocarditis is associated with cardiac abnormalities generally and not just the presence of a bicuspid valve. The more complex the abnormality (including previous cardiac surgery involving valve replacement) the higher the risk of endocarditis. Although the increased risk of endocarditis on bicuspid

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95 Sasha's father – CB 442

96 Initially, the DFFH was not aware of Sasha's hospitalisation which is an issue unto itself and addressed below.

97 Sasha's father's submissions at paragraph 6.

aortic valves has been recognised and described, it is at the low end of the spectrum of cardiac abnormalities giving rise to an increased risk.[98]

129. Dr Pappas also explained that, while a staphylococcal bacteraemia carries a recognised risk of endocarditis, whether or not the patient has a cardiac abnormality, pneumococcal bacteraemia is relatively common but rarely leads to endocarditis. Further, endocarditis generally is rare.[99] Nonetheless, if a child had a known structural abnormality of the heart and an infectious illness, the treating doctor may possibly be suspicious of endocarditis, although that suspicion may not be very high. Dr May similarly stated that, if Sasha had already been diagnosed with a bicuspid aortic valve, she would have a lower threshold for considering endocarditis.[100]

130. This is a step closer than simply knowing of Sasha's father's cardiac history and applying that to Sasha's presentation – Sasha having no previous diagnosis of any cardiac abnormality but having a hereditary potential.

131. Dr Pappas did not consider that a known family history of bicuspid aortic valve would raise a suspicion of endocarditis in the circumstances of Sasha's presentation.[101] Dr May conceded that she might have sought advice from a specialist if she formed a view that that Sasha's father's diagnosis was relevant to Sasha's condition. Counsel for the DFFH has submitted that this analysis of Dr May's position is only reached after taking her evidence at its highest[102] and I accept this characterisation.

132. The likely progression of Sasha's illness and the difficulties involved in the diagnostic process have been previously canvassed. In the circumstances, I cannot conclude that, if the treating doctors had information concerning Sasha's father's cardiac history, a different diagnostic and treatment path would likely have been taken or that the course of Sasha's illness would have been different. Nonetheless, examination of this issue has revealed an important gap in the information gathered by the DFFH for children in care.

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98 T219
99 T218
100 T174
101 T198-199
102 DFFH submissions at paragraph 41

133. Sasha was subject to a LTCO and, although she was in the day-to-day care of her maternal grandmother, the Secretary of the DFFH stood *in loco parentis*, having the same powers and responsibilities as if they were Sasha's parent.

134. Sasha's father has submitted that the DFFH failed to request or obtain the medical history of Sasha's parents[103] and the DFFH has acknowledged that it did not have any policies or guidelines in place over the relevant period that required Child Protection (**CP**) practitioners to ask parents about their medical histories, and this remains the case.[104]

135. The DFFH has submitted that it does not oppose, in principle, the introduction of a guideline to CP practitioners to actively seek information from birth parents about their health history and any potential impacts on their children as part of their overall risk assessment, where it is possible to do so.[105] The DFFH also identifies a set of considerations that are necessary before the terms of the guideline or policy are set. In brief, these are:

    (a) the extent to which CP practitioners should go to seek the information;
    (b) ensuring CP practitioners may still use their discretion and judgement when seeking the information and are not confined to a list of questions;
    (c) the level of detail expected to be obtained – noting that CP practitioners are not trained medical professionals;
    (d) whether it is possible for a CP practitioner to understand every possible kind of medical condition; and
    (e) how CP practitioners should use the parental health information once it is obtained.[106]

136. I accept that these are all relevant considerations in the formulation of the policy or guidelines but I also note that they are not extraordinarily difficult obstacles. Considerations should be guided by the principle that, because the DFFH is sitting in the

103 Sasha's father's submissions at paragraph 26
104 DFFH submissions at paragraph 19 and 45
105 DFFH submissions at paragraph 47; T105
106 DFFH submissions at paragraph 48

position of the parent, it should do everything reasonable to arm itself with a knowledge of the family medical history of children in its care to be able to inform a medical practitioner should the need arise.

137. No reasonable person would expect a CP practitioner to wield medical (or quasi-medical) expertise when seeking the information, but the aim should be to place the DFFH in the same position as a parent with reasonable medical literacy to understand the medical background of the child's family. Furthermore, the DFFH may be assisted by paediatricians to formulate a set of questions designed to reveal common heritable conditions within the family that have the potential to impact the health of the child in care. It does not follow that such an aid would have to operate to limit the discretion and professional judgement of the CP practitioner.

138. I recommend that the DFFH review its Child Protection Manual and other relevant policies or guidelines to include guidance to CP practitioners to seek, where possible, familial medical history that may impact the health of the child in care.

Effect of the DFFH not having knowledge of Sasha's father's cardiac history prior to Sasha's hospitalisation

139. Sasha's father also submitted that the failure of the DFFH to request his health information was a missed opportunity for earlier intervention, diagnosis and treatment of her bicuspid aortic valve.[107]

140. I am not satisfied that this is the case. Sasha had been on a LTCO since December 2017 and in the day-to-day care of her maternal grandmother since an Interim Accommodation Order had first been made in January 2011. It is also apparent that Sasha's mother, two maternal aunts and maternal uncle were meaningfully connected with the household. (It was Sasha's maternal uncle who took her to hospital on 28 July 2019.)

141. Sasha's mother stated:

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[107] Sasha's father's submissions at paragraph 32

> *At the age of one, I noticed that* [Sasha's] *feet, hands and lips were always a purplish-blue colour, she would sleep a lot more during the day. I was concerned as her father … had suffered heart problems as a young child. He had a heart transplant around three years ago.*[108]

142. Sasha's uncle stated:

> *To the family,* [Sasha] *was known to have heart problems from birth.*[109]

143. I conclude from these statements that Sasha's father's cardiac history (at least generally) was known among Sasha's mother's family and that there was suspicion or concern about Sasha's own cardiac health.

144. The history of Sasha's involvement with paediatricians and various specialists[110], particularly from 2011 onwards, reflects a conscientious approach to her health issues but she was not diagnosed with any cardiac related illness.

145. In all the circumstances, the fact that the DFFH had not sought information concerning Sasha's father's cardiac history cannot properly be regarded as a missed opportunity for earlier medical intervention for Sasha.

DFFH's knowledge of Sasha's admission to hospital

146. The Client Relationship Information System (**CRIS**) is an information platform maintained by CP and is accessible by CP and the relevant case-contracting agency.[111] Its importance in these circumstances was as a central repository for Sasha's case information.

147. Sasha's CRIS file contains a case note from a GEGAC case worker recording that Sasha's maternal grandmother informed GEGAC of Sasha's hospitalisation on 28 July 2019.[112]

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108 Sasha's mother – CB 002
109 Sasha's uncle – CB 015
110 Dr Welgemoed – CB 051-055
111 T032
112 J. Jones – CB 400

The DFFH acknowledges that there is no evidence it was made aware of Sasha's hospitalisation until after her cardiac arrest at 11.32am on 31 July 2019.[113]

148. Ms Jones gave evidence that Child Protection would expect GEGAC to have contacted it directly to advise that Sasha had been admitted to hospital rather than simply making a case note on CRIS.[114] I accept that this is a reasonable expectation.

149. The DFFH has also submitted that it is not open to find why GEGAC did not directly advise Child Protection in the absence of evidence from an appropriate GEGAC witness. However, the DFFH acknowledged that the Child Protection Manual did not, and does not, contain an express reference to the expectation that a case-contracting agency (such as GEGAC) should contact Child Protection as soon as possible after they become aware that child, with whom they are involved, has been admitted to hospital.[115] It does not require direct evidence to conclude that the absence of policy or guidelines for the case-contracting agency in this regard is likely to be causative (or, at least, partially so) of the lack of direct notification in this instance.

150. The failure of effective urgent communication between GEGAC and DFFH concerning notification of Sasha's hospitalisation raises two principal issues. The first involves the ability of the DFFH to fulfil its responsibility to consider the medical advice and give consent to treatment, and the need for it to consult with the family of the child in care in appropriate circumstances. The second issue concerns the opportunity for the DFFH to have passed on to the treating doctors the familial medical information it may have gathered, as contemplated at paragraphs 125 to 138 above.

151. In circumstances where the day-to-day case management and communication with carers and family has been contracted to an organisation such as GEGAC, as was the case with Sasha, it is essential that a robust system exists for urgent communication between the case-contracting agency and the DFFH if the need arises. Clearly, the hospitalisation of a child in care is a prime example.

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113 DFFH submissions at paragraph 24
114 T033
115 DFFH submissions at paragraph 26

152. I accept that Child Protection should not be expected to conduct a daily review of a child's CRIS file to check for urgent communications and it seems the CRIS system is not well suited for this purpose. These facts are, however, no barrier to the establishment of a robust protocol for urgent communications to DFFH.

153. DFFH itself has submitted that it considers there is no impediment to the expectation of direct contact from a case-contracting agency being clarified in the Child Protection Manual in circumstances such as Sasha's.[116]

154. I recommend that DFFH implement a means of effective urgent communication with its case-contracting agencies, supported by appropriate policy and procedures, in respect of a child in care. The means adopted should be available at all hours and capable of actively alerting the recipient.

155. I also recommend that DFFH review its Child Protection Manual and other relevant policies or guidelines to make clear to case-contacting agencies, the circumstances in which it expects to urgently receive information concerning a child in care.

MATTERS IN RELATION TO WHICH A FINDING MUST, IF POSSIBLE, BE MADE

Circumstances in which the death occurred

156. Sasha' death occurred in the circumstances described above.

Identity of the deceased

157. On 2 August 2019, at the Royal Children's Hospital, Sasha was visually identified by her maternal grandmother.

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

[116] DFFH submissions at paragraph 26

Medical cause of death

159. Forensic Pathologist Dr Melanie Archer, from the Victorian Institute of Forensic Medicine (**VIFM**), conducted an autopsy on 7 August 2019 and completed a written report of her findings on 29 November 2019.[117]

160. Dr Archer commented that the ultimate cause of Sasha's passing was hypoxic ischaemic encephalopathy, which is the result of irreversible brain damage due to the interruption of the supply of oxygenated blood to the brain. This was caused by a temporary cardiac arrest following the cumulative effects of septic shock due to pneumonia and heart valve infection.

161. Sasha was also found to be positive for Influenza B and to have pneumococcal positive blood cultures (that is, *Streptococcus pneumoniae* was present in her blood stream).

162. Dr Archer provided an opinion that the medical cause of death was 1 (a) HYPOXIC ISCHAEMIC ENCEPHALOPATHY COMPLICATING AN AORTIC ROOT ABSCESS (OPERATED) IN THE SETTING OF BICUSPID AORTIC VALVE, PNEUMONIA, PNEUMOCOCCAL SEPTIC SHOCK AND INFLUENZA B INFECTION.

163. I accept Dr Archer's opinion.

FINDINGS AND CONCLUSION

164. Having held an inquest into the passing of Sasha and having applied the appropriate standard to the available evidence, I make the following findings, pursuant to section 67(1) of the *Coroners Act 2008* (Vic):

    a) the identity of the deceased is Sasha, born 10 July 2007;

    b) the death occurred on 2 August 2019 at the Royal Children's Hospital, 50 Flemington Road, Parkville, Victoria from 1(a) hypoxic ischaemic encephalopathy complicating

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an aortic root abscess (operated) in the setting of bicuspid aortic valve, pneumonia, pneumococcal septic shock and influenza b infection; and

c) the death occurred in the circumstances described above.

RECOMMENDATIONS

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

1. That the Department of Families, Fairness and Housing review its Child Protection Manual and other relevant policies or guidelines to include guidance to Child Protection practitioners to seek, where possible, familial medical history that may impact the health of a child in its care.

2. That the Department of Families, Fairness and Housing implement a means of effective urgent communication with its case-contracting agencies, supported by appropriate policy and procedures, in respect of a child in care. The means adopted should be available at all hours and capable of actively alerting the recipient.

3. That the Department of Families, Fairness and Housing review its Child Protection Manual and other relevant policies or guidelines to make clear to case-contracting agencies, the circumstances in which it expects to urgently receive information concerning a child in care.

4. That the Central Gippsland Health Service take all steps as may be required to eliminate facsimile transmission as the sole means of communication of critical clinical information.

PUBLICATION & DISTRIBUTION

166. Pursuant to section 73(1) of the Act, this finding will be published on the Internet in accordance with the rules.

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

Sasha's father, mother and maternal grandmother

Department of Families Fairness and Housing

Central Gippsland Health Service

Royal Children's Hospital

Gippsland and East Gippsland Aboriginal Cooperative

Department of Health

First Constable Zanatta, Coroner's Investigator

I convey my sincere condolences to Sasha's family for their loss.

Signature:

Coroners Court of Victoria

Date: 17 July 2023

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.

LIST OF ABBREVIATIONS

MEDICAL

ADHD	Attention Deficit Hyperactivity Disorder
bpm	beats per minute (heart rate)
CCU	Critical Care Unit
CPR	Cardiopulmonary Resuscitation
CRP	C-Reactive Protein
ECG	Electrocardiogram
ECHO	Echocardiogram
ED	Emergency Department
GP	General Practitioner
IV	Intravenous
MET	Medical Emergency Team
MRI	Magnetic Resonance Imaging
NIC	Nurse in Charge
PCR	Polymerase Chain Reaction (PCR Test)
PIPER	Paediatric Infant Perinatal Emergency Retrieval (PIPER Team)
RCH	Royal Children's Hospital
UTI	Urinary Tract Infection

OTHER

CGHS	Central Gippsland Health Service
CP	Child Protection
CRIS	Client Relation Information System (DFFH CRIS file)
DFFH	Department of Families, Fairness and Housing
GEGAC	Gippsland and East Gippsland Aboriginal Cooperative
LTCO	Long Term Care Order
VIFM	Victorian Institute of Forensic Medicine