Coroners Act 1996
[Section 26(1)]

Western *Australia*

RECORD OF INVESTIGATION INTO DEATH

Ref: 53/15

I, Barry Paul King, Coroner, having investigated the death of ***Sebastian Keith Parman*** *with an inquest held at the* ***Geraldton Court House from 14 December 2015 to 17 December 2015*** *find that the identity of the deceased person was* ***Sebastian Keith Parman*** *and that death occurred on* ***17 September 2010*** *at* ***Geraldton Regional Hospital*** *from* ***pneumonia complicating influenza (H1N1) infection*** *in the following circumstances:*

Counsel Appearing:

Ms K E Ellson assisting the Coroner
Ms R Young and Ms A L V Salapak (State Solicitor's Office) appearing for the WA Country Health Service
Ms B E Burke (Australian Nursing Federation) appearing for David Parman
Mr D V Brand (MDA National) appearing for Dr P Drury and Dr W Abujalala
Ms M J Naylor (Tottle Partners) appearing for Dr L Cupitt

Table of Contents

INTRODUCTION

1. On 14 September 2010 Sebastian Keith Parman (**the deceased**) attended the emergency department at Geraldton Regional Hospital (**GRH**) on a social visit with his father, David Parman, a registered nurse who worked there. He was six years old.

2. The deceased had been exhibiting mild flu-like symptoms for the previous three or four days and had developed a bright red rash over his body.

3. While at the emergency department, Mr Parman's nursing colleagues arranged for the deceased to see one of the emergency department doctors, Dr Lesley Cupitt, who had been engaged there from 6 September 2010 on a locum basis. The deceased was not triaged, so no file or associated documentation was created in relation to his visit.

4. Dr Cupitt examined the deceased and concluded that he probably had a viral illness, but that he might have had scarlet fever or tonsillitis. She gave Mr Parman a prescription for penicillin and offered to fill the prescription if the deceased became unwell or Mr Parman was concerned.

5. At about 12.30 pm the next day, Mr Parman dropped off the deceased into the care of his ex-partner, the deceased's mother Samantha Piani (**Ms Piani**). Ms Piani was also a registered nurse employed at GRH. Mr Parman told Ms Piani that Dr Cupitt had thought that the deceased had a viral illness, and he gave her the prescription written by Dr Cupitt.

6. Because the deceased still appeared unwell, Ms Piani took him back to the emergency department where, at 3.50 pm, he was triaged with a rash, a high temperature, a high heart rate and a moist cough. He was admitted under the care of Dr Sunil Reddy, a general practitioner who worked at the emergency department.

7. Dr Reddy also considered that the deceased was affected by a viral illness, but he arranged for a chest X-ray in order to rule out pneumonia. As the X-ray was not taken until late in the afternoon and Dr Reddy was scheduled to finish his shift at 5.00 pm, he asked Dr Cupitt to check the X-ray before discharging the deceased home with Ms Piani.

8. Dr Cupitt reviewed the chest X-ray of the deceased at about 5.00 pm that afternoon. She considered that it was normal in the context of the deceased having no respiratory symptoms, so she discharged him to Ms Piani's care.

9. That night the deceased's condition worsened. In the morning on 16 September 2010 Ms Piani took him to a local medical centre where he saw Dr Wesam Abujalala. Dr Abujalala diagnosed the deceased with scarlet fever and provided Ms Piani with a letter requesting admission at the emergency department at GRH.

10. Ms Piani took the deceased to the emergency department and at about 12.45 pm he was seen by consultant paediatrician Dr Lewis Ingram, who noted a history of fever and rash, a rash typical of scarlet fever, a high breath rate and some lung sounds.

11. Dr Ingram formed the impression that the deceased had scarlet fever and possible chest infection.

12. The deceased was admitted to the hospital. Dr Ingram administered intravenous penicillin and maintenance fluids to the deceased and placed him in the high dependency unit (**HDU**) so that he could have regular monitoring of his vital signs.

13. A report by GRH radiologist Dr Paul Drury relating to the chest X-ray taken the day before did not arrive at the emergency department until about 2.00 pm on 16 September 2010. The report indicated pneumonia.

14. Over the course of the afternoon, the deceased's heart rate and breath rate remained extremely high, consistent with compensated septic shock where the body is fighting infection in order to maintain blood pressure and the supply of oxygen to the brain and the organs of the body.[1] Such a condition requires boluses of fluid to rehydrate the patient but, on Dr Ingram's instructions, the deceased was provided only maintenance levels of fluid.

15. At about 7.00 pm Dr Ingram stopped by the deceased's bed to check on him before leaving the hospital. He noted that he deceased's vital signs were unaltered.

16. At about 12.45 am on 17 September 2010 the deceased pulled the cannula out of his arm. A senior medical officer in the emergency department, Dr Rudiger De Mulder, attempted to re-insert it, but was unsuccessful. Shortly after that, the deceased stopped breathing.

17. Despite immediate medical attention, the deceased could not be revived.

18. About two months after the deceased died, Ms Piani wrote a letter to the coroner in Geraldton to request an inquest into the deceased's death.

19. Following a protracted police investigation, amendments and additions made to the police report following review by Ms Piani and Mr Parman, and further police investigations, in January 2014 the Geraldton Coroner transferred the investigation into the deceased's death to the State Coroner with a recommendation that an inquest be held.

20. In order to help to determine whether an inquest would be warranted, the State Coroner obtained an opinion from a consultant paediatrician, Dr David Roberts, as to whether the medical management of the deceased at GRH was appropriate and of an acceptable standard.

[1] ts 63 per Speers, D J

21. Dr Roberts provided a report in early April 2014. In the report he was critical of Dr Cupitt's 'informal' consultation of the deceased on 14 September 2010 and of her 'as needs' prescription of penicillin that day. He was also critical of the nature of the hand-over of the deceased's care from Dr Reddy to Dr Cupitt on the afternoon of 15 September 2010. However, Dr Roberts considered that Dr Ingram's assessment and management of the deceased on 16 September 2010 was appropriate, noting that the deceased's vital signs in the hospital records indicate that the deceased was stable from the time he was admitted until shortly before he experienced cardiopulmonary arrest.

22. Relying in part on Dr Roberts' opinion, on about 31 July 2014 the State Coroner determined not to hold an inquest and notified Ms Piani and Mr Parman of her decision.

23. On 27 August 2014 I completed a record of investigation of the deceased's death on the basis of the information available to me. I found that the cause of death was pneumonia complicating influenza A (H1N1) infection and that death occurred by way of natural causes.

24. On 17 September 2014 Ms Piani wrote to the State Coroner's Office to contest my finding and to argue that the deceased died as a result of the negligence of staff at GRH.

25. After Principal Registrar Gary Cooper emailed Ms Piani to explain the processes behind and the limitations of my finding, she responded to him to express her disappointment with the whole process of the investigation of the deceased's death, and she mentioned that she had obtained an independent review.

26. Upon Mr Cooper's request, Ms Piani sent him a copy of a report dated 8 June 2012 by Dr John Vinen, a highly qualified and experienced emergency medicine specialist. Dr Vinen was scathingly critical of the management of the deceased at GRH, including that provided by Dr Ingram.

27. Following consideration of Dr Vinen's report, the State Coroner arranged for a further independent report, in this case by Dr Ian Everitt, a consultant paediatrician who had worked for 10 years at Princess Margaret Hospital in emergency paediatric medicine. Dr Everitt provided a report dated 5 January 2015 in which he too concluded that the care provided to the deceased at GRH was not of an acceptable standard.

28. On 2 June 2015 the State Coroner directed that my finding of 27 August 2014 be set aside and that I investigate the deceased's death at an inquest.

29. I held an inquest at the Geraldton Court House from 14 December 2015 to 17 December 2015. The documentary evidence accepted at the inquest included: a brief of evidence containing statements, correspondence and reports from witnesses and experts with associated attachments; medical records from GRH; and formal documentation.[2]

30. The following witnesses (in order of appearance) were called to give oral evidence;

    (a) Dr Ingram;

    (b) Dr Abujalala;

    (c) Dr Drury;

    (d) Dr David John Speers, an infectious disease physician and Head of the Department of Infectious Diseases at Sir Charles Gardiner Hospital;

    (e) Dr Vinen;

    (f) Dr Roberts;

    (g) Dr Everitt;

    (h) Ms Piani;

[2] Exhibit 1, Volumes 1, 2 and 3

(i) Mr Parman;

(j) Dr Cupitt;

(k) Dr Reddy;

(l) Ms Christine Elizabeth Kellett, the regional nursing director for the WA Country Health Service (**WACHS**) Midwest at the material time; and

(m) Dr Andrew Jamieson, the regional medical director for the WACHS Midwest from June 2012, and sometime acting executive director of medical services for WACHS since November 2013.

31. After Dr Ingram had given only part of his evidence on 14 December 2015, his testimony was interposed to accommodate the evidence of Dr Abujalala, whose evidence was provided by way of a video link. Unfortunately, due to a severe stress/anxiety reaction to testifying, Dr Ingram was unable to return to provide further evidence.[3]

32. On 16 December 2015 I requested Ms Young, who appeared for WACHS, to arrange for WACHS to provide documentary evidence relating to any conditions on Dr Ingram's registration and practice as a doctor in Western Australia.[4] On 8 January 2016 Ms Young provided a folder containing 40 relevant documents.[5]

33. On 17 December 2015, after the conclusion of the oral evidence, Ms Ellson made brief closing submissions in which she identified a series of missed opportunities and errors in the care of the deceased which may have altered the outcome for him.[6] I invited other counsel, effectively Ms Young and Ms Naylor, to provide written submissions in relation to possible adverse comments I might make about their clients with respect to the deceased's care.

[3] Exhibits 2 and 3
[4] ts 287-290
[5] Exhibit 9
[6] ts 416-417

34. Both Ms Young and Ms Naylor have since provided comprehensive submissions, for which I am grateful.

THE DECEASED

35. The deceased was born on 8 July 2004 at GRH. He grew into a happy and energetic little boy. He had no serious injuries or illnesses before his death.[7] Dr Reddy, who knew the deceased from GRH social occasions, described him as a very exuberant, lovely six year old.[8]

36. The deceased liked to play with friends and enjoyed video games and movies with his father, who thought of him as his little mate, his right-hand man, his shadow. At times, he and his older sister, Izabella, were inseparable.[9]

37. The deceased lived with his parents and Izabella until his parents separated about two months before he died. When the separation occurred, Ms Piani moved in with her mother, Linda Piani, who was a registered nurse and midwife at GRH.[10]

38. That the deceased was an engaging child was probably best evidenced by Ms Kellett's touching testimony, in which she described watching the deceased grow up as part of the extended family of GRH. She had been present at his birth and she watched him grow from a toddler. She recalled him regularly visiting her in her office, and she remembered a time he came to show off a new school bag and uniform. The day he died was, she said, the saddest day she had ever worked as a nurse, and his death rocked the community of the hospital.[11]

10 - 13 SEPTEMBER 2010

39. On the evening of Friday 10 September 2010 the deceased was living with Ms Piani and Izabella at Linda

[7] ts 235 per Piani, S D
[8] ts 334 per Reddy , S K
[9] ts 285 per Parman, D
[10] ts 236 per Piani, S D
[11] ts 384 per Kellett, C E

Piani's house in Cape Burney. Linda Piani was looking after him while Ms Piani was out for the evening with friends. When Linda Piani put him to bed that night, he appeared to be fine.[12]

40. When Ms Piani returned home at about 2.00 am the next morning, the deceased was in her bed. There was vomit on him as he had vomited on his bed and on the floor. She gave him some paracetamol and promethazine to help him sleep, and for the rest of the weekend she gave him paracetamol and ibuprofen to help with a fever.

41. On Monday 13 September 2010 Ms Piani took the deceased to stay with Mr Parman.

42. She told Mr Parman that the deceased was not well and that he needed to see a doctor.[13] At that stage the deceased did not have a rash.

43. It was obvious to Mr Parman that the deceased had flu-like symptoms. He gave the deceased paracetamol for fever and kept him home from school. The deceased responded well to paracetamol, but he spent a lot of time lying on the couch, unwell.

44. Mr Parman also picked up Izabella from school to look after her for two days.[14]

14 SEPTEMBER 2010

45. At around 8.00 am on Tuesday 14 September 2010 Mr Parman took the deceased with him to the emergency department of GRH to pay a social visit to his work colleagues after dropping Izabella off at school. He took along coffees for his colleagues and, when they arrived, he took the deceased to the tea room for Milo and biscuits.[15]

46. While Mr Parman was in the emergency department with the deceased, his colleagues noticed the deceased's rash

[12] Exhibit 1, Volume 1, Tab 12
[13] Exhibit 1, Volume 1, Tab 11
[14] Exhibit 1, Volume 1, Tab 13
[15] ts 264-265 per Parman, D

and encouraged Mr Parman to get him seen by a doctor.[16] Mr Parman was reluctant to have the deceased examined because he did not want to go through the associated formal processes when he was fairly confident that the deceased had a viral infection. However, as a result of his colleagues' encouragement and the convenient opportunity to be reassured, he agreed to a consultation with a doctor without going through triage.

47. According to Dr Cupitt, the floor co-ordinator asked her to see the deceased. Dr Cupitt acceded, despite her normal practice not to see patients who have not been registered at the relevant hospital, and she saw the deceased in one of the emergency department cubicles in the company of Mr Parman. When she first saw him, he was sitting cross-legged attached to a monitor, eating biscuits. [17]

48. Dr Cupitt had observed the deceased coming into the emergency department earlier, and had noticed that he had a bright red rash, but that he was a chipper and happy little boy.[18]

49. Dr Cupitt took a history from Mr Parman and carried out a comprehensive examination of the deceased. Mr Parman told her that the rash had been present for one day, that there was no history of fever, headache, vomiting, sore throat or respiratory tract symptoms. The deceased was drinking well and passing urine. There were no parental concerns.[19]

50. Clinically, Dr Cupitt found that the deceased was alert, happy and co-operative. He had no temperature and his heart rate and oxygen saturations were normal. There was no photophobia or meningism. His heart sounds and lungs were normal. His tonsils were a little large but not inflamed, and there was no pus. His mouth and throat, including his tongue, and ears were normal.[20]

[16] ts 271 per Parman, D
[17] ts 299, 302, 325 per Cupitt, L A
[18] ts 299 per Cupitt, L A
[19] Exhibit 1, Volume 1, Tab 23
[20] Exhibit 1, Volume 1, Tab 23

51. Dr Cupitt found that the deceased had a fine, bright red blanching rash over his trunk, limbs and face. There was no circum-oral pallor or Pastia lines present. The rash appeared itchy since the deceased had been scratching his forearms and thighs, but the rash did not feel like sandpaper.[21]

52. Mr Parman was sure that the deceased did not have a raised temperature on that morning.[22] According to Dr Cupitt, Mr Parman took the deceased's temperature and held out the reading to her: 37 degrees. She recalled being stunned that the prominent rash could be accompanied by nothing else.[23]

53. Dr Cupitt had seen two similar cases of children at the emergency department at GRH in the previous week. The first child had a low grade fever, a rash all over except for the mouth, and no circumoral pallor. She had called a paediatrician attached to GRH, Dr Mohammad Jehangir, who attended and examined the child. Dr Jehangir was unsure whether the child had scarlet fever, measles or a viral infection. Blood tests were normal and the child went home without antibiotics. Dr Cupitt thought at the time that scarlet fever was a possibility. In the second case, the child was very unwell with fever, dehydration and a red, apparently painful, all-over rash. After review by paediatricians and normal blood test, the child also went home without antibiotics. [24]

54. After examining the deceased, Dr Cupitt formed the impression that the symptoms looked a little like scarlet fever, but the absence of the classic signs: strawberry tongue, circum-oral pallor, Pastia lines and sandpaper rash led her to conclude that the deceased probably had a viral infection. Her differential diagnosis was tonsillitis, but she noted that there was no pus or inflammation.[25]

[21] Exhibit 1, Volume 1, Tab 23
[22] ts 280 per Parman, D
[23] ts 329 per Cupitt, L A
[24] Exhibit 1, Volume 1, Tab 23
[25] Exhibit 1, Volume 1, Tab 23

55. Dr Cupitt prescribed oral penicillin 150 mg four times a day as it would treat any streptococcus infection such as scarlet fever or tonsillitis. According to her, she told Mr Parman that the deceased should be given the penicillin if he developed a fever or a sore throat or if his symptoms persisted.[26] She said that she offered Mr Parman to fill the prescription from hospital stores, but he declined and told her that he would fill the prescription if he was worried or that he would pass it along to Ms Piani.[27]

56. Mr Parman did not recall that discussion, but he said that the idea of the prescription of penicillin was to give it to the deceased if he became more unwell.[28]

57. As the deceased had not been triaged or registered at GRH, there was no paperwork created for his presentation. Dr Cupitt took no notes of her consultation.[29]

58. Mr Parman left GRH with the deceased and the prescription. He looked after the deceased and, as I understand it, Izabella for the rest of Tuesday 14 September 2010.

15 SEPTEMBER 2010

59. At about midday on Wednesday 15 September 2010 Mr Parman dropped the deceased back with Ms Piani. Due to the strained relations between them, Mr Parman gave Ms Piani minimal information about the deceased's consultation with Dr Cupitt. However, it seems reasonably clear that he told her that the deceased had been seen the previous day by a doctor at GRH who found that he had a viral infection and had given him a prescription for penicillin in case the deceased deteriorated.[30] He passed the prescription on to Ms Piani.

[26] ts 305 per Cupitt, L A
[27] Exhibit 1, Volume 1, Tab 23
[28] ts 267, 269 per Parman, D
[29] ts 301 per Cupitt, L A
[30] ts 244 per Piani, S D; ts 267, 268 per Parman, D

60. Ms Piani thought that the deceased was still unwell. He now had a red rash and his body was warm to touch. He spent the early afternoon laying down on the lounge; it was uncharacteristic for him to be lethargic. Ms Piani called GRH to see if she could find out what was wrong with him. She was told that she would be called back in 10 or 15 minutes when the notes were found.[31]

61. According to Dr Reddy, Linda Piani also called GRH to see if she could find out what had happened the previous day. She spoke to Dr Reddy, who tried unsuccessfully to find notes of a consultation the previous day.

62. Rather than waiting for someone from GRH to call her back, at 3.45 pm Ms Piani took the deceased to the emergency department, where he was triaged and taken to a bed in a corridor to await a doctor. There were no cubicles available at the time.[32]

63. Because the nurse who took them to the bed was busy, Ms Piani did the deceased's observations and recorded them in the departmental notes. She did not take his blood pressure and could not take the respiration rate because she did not have a watch.[33]

64. Ms Piani recorded that at 3.50 pm the deceased's temperature was 39.7 degrees, his pulse was 158 and his oxygen saturation was 98%.

65. At 4.00 pm, Dr Reddy saw the deceased. Dr Reddy took a history from Ms Piani and examined the deceased. He recorded in the notes: 'four days of fever and rash; one or two episodes of vomiting yesterday; today decreased intake and fluids; cough present; decreased appetite; also complains of abdominal pain. Fever high, more than 39 degrees; red eyes; headache; urinary symptoms; no diarrhoea; lethargic today; on arrival febrile alert; hydration: fair; tongue moist, well perfused; temperature 39.7; pulse 158; SPO2 98%; CVS: first and second heart sounds heard; respiratory system: bilateral air entry no rhonchi; core abdominal examination: soft, non-tender,

[31] Exhibit 1, Volume 1, Tab 11
[32] Exhibit 1, Volume 1, Tab 24
[33] ts 246 per Piani, S D

no guarding, bowel sounds heard; central nervous system: no meningeal signs; ENT: tonsils enlarged, no oxidate, not inflamed'.[34]

66. Dr Reddy also recorded his plan: urine mid-stream test; chest x-ray; paracetamol; ondansetron; and observe in the emergency department.[35] He told Ms Piani that his view was that the deceased had a respiratory tract infection.[36] He did not suspect scarlet fever due to the lack of sandpaper texture to the rash and because of the deceased's cough.

67. A urine test showed a specific gravity of 1030 and pH-5, with elevated proteins and amber colour.[37] This did not indicate an infection but it did show signs of dehydration.[38]

68. Dr Reddy signed a request form to the X-ray department at GRH for a chest X-ray. The form stated 'Clinical Details. Febrile and coughing. To R/O (rule out) pneumonia'. At 4.40 pm a chest X-ray was taken.[39]

69. According to Dr Drury, the X-ray image would have been available on-line in GRH within two or three minutes after it was taken.[40] As the X-ray department was closed after 4.30 pm, Dr Drury did not view the image until the next morning. He dictated a report at about 7.00 am the next morning and it was typed at about 11.00 am. A hard copy of his report would have been delivered to the emergency department at about 2.00 pm that afternoon. The report indicated that the X-ray was consistent with pneumonia.[41]

70. Dr Reddy was rostered to finish his shift on 15 September 2010 at 5.00 pm. He stated that he checked to see if the X-ray was available before he left for the day, but it was not. He stated that he approached Dr Cupitt and asked

[34] Exhibit 1, Volume 2, Tabs 5C and 5D
[35] Exhibit 1, Volume 2, Tab 5D
[36] Exhibit 1, Volume 1, Tab 24
[37] Exhibit 1, Volume 2, Tab 5C; ts 337 per Reddy, S K
[38] Exhibit 1, Volume 1, Tab 24
[39] Exhibit 1, Volume 1, Tab 21
[40] ts 55 per Drury, P J
[41] Exhibit 1, Volume 1, Tab 21

her to check the X-ray and then review the deceased to decide whether he could be discharged home. He then left the hospital.[42] That arrangement between Dr Reddy and Dr Cupitt was generally labelled 'the handover' during the inquest.

71. Dr Cupitt disputed Dr Reddy's account of the discussion. In a faxed note dated 22 September 2010 to Dr Bill Beresford, the medical director at GRH, she stated that Dr Reddy only asked her to check the X-ray. She said that he told her that he had finished with his assessment of the deceased, he thought that the deceased had a viral illness and a source clearly identified, that he had done a urine test that was negative, and that he did not think that a full blood test was necessary.[43]

72. Dr Cupitt stated that she was approached by nurses in the emergency department about reviewing the deceased's X-ray because Ms Piani had asked them if she could go home. Dr Cupitt interpreted the X-ray as normal in the context, as she understood it, that the deceased had no respiratory symptoms. She did not see Dr Reddy's notes.[44]

73. At some stage, Dr Cupitt looked at the deceased, who was then asleep, and noted that the rash had receded from his limbs except for a patch on each thigh.[45]

74. Dr Cupitt said that she spoke to Ms Piani and told her that the X-ray looked normal. She said that she offered to admit the deceased, but Ms Piani thought that the deceased had improved and would be better off in his own bed. Dr Cupitt said that she asked Ms Piani about the prescription for penicillin she had given Mr Parman and offered to fill it for her, but Ms Piani declined, saying that she would fill it if she became concerned.

75. Ms Piani took the deceased home. Later that night he continued to get worse despite the paracetamol Ms Piani gave him throughout the night. At one stage the

[42] Exhibit 1, Volume 1, Tab 24
[43] Exhibit 1, Volume 1, Tab 23.3
[44] ts 317-318 per Cupitt, L A
[45] Exhibit 1, Volume 1, Tab 23.1

deceased woke up and hallucinated that someone was there. Ms Piani checked his temperature and noticed that it had come down to 37.7. The deceased dozed on and off for the rest of the night, taking small sips of water.[46]

16 AND 17 SEPTEMBER 2010

76. In the morning on Thursday 16 September 2010 the deceased got up and told Ms Piani that he wanted breakfast, but after eating only a small mouthful he wanted to go back to bed. She rang a medical centre to get the deceased an appointment to see a doctor.[47]

77. At about midday the deceased was seen by a general practitioner, Dr Abujalala. Dr Abujalala had not seen the deceased previously. He went out into the waiting room to get a different patient, but noticed the deceased sitting with Ms Piani, looking very unwell, so he asked the nurse to bring him in. When the deceased went into his room, Dr Abujalala asked Ms Piani why he was not at the emergency department. She informed him that he had been there twice already.[48]

78. Dr Abujalala examined the deceased and found that he had a temperature of 39.5 degrees, a respiratory rate of 39, a fast heart rate and an erythematous blanching rash covering his body. The deceased looked moderately to severely dehydrated having regard to his temperature, skin turgor, dry lips and poor capillary refill;[49] and an ear, nose and throat examination revealed a strawberry tongue.[50]

79. Dr Abujalala had never seen a case of scarlet fever before, but he recognised the symptoms. He advised Ms Piani to take the deceased to the emergency department at GRH immediately for intravenous antibiotics and provided her with a referral letter to ensure that he was admitted.

[46] Exhibit 1, Volume 1, Tab 11
[47] Exhibit 1, Volume 1, Tab 11
[48] ts 41 per Abujalala, W
[49] ts 45 per Abujalala, W
[50] ts 41 and 45 per Abujalala, W

He told her that, if the deceased was discharged again, to let him know straightaway.[51]

80. Dr Abujalala did not suspect that the deceased was showing signs of septic shock because he was fairly alert. However, when asked if hallucinating in the night might be a sign of septic shock, he said that hallucination with severe infection is a sign of sepsis or severe sepsis or septic shock, so he would have related it to septic shock or severe sepsis. He said that another sign of severe sepsis is a heart rate of 170 plus.[52] Dr Abujalala said that the deceased may have been septic when he presented but he was not in shock.[53]

81. Ms Piani took the deceased from the medical centre to the emergency department at GRH where, upon arrival at 12.40 pm, he was seen by a nurse without delay. Among other things, the nurse recorded on departmental notes that the deceased was grunting on expiration. Observations taken at that time were: axilla temperature 38.3 degrees; pulse 67; respirations 24; and oxygen saturation 88%.[54] The pulse rate of 67 would appear to have been a mistaken entry, as I will discuss further below.

82. Dr Ingram attended the emergency department five minutes later to see the deceased. He received a history of a febrile illness and a rash, but the most important matter for him was an urgent clinical assessment.[55]

83. The principal sign or symptom seen by Dr Ingram was a very obvious red rash with all the characteristics of scarlet fever. In his entry to the emergency department notes, he stated that the deceased was toxic,[56] which he clarified in oral evidence to mean infected rather than septicaemic.[57] He said that the deceased had a disseminating infection that was not septicaemia because the rash was blanching. If septicaemia and intravascular

[51] ts 41-42 per Abujalala, W
[52] ts 43 per Abujalala, W
[53] ts 46 per Abujalala, W
[54] Exhibit 2, Tab 5.B
[55] ts 12 per Ingram, L C
[56] Exhibit 2, Tab 5.B
[57] ts 13 per Ingram, L C

coagulation had started, he said, there would have been a non-blanching rash.[58]

84. Dr Ingram noted 'tachypnoea' which, he said in a letter to police dated 4 October 2010, was about 30 breaths a minute.[59] He also noted 'X-ray clear yesterday but no added sounds'.[60] He explained that by added sounds he meant the sounds of a developed pneumonia, classically called rhonchi. He said that he did hear a few rhonchi at the left base, so he wrote '? left basal infection'.[61]

85. Dr Ingram also noted 'ears red',[62] referring to otitis media, an infection of the middle ear, as part of scarlet fever.[63]

86. Dr Ingram detailed his impression: 'Streptococcal/scarlet fever/rash/ otitis media/?chest involved'. He prescribed 'benzylpenicillin 1.2 grams four times a day intravenous' and administered oxygen to the deceased. Mr Parman was there at the time and administered the penicillin through a catheter inserted by Dr Ingram.[64]

87. The emergency department notes indicate an oxygen saturation of 88% at 12.40 pm, but Dr Ingram said that upon re-positioning the probe of the oxygen machine to obtain close contact with the deceased's skin, the reading came up quickly to 100%.[65]

88. In the letter dated 4 October 2010 to police investigators,[66] Dr Ingram said that the deceased had a heart rate of 170. That was not recorded in the notes. Likewise, he said in the letter that he had access to the recent X-ray and thought that it showed a left basal infection suggestive of pneumonia; but he did not mention that in the notes either.

89. Dr Ingram said that his initial assessment was that the deceased was about 5 per cent dehydrated, based on the

[58] ts 13 per Ingram, L C
[59] ts 13 per Ingram, L C
[60] Exhibit 2, Tab 5.B
[61] ts 13 per Ingram, L C
[62] Exhibit 2, Tab 5.B
[63] ts 13 per Ingram, L C
[64] Exhibit 1, Volume 1, Tab 13
[65] ts 16-17 per Ingram, L C
[66] Exhibit 1, Volume 1, Tab 22

rash being blanching and the rate at which the skin refilled with fluid after being compressed. He said that the deceased's skin refilled straightaway, indicating that he was certainly less than 10 per cent dehydrated. Based on that assessment, Dr Ingram put the deceased on a maintenance fluid treatment of 60 millilitres of 2.5 percent dextrose, .45 per cent saline every hour.[67]

90. Dr Ingram did not consider the deceased to be in septic shock because of the general state of his skin, which refilled straightaway when compressed, and his peripheral temperature. He said that the deceased was well-perfused to his fingers and feet, so he had sufficient fluid to hydrate the distal parts of the body.[68]

91. Dr Ingram admitted the deceased to the medical ward and put him in a room that was part of the HDU rather than in the paediatric department because the HDU had good monitoring facilities, including telemetry which sent observations to a central location.

92. The deceased was placed in the HDU at about 1.50 pm that afternoon, at which time a nurse noted in an observation chart that the deceased had a pulse of 191 and a respiratory rate of 62. In the 'Remarks' column of the chart, the nurse has noted: 'Rib recession',[69] which is an indicator of infection[70] or increased work of breathing.[71]

93. The pulse rate of 191 at 1.50 pm and Dr Ingram's evidence of a pulse rate of 170 at about 12.45 pm indicates that the recorded pulse rate of 67 at 12.40 pm was incorrect.[72] It is possible that the person who made the entry intended to write 167.[73]

94. According to Dr Vinen, the normal heart rate for a six year old are 75 to 120 with an average of 100, and the normal respiratory rate is 16 to 22.

---

[67] ts 17-20 per Ingram, L C
[68] ts 17-18 per Ingram, L C
[69] Exhibit 1, Volume 2, Tab 5.X
[70] ts 33 per Ingram, L C
[71] Exhibit 1, Volume 2, Tab 2
[72] Exhibit 1, Volume 2, Tab 4
[73] ts 80-81 per Speers, D J; ts 119 per Vinen, J D

95. The nursing care plan for the deceased in the HDU indicates that he was to have vital signs taken every hour.[74] The observation chart records that observations were taken at the following intervals from 1.50 pm to midnight: 25 minutes, 5 minutes, one hour thirty minutes, two hours, one hour fifty minutes, one hour forty minutes, one hour ten minutes and one hour.[75]

96. As well as taking observations, an enrolled nurse, Willy Hansen, checked on the deceased regularly without recording the checks in the notes.[76]

97. The telemetry observations were automatically recorded in a table every thirty minutes from 2.00 pm on 16 September 2010. That table shows that the deceased's heart rate was 184 at 2.00 pm and increased to 192 at 4.30 pm and then dropped to about 175 until 10.30 pm. The table showed that the deceased's heart rate was then about 171 from 11.00 pm until 12.00 midnight. It then dropped to 151 at 12.30 am on 17 September 2010. At 1.00 am there was no reading.[77]

98. At 7.00 pm on 16 September 2010 Dr Ingram reviewed the deceased briefly. He spoke with the Acting/After Hours Hospital Co-ordinator, Karen Lavery, who expressed her concerns about the deceased's high heart rate. Ms Lavery had stopped by the deceased's room earlier that day and had seen that the deceased's heart rate was 180, which concerned her then.[78] Dr Ingram shared Ms Lavery's concern, but noticed that the deceased's vital signs were unaltered.

99. Dr Ingram also spoke with Ms Piani, who was with the deceased throughout the afternoon and had a bed set up for her in the deceased's room. Ms Piani voiced concerns about how long the deceased had been unwell and untreated, that his high heart rate and respirations could not be kept up indefinitely and that he was in a lot of pain.[79]

[74] Exhibit 1, Volume 2, Tab 5.T
[75] Exhibit 1, Volume 2, Tab 5.X
[76] Exhibit 1, Volume 1, Tab 15
[77] Exhibit 1, Volume 2, Tab 5.W
[78] Exhibit 1, Volume 1, Tab 18
[79] Exhibit 1, Volume 1, Tab 11

100. Dr Ingram told her that the intravenous antibiotics needed a chance to work and that the deceased would be fine in a few days. He told her that she needed to be aware of leg pain as it could indicate heart problems.[80]

101. Mr Parman visited with the deceased for an hour or so that evening while Ms Piani went for something to eat with her sister.

102. Later in the evening the deceased began to get agitated and restless. He told Ms Piani that his legs were aching and he had a headache. Ms Piani relayed this to a nurse. Ms Lavery obtained a verbal order for an analgesic from Dr De Mulder, who was a senior medical officer working the night shift in the emergency department, and provided it to the deceased at 10.45 pm.[81]

103. At about 12.30 am on 17 September 2010, the deceased became agitated and pulled out his cannula. Ms Piani, who had dozed off in the room, awoke to the deceased asking her to hold him. She got into his bed and tried to hold him but it caused him too much pain, so she lay alongside him and held his hand.

104. The registered nurse on duty, Karen McAllister, called the emergency department to ask Dr De Mulder to attend to restore the cannula. He was able to attend within five minutes because the emergency department was not busy at that time.[82]

105. When Dr De Mulder arrived, the deceased was alert and responsive, though he looked very unwell, with a rash typical for a bad case of scarlet fever.[83]

106. Dr De Mulder told the deceased that he had to put in a new cannula, which the deceased accepted. Dr De Mulder had to hold the probe of the pulse-oximeter against the deceased's skin in order to obtain an oxygen saturation reading, and when he did so the reading was 100% on room air.

[80] Exhibit 1, Volume 1, Tab 11
[81] Exhibit 1, Volume 1, Tab 11
[82] Exhibit 1, Volume 1, Tab 25
[83] Exhibit 1, Volume 1, Tab 25

107. Dr De Mulder attempted to put a 24 gauge cannula into the dorsal surface of the deceased's left hand but was unable to do so. He had the impression that the deceased was peripherally under-filled, so he checked the deceased's capillary refill on his very red chest. He saw that the refill time was about four seconds, which caused him to realise that the deceased was in septic shock and in dire need of a cannula for fluid resuscitation and antibiotics.[84]

108. Dr De Mulder waited for two minutes before repositioning a tourniquet because the deceased felt nauseous and vomited 30 millilitres of brownish fluid. When Dr Mulder began another attempt to insert a cannula, the deceased suddenly stopped breathing. Dr Mulder started basic cardiopulmonary resuscitation while Ms Piani pushed the alarm button and ran out of the room to seek help.

109. A registered nurse, Alana Horsham, took a resuscitation trolley into the deceased's room and assisted Dr De Mulder to intubate the deceased. Other nurses attended and assisted with chest compressions and maintenance of the deceased's airway. Dr De Mulder heard good air sounds in the right lung but almost no intake into the left lung. There were problems in attempting to insert an intraosseous needle for fluids and adrenaline, but Dr De Mulder managed to insert one on the second attempt.

110. Dr Ingram was called at home and attended GRH at about 1.00 am. An anaesthetist, Dr Adam Beckett, also arrived within minutes.[85] From that time, Dr De Mulder administered heart massage and increments of adrenaline.

111. At about 1.30 am, defibrillation was attempted twice without success.[86] At about that time, Mr Parman arrived to be devastated by what he saw.[87]

[84] Exhibit 1, Volume 2, Tab 5.I
[85] Exhibit 1, Volume 1, Tab 26
[86] Exhibit 1, Volume 1, Tab 16
[87] Exhibit 1, Volume 1, Tab 13

112. At around 1.40 am, about 500 millilitres of brownish fluid was collected from the deceased's left lung cavity.

113. The attempts to resuscitate the deceased continued until 2.00 am when Dr Ingram instructed the team to cease their efforts,[88] and he certified the deceased's life to be extinct.[89]

CAUSE OF DEATH

114. On 21 September 2010, Chief Forensic Pathologist Dr C T Cooke conducted a post mortem examination of the deceased's body and found features of pneumonia in the lower lobe of the left lung with corresponding inflammation, or pleuritis, inside the chest cavity. The lymph nodes in the chest were enlarged and there was fatty enlargement of the liver; these changes being consistent with sepsis.

115. Subsequent microscopic examination of tissues confirmed the macroscopic findings, showing severe pneumonia in the lower part of the left lung and early fatty change of the liver as may occur with severe illness.

116. Virological testing identified Influenza A virus RNA (H1N1) in the trachea and right lung, with Human Metapneumovirus RNA detected in the left lung.

117. Microbiological testing for bacterial infection identified *Streptococcus pyogenes* (group A) in multiple samples. Testing for significant allergic reaction was negative.

118. Dr Cooke formed the opinion that the cause of death was pneumonia complicating influenza A (H1N1) infection.

119. Dr Speers, an infectious disease expert, provided a report[90] to the State Solicitor's Office on the evolution of the deceased's illness and the quality of his management at GRH. Dr Speers also gave oral evidence at the inquest,

[88] Exhibit 1, Volume 1, Tab 22
[89] Exhibit 1, Volume 1, Tab 2
[90] Exhibit 1, Volume 2, Tab 6

as noted above. In my estimation, he was an impressive expert witness.

120. Dr Speers explained that, when a *Streptococcus pyogenes* infection results in a widespread rash, it is referred to as scarlet fever. The rash is caused by the immune system reacting to a toxin secreted by the bacteria when the person is infected by *Streptococcus pyogenes* for a second time. The rash commonly blanches with pressure and may have many small bumps giving a sandpaper texture. It may be associated with paleness around the mouth (circumoral pallor) and a bright red tongue with small bumps (strawberry tongue). The rash may be most prominent in the skin folds of the elbows, armpits and groin. It can become non-blanching (petechial). When petechial rash is found in the skin folds they are called Pastia's lines.[91]

121. Dr Speers stated in his report that the deceased became unwell with influenza A H1N1 shortly before the time of his first presentation on 14 September 2010, which resulted in the complication of secondary *Streptococcus pyogenes* pneumonia. The pneumonia was then responsible for scarlet fever, empyema (infection of the lung lining adjacent to the infected lung) and bacteraemia (bacterial infection of the blood). The bacterial sepsis was, he stated, the most likely cause of death.[92]

122. Dr Everitt[93] and Dr Roberts[94] expressed much the same thing as Dr Speers.

123. While there is an apparent difference in opinion between that of Dr Cooke and that of Dr Speers, Dr Everitt and Dr Roberts, that difference is a function of the difference in approaches taken. Forensic pathologists and coroners tend to look for the precipitating disease or injury which leads to death while clinicians look for the ultimate pathological event that causes death.

[91] Exhibit 1, Volume 2, Tab 6
[92] Exhibit 1, Volume 2, Tab 6
[93] ts 232 per Everitt, I
[94] ts 157 per Roberts, D, but note his report at Exhibit 1, Volume 2, Tab 1, p.8 where he agrees with Dr Cooke's findings

124. I am satisfied that the deceased contracted influenza A H1N1 which led to the complication of bacterial pneumonia with associated scarlet fever, empyema and sepsis, which caused the deceased's death.

IDENTIFIED ISSUES IN THE DECEASED'S MANAGEMENT

125. Several issues were identified by one or several of Dr Roberts, Dr Vinen, Dr Everitt and Dr Speers as failures at different levels in the care and management of the deceased at GRH. The following were, in my view, the most pertinent:

(a) the deceased's unofficial consultation with Dr Cupitt on 14 September 2010 and the resultant lack of notes;

(b) Dr Cupitt's prescription of penicillin 'as required';

(c) Dr Reddy's failure to identify and treat a bacterial infection on 15 September 2010;

(d) the role of each of Dr Reddy to Dr Cupitt in 'the handover' of the deceased's management on 15 September 2010, resulting in the deceased being discharged home;

(e) the delay in the report on the X-ray;

(f) Dr Ingram's failure to diagnose and treat sepsis and septic shock; and

(g) widespread failures of note-making.

126. In addition to those issues is that of the employment and supervision of Dr Ingram at GRH by WACHS.

DR CUPITT'S ASSESSMENT ON 14 SEPTEMBER 2010

127. Dr Vinen was highly critical of the fact that Dr Cupitt saw the deceased without him being registered through the triage process.

128. Dr Vinen considered that such a consultation was never appropriate because it prevented auditing and monitoring of the doctor-patient interaction and often resulted in no record of the interaction being kept. The lack of record led to a lack of a record of vital signs, which is an essential component of patient assessment; and there was an inability for others involved in subsequent care of the patient to be informed of what occurred.[95]

129. Dr Roberts said that Dr Cupitt's 'informal' consultation of the deceased resulted in no medical notes and no record of a clear plan of management.[96]

130. Dr Everitt made the point that when a child enters an emergency department in a formal way, the child will be seen by a triage nurse, who takes some observations and may examine the child. A secondary nurse will conduct a secondary assessment and then a medical practitioner will do a third assessment. In such a comprehensive assessment, there is a higher likelihood that any subtle clues of unwellness in the child will be picked up. For that reason, it is an important principle of emergency medicine that patients, especially children, be formally assessed.[97]

131. Dr Everitt also echoed Dr Vinen's evidence about the importance of contemporaneous medical notes.[98]

132. Dr Cupitt agreed that she should have made notes of her consultation with the deceased on 14 September 2010. It was, she said, incomprehensively stupid of her not to have done so.[99]

---

[95] ts 92 per Vinen, J D
[96] ts 140 per Roberts, D
[97] ts 201 per Everitt, I
[98] ts 202 per Everitt, I
[99] ts 301 per Cupitt, L A

133. Dr Cupitt also said that she had not seen a non-registered patient before seeing the deceased on 14 September 2010 and never will again.[100] She said that the responsibility to have the deceased registered was partly hers and partly the floor coordinator's, who was a line manager.[101] However, she described a context at the time in which she felt compelled to see the deceased: she was asked to do so by the floor coordinator, the nurses on duty had to convince Mr Parman to have a doctor see the deceased, and the deceased had a bright red rash which may have indicated that he was very unwell.[102]

134. Dr Cupitt considered that she was morally, ethically and perhaps legally obliged to see the deceased, irrespective of any policy of which she was then unaware. Her mistake, she said, was not that she saw the deceased, but that she did not write her notes.[103]

135. Dr Cupitt was asked about requests to assess children of her colleagues. She said that such a request put a doctor in a difficult position for many reasons; for example, the colleague expects the doctor to drop everything to do a consultation which is expected to be quick, the colleague is often forced by other colleagues to have the consultation and does not really want it, so may provide only a brief history, and the colleague may think he or she already knows the cause of the illness so may give a history directed to what he or she expects.[104]

136. Dr Roberts considered that doctors sometimes do feel pressure to assess informally colleagues or their children and agreed that the pressure could be worse if the doctor were a recently arrived locum.[105]

137. Dr Everitt also said that Dr Cupitt was only at GRH for a couple of weeks as a locum so she may have felt a little coerced to see the deceased informally.[106]

---

[100] ts 325 per Cupitt, L A
[101] ts 303 per Cupitt, L A
[102] ts 301 per Cupitt, L A
[103] ts 303 per Cupitt, L A
[104] ts 327 per Cupitt, L A
[105] ts 168 per Roberts, D
[106] ts 204 per Everitt, I

138. While Dr Cupitt undoubtedly saw the deceased without him first being registered and without writing contemporaneous notes, in my view the evidence makes clear that she carried out a comprehensive assessment of the deceased. That conclusion was supported by the opinion of Dr Everitt.[107]

139. The important aspects of Dr Cupitt's assessment were: the bright red rash without any classical signs of scarlet fever such as sandpaper feel, Pastia lines, a strawberry tongue or circumoral pallor, the lack of fever or a history of fever, the lack of respiratory tract or chest infection, and the deceased's presentation as alert, happy and cooperative.

140. Dr Everitt considered that Dr Cupitt's description of her assessment indicated that the deceased was not particularly unwell.[108] Dr Speers and Dr Everitt considered that the absence of a strawberry tongue or a high fever suggested a viral infection.[109] That Dr Cupitt arrived at a differential diagnosis of scarlet fever was seen as insightful by Dr Roberts.[110]

141. All of the expert witnesses agreed that viral rashes were much more common than bacterial rashes and that it was difficult to distinguish between a viral rash and a bacterial rash.[111] They said that scarlet fever is rare since the introduction of antibiotics, and that it does not always present with its classic symptoms, making it difficult to diagnose.

142. Dr Cupitt's impression was that the deceased had scarlet fever but for the lack of other symptoms, so her conclusion that he probably had a viral illness was reasonable. Importantly, she said that, if the deceased had presented with a fever, or if she had been provided with a history of fever and vomiting, she would have diagnosed scarlet fever and instructed that he take penicillin.[112]

---

[107] ts 226 per Everitt, I
[108] ts 206 per Everitt, I
[109] ts 72 per Speers, D J; ts 227 per Everitt, I
[110] ts 168 per Roberts, D
[111] ts 72 per Speers, D J; ts 142-159, 174-175, 180 per Roberts, D; ts 230 per Everitt, I
[112] ts 305 per Cupitt, L A

143. Having regard to all the circumstances of Dr Cupitt's consultation of the deceased on 14 September 2010, it is clear to me that she should have ensured that the deceased was registered and she should have made contemporaneous notes, but her failures in those regards do not indicate to me any lack of professional competence.

144. It is worth noting that GRH had no clear policy in place with respect to medical staff providing informal consultations or other services to other staff members. Mr Parman testified that such services did occur.[113] That his colleagues apparently had no compunction in convincing him to have the deceased seen by a doctor, and that the floor coordinator arranged for Dr Cupitt to see the deceased without being registered, confirmed his evidence.

145. On 12 January 2011, the Acting Regional Director of WACHS issued a memorandum that was circulated at GRH requiring all employees and their family and friends who present to the emergency department to do so through the triage process.[114] Senior staff monitored compliance with the directive, and it appears to be followed appropriately.[115] A similar directive was issued to all other WACHS sites in Western Australia apart from the Midwest.[116]

146. A further memorandum was issued to GRH doctors on 8 August 2012 by Dr Jamieson with respect to all informal medical consultations in GRH.[117]

147. On 1 May 2012 WACHS brought in a policy requiring all patients presenting to all WACHS hospitals and nursing posts that provide emergency care services to be assessed and triaged by a registered nurse or nurse practitioner with demonstrated triage competency, and the nurse is responsible for ensuring that appropriate documentation is timely, accurate and comprehensive.[118]

[113] ts 279 per Parman, D
[114] Exhibit 1, Volume 1, Tab 19.CEK2
[115] Exhibit 1, Volume 1, Tab 19
[116] Exhibit 1, Volume 1, Tab 19
[117] Exhibit 1, Volume 3, Tab 1.AJ9
[118] Exhibit 1, Volume 3, Tab 1.AJ6

148. In these circumstances, I am satisfied that WACHS has taken reasonable steps to ensure that informal consultations do not again take place. I assume that the policies in place are reinforced and enforced on an ongoing basis.

DR CUPITT'S 'AS NEEDS' PRESCRIPTION

149. Dr Vinen initially said that there was no place for penicillin to be prescribed on an 'as-needs' basis. He said that antibiotics should only be prescribed if there is a clear indication for their needs and parents should not be left to make the decision whether to give an antibiotic, but he then appeared to qualify that opinion by saying that the parents would need to be given clear instructions.[119]

150. It must also be noted that, through no fault of his own, Dr Vinen incorrectly understood that when the deceased presented to Dr Cupitt with a history of four days of high fever unresponsive to paracetamol, with lethargy, anorexia and vomiting, Dr Cupitt had been told of that history.[120]

151. Dr Roberts did not share Dr Vinen's view that there was no place for penicillin to be prescribed on an as needs basis. However, he said that advice to parents as to whether or not their child should have antibiotics might need to be qualified.[121] Dr Roberts felt that, given the potential risks of scarlet fever, if Dr Cupitt considered that it was a possibility, in her place he would have prescribed antibiotics.[122]

152. Dr Everitt did not consider it proper management, if a doctor thought that a child had a viral illness, for the doctor to give the parents a prescription for penicillin for their child on the basis that the parents would be given instructions to decide when to administer it. He considered that a preferable approach would be to instruct the parents to bring the child back to the

[119] ts 94 and 97 per Vinen, J
[120] Exhibit 1, Volume 2, Tab 2
[121] ts 141 per Roberts, D
[122] ts 142 per Roberts, D

emergency department to be reassessed if they were concerned.[123]

153. Dr Cupitt disagreed categorically with the view that it was not appropriate to prescribe oral penicillin on an as needs basis. She said that view was traditionally taught in medical school and is still advocated by specialists, including paediatricians, but in primary care it is common to see delayed prescribing where patients are given prescriptions with instructions about when or if to use them.[124]

154. Dr Cupitt referred to the NICE guidelines of 2008 as an example of studies encouraging general practitioners to do delayed prescribing.[125] NICE is an acronym for National Institute for Clinical Excellence (now National Institute for Health and Care Excellence), a non-departmental public body in England with a role to define quality in the National Health Scheme, public health and social care sectors by producing robust evidence-based guidance and advice, developing quality standards, and providing information services.[126]

155. The NICE guideline to which Dr Cupitt referred is titled 'Respiratory tract infections (self-limiting): prescribing antibiotics'. It is still provided as a guideline by NICE on its website.[127]

156. The introduction to the NICE guideline explains the need to reduce injudicious prescribing of antibiotics in order to save patients from exposure to unnecessary side-effects, to stop patients from believing that antibiotics are helpful for most infections, and to combat a looming major public health problem arising from the development of antibiotic-resistant bacteria.[128]

157. The NICE guideline suggests three antibiotic prescribing strategies: no prescribing, delayed prescribing and

[123] ts 204 per Everitt, I
[124] ts 303 - 305 per Cupitt, L A
[125] ts 304 per Cupitt, L A; Exhibit 6
[126] https://www.nice.org.uk/about/who-we-are; https://www.nice.org.uk/Media/Default/About/Who-we-are/NICE-framework-agreement.pdf
[127] https://www.nice.org.uk/guidance/cg69
[128] https://www.nice.org.uk/guidance/cg69/chapter/introduction

immediate prescribing. In all cases, patients should be given advice about the usual course of the illness, including the average total length of the illness, and advice about managing symptoms such as fever.[129]

158. Immediate prescribing is suggested only where the patient is systemically very unwell, the patient has symptoms and signs suggestive of serious illness or complications, the patient is at high risk of complications because of pre-existing comorbidity or the patient is older than 65 with a cough and certain medical conditions or history.[130]

159. Where the delayed prescribing strategy is adopted, the patient is to be given: reassurance that antibiotics are not needed immediately, advice about using the delayed prescription if symptoms do not settle in accordance with the expected course of the illness or if there is a significant worsening of the symptoms, and advice about returning if there is a significant worsening of the symptoms despite using the delayed prescription.[131]

160. I am satisfied that the deceased's presentation and the history provided to Dr Cupitt indicated that the use of a delayed prescribing strategy was appropriate if the NICE guideline is reasonably applicable in Australia. Unfortunately, none of the expert witnesses were asked about that guideline. However, it is difficult for me to see any fault in its logic.

161. A study was carried out in the United Kingdom between March 2010 and March 2012 to estimate the effectiveness of four different strategies of delayed antibiotic prescription for acute respiratory tract infections.[132] The four strategies were: recontact for a prescription (seen as preferable by Dr Everitt), post-dated prescription, collection of the prescription, and be given the prescription. A secondary analysis included comparison with immediate use of antibiotics. The study involved 889 patients age three years or more seen by 53 different health professionals in 25 practices.

[129] Exhibit 6
[130] Exhibit 6
[131] Exhibit 6
[132] Exhibit 5

162. The results of the study, published in the British Medical Journal, led to the conclusion that the strategies of no prescription or delayed prescription result in fewer than 40% of patients using antibiotics, and are associated with less strong beliefs in antibiotics, and *similar symptomatic outcomes to immediate prescription* (italics added). If, say the authors of the study, clear advice is given to patients, there is probably little to choose between the different strategies of delayed prescription, no prescription or immediate prescription.[133]

163. The authors of the study also note that delayed prescription is recommended in international guidance.[134]

164. In the absence of more in-depth evidence from Australian experts supporting the use of delayed prescribing of antibiotics, I am not in a position to come to a firm view on that strategy. However, I cannot suggest that it is never appropriate. From a common sense perspective, it seems to me that, provided adequate instructions are provided to the patient, it would be an effective strategy.

165. The evidence from Dr Cupitt and from Mr Parman and Ms Piani established that Dr Cupitt told Mr Parman that he should administer the penicillin to the deceased if the deceased's symptoms became worse,[135] though I expect that there was more detail to the conversation, as indicated by Dr Cupitt in oral evidence in apparent reconstruction.[136] Even if that were the extent of the instructions provided by Dr Cupitt, as Mr Parman was a senior emergency department nurse, she could reasonably have expected him to be aware of what constituted worsening symptoms. As he said, that was the idea of the prescription.[137]

166. Mr Parman did say that he was not really clear about when to start the prescription because he understood that the deceased had a viral illness, so unless the deceased became dramatically unwell or developed pus

[133] Exhibit 5
[134] Exhibit 5
[135] ts 267 per Parman, D
[136] ts 305 per Cupitt, L A
[137] ts 267 per Parman, D

on his tonsils (he would not know),[138] but he accepted that Dr Cupitt said that the penicillin would cover tonsillitis or scarlet fever,[139] indicating that they discussed why she did not think it was scarlet fever.[140] It is likely in my view that she told him to commence the penicillin if the deceased developed a fever, as she testified that she would have said.[141]

167. It is also likely that Dr Cupitt told Mr Parman to return if he had any concerns.[142] Though he could not recall that instruction specifically, Mr Parman said that he would imagine that she would have said that.[143]

168. While Dr Roberts[144] and Dr Jamieson[145] expressed the view that Dr Cupitt should have prescribed the penicillin without qualification if she thought that the deceased might possibly have scarlet fever, Dr Roberts also thought that antibiotics were not mandated on 14 September 2010,[146] even though his view was based on his incorrect understanding that the deceased exhibited a fever when Dr Cupitt examined him on that date.[147] Dr Jamieson noted that his view was influenced by hindsight.[148]

169. It appears to me that Dr Cupitt provided Mr Parman with reasonable instructions about the circumstances in which he should give the deceased the penicillin. In my view, it was not unreasonable for Dr Cupitt to prescribe penicillin to the deceased on an 'as needs' basis.

170. However, that there are conflicting opinions expressed by the expert witnesses suggests that doctors in Australia need guidance on this issue. As this notion was not canvassed in evidence, I am not in a position to comment

[138] ts 269 per Parman, D
[139] ts 269 per Parman, D
[140] ts 305 per Cupitt, L A
[141] ts 305 per Cupitt, L A
[142] ts 305 per Cupitt, L A
[143] ts 227 per Parman, D
[144] ts 142 per Roberts, D
[145] ts 395 per Jamieson, A
[146] ts 169 per Roberts, D
[147] ts 174 per Roberts, D
[148] ts 395 per Jamieson, A

on whether that is so, or to recommend how or in what form such guidance should be provided. However, I make the following recommendation:

Recommendation 1

I recommend that the Department of Health determine whether doctors in the public health system should employ the strategy of delayed prescriptions of antibiotics, and provide guidance accordingly.

DR REDDY'S ASSESSMENT ON 15 SEPTEMBER 2010

171. It seems that, after Linda Piani called GRH on 15 September 2010 but before Ms Piani arrived there that afternoon with the deceased, Dr Reddy had a brief discussion with Dr Cupitt about Dr Cupitt's consultation with the deceased on the previous day.

172. According to Dr Cupitt, Dr Reddy found her in the emergency department and asked if she had seen the deceased the previous day. She told Dr Reddy about the rash and that she thought that the deceased had a viral illness. Her impression was that Dr Reddy did not ask her many questions about the deceased's presentation – he said that he had asked Ms Piani to come in and that he would see the deceased.[149]

173. Dr Reddy did not recall a conversation with Dr Cupitt, but he accepted that it could have happened.[150]

174. Such a conversation would have provided a good opportunity for Dr Reddy to be apprised of Dr Cupitt's findings the previous day, especially given the fact that she had not made notes of the consultation. That observation is supported by Dr Roberts, but is seems self-evident.[151] As it turned out, of particular importance would have been the differences of histories provided by

[149] ts 306 and 316-317 per Cupitt, L A
[150] ts 353 per Reddy, S K
[151] Exhibit 1, Volume 2, Tab 1

Mr Parman and Ms Piani regarding the deceased's ongoing fever, and Dr Cupitt's thoughts about the possibility that the deceased had scarlet fever.

175. It seems to me that, had an exchange of information occurred, it is possible that Dr Reddy would have approached his examination of the deceased differently, especially because he had only ever seen a patient with scarlet fever once in his professional career, when the patient was not his, and he had never seen a patient with scarlet fever while at GRH.[152]

176. As to Dr Reddy's examination and assessment of the deceased, Dr Roberts considered them complete and appropriate.[153]

177. Dr Vinen was critical of the fact that the deceased was not managed in accordance with a Royal Children's Hospital clinical guideline, which he said was used by most clinicians. He said that it is difficult to be prescriptive in medicine because there needs to be room for clinical decision making, but there needs to be justification for not following guidelines if they are not followed.[154]

178. He said that, in accordance with that guideline, the deceased should have been admitted into GRH for inpatient management of what is called systemic inflammatory response syndrome, or SIRS, since the deceased had the SIRS criteria of rapid pulse, fever and was dehydrated. As part of that management, the relevant clinician should have considered whether the deceased had sepsis.[155]

179. Dr Vinen said that the signs suggestive of early SIRS were lethargy, poor interaction, inconsolability, tachycardia, tachypnoea, cyanosis and poor peripheral perfusion. The triad of the early aspects of SIRS criteria are fever, tachycardia and tachypnoea.[156]

[152] ts 354 per Reddy, S K
[153] Exhibit 1, Volume 2, Tab 1
[154] ts 100 per Vinen J D
[155] ts 98-99 per Vinen J D
[156] ts 100 per Vinen J D

180. Dr Vinen was critical of the fact that the deceased's respiratory rate was not recorded and that tests, including full blood count and blood cultures were not done.[157]

181. Dr Reddy conceded that some essential observations, like respiratory rate and blood pressure were not done.[158]

182. Dr Speers said that, if he had examined the deceased on 15 September 2010 he would not have considered that the widespread rash and the lethargy would have been consistent with a typical respiratory viral infection. He considered the proffered diagnosis of scarlet fever to be a good one and said that, if he had followed the Therapeutic Guidelines, he would have provided antibiotics.[159]

183. However, Dr Roberts reviewed Dr Reddy's notes and said that the deceased presented with a fever, a mild rash, and some respiratory signs of coughing, but he did not appear to be particularly unwell.[160] He thought that penicillin should have been provided to the deceased on 15 September 2010 given that the deceased had a fever the previous day. Had there been no fever (as Dr Cupitt understood), antibiotics would not have been indicated.[161]

184. While Dr Reddy did not rely on a guideline, after conducting a reasonably thorough examination of the deceased, he correctly suspected that the deceased had a bacterial infection in the form of pneumonia.[162] He took the step of arranging for a chest X-ray as his first line of investigation, though in retrospect he thought that he should have asked for a paediatric review and should have ordered blood tests.[163]

185. Dr Reddy also said that in hindsight he could have asked for several investigations such as blood tests, throat

[157] Exhibit 1, Volume 2, Tab 2
[158] ts 345 per Reddy, S
[159] ts 75 per Speers, D J
[160] ts 145 per Roberts, D
[161] ts 178 per Roberts, D
[162] ts 343 and 347 per Reddy, S
[163] ts 348 per Reddy, S

swabs and blood culture, asked for a paediatric review and started antibiotics in the emergency department.[164]

186. Of course, it is always clear what steps should have been taken when a tragic event is viewed retrospectively. Viewed prospectively at the time of Dr Reddy's examination of the deceased, he was faced with signs and symptoms that were reasonably consistent with a viral infection possibly complicated by pneumonia. The rash was consistent with a viral infection and there were no signs of sepsis.[165]

187. As noted above, all of the expert witnesses accepted that children presenting with viral illness and a rash are very common in emergency departments, that distinguishing between a viral illness and a bacterial illness in a child is extremely difficult. They also agreed that, for clinicians not familiar with diagnosing scarlet fever, distinguishing between the rash of scarlet fever and a viral rash is difficult, and that children can deteriorate very quickly compared to adults.[166]

188. In my view, the assessment of the deceased by Dr Reddy, when viewed prospectively with the information then known by Dr Reddy, was deficient in minor aspects but was reasonable overall.

THE HANDOVER AND ITS CONSEQUENCES

'Effective handover is vital in protecting patient safety.'[167]

189. All of the expert witnesses were critical of the handover process. They considered that Dr Reddy should have made his expectations clear and that Dr Cupitt should have understood that a handover required her to assume responsibility for the deceased's management.

[164] ts 360-361 per Reddy, S
[165] ts 64 per Speers, D J; ts 220 and 232 per Everitt, I
[166] ts 72-73 per Speers, D J; ts 110, 127-128, 132 per Vinen, J D; ts 159 and 180 per Roberts, D; ts 230 per Everitt, I
[167] WA Health Clinical Handover Policy November 2013, Exhibit 1, Volume 3, Tab1.AJ10

190. Dr Cupitt disputed that a proper 'handover' of the deceased's care took place at all. She argued that the term 'handover' implies a transfer of ongoing treatment, diagnosis and management of the patient, and that no such process took place.[168] Instead, what occurred, she said, was an arrangement whereby she would check the chest X-ray and, if it was clear, allow the deceased to go home. This sort of procedure was, she said, commonplace in just about every emergency department in Australia.[169]

191. I note that Dr Cupitt was a very experienced medical practitioner who had worked in emergency medicine in regional and remote locations across Australia.[170] She said that she currently discharged patients in similar circumstances every week and that, if she were required to examine a patient just to check test results after a senior doctor had already examined the patient, it would mean that she would not be able to attend properly to her other patients.[171]

192. It is also relevant that Dr Cupitt was working at GRH for the first time, but had not been given any orientation, training, policies or procedure manuals when she started there.[172]

193. Dr Cupitt said that, in the deceased's case, Dr Reddy thought that he had a viral infection and told her that a chest X-ray and urine analysis were done. She did not consider it necessary to assess the deceased because Dr Reddy had assessed him a short time before and had told her that he had finished his assessment and that she only needed to check the X-ray.[173]

194. Dr Cupitt did not examine Dr Reddy's notes of his examination of the deceased because she understood that the deceased did not require further review and that she followed Dr Reddy's plan.[174]

---

[168] ts 307 per Cupitt, L A
[169] Exhibit 1, Volume 1, Tab 23
[170] Exhibit 1, Volume 1, Tab 23
[171] ts 311 per Cupitt, L A
[172] ts 323-324 per Cupitt, L A
[173] Exhibit 1, Volume 1, Tab 23
[174] ts 318 and 320 per Cupitt, L A

195. While some entries are difficult to decipher, Dr Reddy's notes identify the deceased's fever, cough and history of fever. Referring to the notes may have caused Dr Cupitt to inquire further into the possibility of scarlet fever, to seek paediatric input or to check the X-ray in a different context to that which she had previously been led to believe existed.

196. Dr Reddy's version of the 'handover' was that he definitely asked Dr Cupitt to examine or assess the deceased further. He said that the plan was to check the chest X-ray and review him to see if he could go home.[175] He said that for a patient on a short stay, an assessment would involve a look at the patient's observations, a quick word with the patient, a look at the particular test that was asked for, and then a discharge of the patient.[176]

197. Dr Reddy appeared to accept that there may have been a lack of clear understanding by Dr Cupitt of what his expectations were. He could not remember whether he said to her, 'The deceased is ready to go home once his X-ray results are checked".[177] In hindsight, he said that he could have done a better handover and could have asked Dr Cupitt to tell him her understanding of what he expected.

198. Dr Reddy also accepted that continuity of the deceased's care would have been better had he stayed and reviewed the X-ray himself, but he said that it was quite commonplace to hand over care to another doctor.[178]

199. Dr Reddy said that he has since seen the X-ray and could see that it is consistent with pneumonia.[179]

200. After Dr Reddy left for the day, Dr Cupitt reviewed the deceased's chest X-ray and considered it normal. She was unaware that the deceased had been experiencing a fever or a cough, and she assessed the X-ray in that context.

---

[175] ts 350 per Reddy, S
[176] ts 351 per Reddy, S
[177] ts 365 per Reddy, S
[178] ts 349 per Reddy, S
[179] ts 352 per Reddy, S; Exhibit 1, Volume 1, Tab 24

201. It is worth noting that all of the expert witnesses, including Dr Drury, agreed that identifying pneumonia on the X-ray was difficult and that none of them were critical of Dr Cupitt for not doing so. Dr Everitt said that Dr Reddy was in the best position to make a clear decision on the chest X-ray since he had listened to the chest, and that Dr Cupitt was unable to do so because she did not re-examine the deceased's chest.[180]

202. After speaking to Dr Cupitt, Dr Reddy did not record the fact of the discussion in the notes. Nor did Dr Cupitt, who said that, in 2010, entries of that nature were not done very often. She said that these days most people write their version of events in the notes.[181]

203. Dr Cupitt did not write in the notes that the chest X-ray was clear. She said that she should have done so, but that it is tricky when a patient is discharged to find the notes because nurses take them to make their own entries. Dr Cupitt said that notes management within hospitals is appalling.[182]

204. After discussing the X-ray with Ms Piani, Dr Cupitt discharged the deceased home. She did not make an entry to that effect in the notes.

205. The different versions of 'the handover' and the lack of adequate notes by Dr Reddy and Dr Cupitt has led to difficulties in determining precisely what occurred; however, it appears to me likely that Dr Reddy asked Dr Cupitt to check the deceased's chest X-ray and to discharge him if she were satisfied that it was clear, with Dr Reddy's expectation that she would not do so without checking on him as she would be taking on responsibility for his care.

206. It is clear to me that Dr Cupitt did not understand that Dr Reddy expected her to examine the deceased before she discharged him. She considered that, in checking the X-ray and discharging the deceased if it were clear, she would execute Dr Reddy's discharge plan.

[180] ts 219 per Everitt, I
[181] ts 317 per Cupitt, L A
[182] ts 320 per Cupitt, L A

207. As a consequence of that misunderstanding, Dr Cupitt reviewed the X-ray without re-examining the deceased or checking Dr Reddy's notes. In addition, had Dr Cupitt made entries in the notes following the deceased's discharge, she would have had a further opportunity to have seen notes made by a registered nurse and by Dr Reddy relating to the deceased's fever and respiratory tract infection. Given her background and her then recent experience with cases of suspected scarlet fever, it is likely, if somewhat speculative, that she would not have discharged the deceased home.

208. At the time of the deceased's presentation at GRH, a new system of information exchange at handovers known as the ISoBAR system was being trialled at GRH as a pilot program,[183] Dr Reddy did not appear to be very familiar with it, and Dr Cupitt never had it brought to her attention. Had it been in place at the time, and had Drs Reddy and Cupitt employed it, there would have been little chance of a misunderstanding.

209. Since that time, the ISoBAR structure is supposed to be used in all handovers within Department of Health Services, including GRH, as part of the Department of Health's Clinical Handover Policy Operational Directive 0484/14.[184]

210. While the consequences of the handover do not reflect well on anyone, I am satisfied that both Dr Cupitt and Dr Reddy acted in the deceased's best interests, following what they reasonably considered to be accepted procedures.

211. I am also satisfied that the breakdown in communication that led to a missed opportunity to treat the deceased appropriately was primarily caused by a systemic failure that has since been addressed.

212. I shall address below Dr Cupitt's failure to review Dr Reddy's notes.

[183] Exhibit 1, Volume 3, Tab 1
[184] Exhibit 1, Volume 3, Tab 1.AJ10

DELAY IN X-RAY REPORT

213. In 2010 the X-ray department at GRH was open on weekdays from 8.30 am until 4.30 pm. There was a facility for an urgent interim report by a radiologist after hours upon previous request by a referring doctor,[185] but Dr Reddy made no request in relation to the deceased's chest X-ray, so the report was processed in the routine fashion.

214. The deceased's X-ray was taken at 4.40 pm on 15 September 2010, so it was regarded as an after-hours examination. The image was available on-line in the emergency department soon after it was taken, but the X-ray department closed at 4.30 pm, so the radiologist, Dr Drury, was not available until the next morning.

215. Dr Drury viewed the X-ray early the following morning and dictated a report at about 7.00 am. The report read: The appearances suggest a zone of left retrocardiac opacification consistent with infection. The clear meaning of his report to clinicians was that the X-ray showed pneumonia in the left lung.

216. Dr Drury's report was typed onto the computer by a part-time typist at 10.47 am on 16 September 2010 and was authorised by Dr Drury at 10.57, at which time it became available on-line. A hard-copy was available at about 2.00 pm that afternoon.

217. At that time, the typist only worked from 9.30 am to 2.30 pm. Since that time, voice recognition software was available, so it became possible for the radiologist to dictate a report and include it on the computer after the typist had left.

218. Dr Drury could not recall the report. He assumed that the X-ray findings tended to confirm the provisional clinical diagnosis of pneumonia, so it did not ring any alarm bells. However, he said that in retrospect it would have been appropriate for him to have phoned the doctor in the emergency department to say that there was a

[185] ts 51 per Drury, P J

strongly suspicious finding of pneumonia. He said that it would have been appropriate to do so in case they had not appreciated what the X-ray showed.[186]

219. Dr Drury said that phoning through a report to a doctor is something that he often does in appropriate circumstances, particularly when there are unexpected findings, or the doctor may not have access to the X-rays, or there may be a delay in getting the final report. There was, he said, no protocol or system in place. It was something which he did at his discretion.[187]

220. When asked if he thought that there ought to be a protocol, Dr Drury said that, in general, important findings should be conveyed by the most expeditious means, but there has to be a lot of discretion as to when to phone through a report since he has 80 to 100 scans a day to look at, and it is not possible to convey in person or by phone each report.[188]

221. Dr Drury said that the clinicians who request scans do not normally explain the concerns behind the requests.

222. Dr Vinen criticised what he considered to be a lack of a timely process at GRH of ensuring that all reports indicating an anomaly are reviewed and correlated against the medical record. He expressed this view because he saw indication in the GRH medical records for the deceased that the X-ray report was reviewed or acted on.[189] The evidence indicates that the hard copy of the report was not available at the emergency department until after Dr Ingram had assessed the deceased and had seen the X-ray, which he thought indicated left basal pneumonia.

223. In these circumstances, Dr Vinen's criticism is somewhat misconceived with respect to the deceased's care, though quite valid with respect to delays in reviewing patient results in the emergency department at GRH in 2010.[190]

[186] ts 52 and 56 per Drury, P J
[187] ts 56 per Drury, P J
[188] ts 57 per Drury, P J
[189] Exhibit 1, Volume 2, Tab 2
[190] Exhibit 1, Volume 3, Tab 1

However, in my view the pertinent issue is the delay in the provision of a report of an X-ray showing important or unexpected findings.

224. In the deceased's case, the X-ray was taken at 4.40 pm on 15 September 2010 but, due to the processes then in place, Dr Drury did not look at the X-ray until 7.00 am on 16 September 2010, some 14 hours later. There was then a further delay of over three hours before his report became available on-line.

225. These delays occurred in the context of a child patient, when it is clear that children can deteriorate very quickly.[191]

226. I have difficulty in seeing that delays of this kind are acceptable.

227. In his report to the Court, Dr Jamieson said that all radiology reports arranged from the emergency department are sent back to the emergency department in electronic format for review. Starting at 1.00 pm daily, a senior medical officer reviews the results daily to arrange any follow up for patients who have findings that have been missed.[192]

228. As I understand that new process of review of radiology results, it would not have reduced the delay that occurred with the report on the deceased's X-ray.

229. Dr Jamieson, when asked about this issue, said that it is a perennial problem in hospitals. He said that there have been a number of improvements but they rely on the requesting clinician flagging the request as one requiring an urgent report. He said that there is now a tele-radiology service that works internationally, so reports on critical imaging can be obtained any time, but that it is difficult to automatically flag the need for an urgent report. He thought that one way to do it may be to raise

[191] ts 99 per Vinen, J D; ts 202 per Everitt, I; ts 389 per Jamieson, A
[192] Exhibit 1, Volume 3, Tab 1

the index of suspicion in sick children, particularly those who have had a prolonged period of fever or serious illness.[193]

230. Dr Jamieson said that the means of addressing the solution to the delay could be addressed by way of an arrangement between WACHS and contracted radiological services.[194] He said that clinicians need to understand the risk generally of respiratory infections in children and that, if a child has a fever for more than three days and is coughing, there needs to be a chest X-ray. If the clinician does not feel skilled enough to interpret the X-ray, the requested report needs to be flagged as urgently required.[195]

231. Dr Jamieson said that such a procedure has not been implemented in the sense of being enshrined in a policy or practice standard, but that it could apply across the board.[196]

232. On the basis of the foregoing, I am satisfied that the delay in Dr Drury providing his report on the deceased's chest X-ray was the result of the system then in place at GRH.

233. Dr Jamieson's evidence does not indicate that the potential for delays in the reporting on crucial X-rays has since been obviated. I therefore make the following recommendation:

Recommendation 2

I recommend that the Western Australian Country Health Service consider and, if practicable, implement a procedure to ensure that, where appropriate, radiologists' reports of X-rays of children with potentially serious illnesses are provided to requesting clinicians with the least possible delay.

[193] ts 391 per Jamieson, A
[194] ts 391 per Jamieson, A
[195] ts 410 per Jamieson, A
[196] ts 411 per Jamieson, A

DR INGRAM'S CARE OF THE DECEASED

> 'I've never seen a child die, in my professional career, of complications of scarlet fever.'[197]

234. All of the expert witnesses agreed that a diagnosis of septic shock can be difficult because the only clear symptom may be tachycardia, but they were all critical of Dr Ingram's failure to diagnose and treat the deceased for septic shock.

235. The consensus of the experts appeared to be that it may have been difficult to make that diagnosis when Dr Ingram first saw the deceased at 12.45 on 16 September 2010,[198] but within two or three hours of the deceased experiencing high respiratory rates and persistent fast heart rates, Dr Ingram should have recognised that the deceased was experiencing compensated septic shock.[199]

236. For example, Dr Everitt said that it was difficult for a child to have a pulse over 180 without having septic shock.[200] At 2.00 pm on 16 September 2010, the deceased's pulse was 184; it increased over the next two and a half hours to 192.

237. Dr Speers stated that a pulse rate of 192 and a respiratory rate of 43 at the same time are typical signs of severe sepsis.[201] He also noted that the deceased's grunting and rib recession were warning signs for risk of deterioration. He said that grunting is a sign of severe pneumonia and impending respiratory failure.[202]

238. Of additional concern is Dr Ingram's apparent lack of review of the deceased over the afternoon of 16 September 2010. When he did visit the deceased briefly at 7.00 pm that evening, the half-hourly record of the deceased's vital signs since 2.00 pm was available to him, yet he failed to suspect or recognise septic shock.

---

[197] ts 105 per Vinen, J D
[198] ts 214 per Everitt, I
[199] ts 78 per Speers, D J; ts 153-154 per Roberts, D; ts 212 and 214 per Everitt, I
[200] ts 221 per Everitt, I
[201] ts 78 per Speers, D
[202] Exhibit 1, Volume 2, Tab 6

239. Dr Ingram stated in a letter dated 4 October 2010 that he was concerned at the time he initially assessed the deceased that the infection causing scarlet fever was spreading into the deceased's blood system, and that he commenced intravenous fluids which, on analysis, were at a maintenance level.[203]

240. Dr Ingram suggested in oral evidence that he did not consider the deceased to be septicaemic because the rash was blanching.[204] The evidence of the expert witnesses made clear that scarlet fever is characterised by a blanching rash,[205] and that the question of whether a rash is blanching is not relevant in deciding whether a patient has septicaemia.[206]

241. Other factors Dr Ingram took into account were the deceased's mild dehydration, his core versus peripheral temperature and his good peripheral perfusion.[207] Dr Ingram considered that, on the basis of the medical record, there was no warning of the deceased's cardiac arrest; 'in particular, no slowing of his heart rate'.[208]

242. Dr Ingram said that he did not think that the deceased had rib recession when he saw him. Had he been alerted to the rib recession, he would have ordered another X-ray as it signified possible chest involvement. He accepted that 'there were things going on, not all of which he was aware of.'[209]

243. Dr Speers explained that the record of the deceased's high heart rate and respiratory rate showed the ongoing compensatory mechanisms to maintain the oxygen supply to the vital organs of the body until the threshold was reached until the mechanisms were overwhelmed. The heart rate and respiratory rate went down, indicating impending arrest.[210] A lack of perfusion is manifested by organ dysfunction.[211]

---

[203] Exhibit 1, Volume 1, Tab 22
[204] ts 13 per Ingram, L C
[205] Exhibit 1, Volume 2, Tab 6
[206] ts 82 per Speers, D J; ts 106 per Vinen, J D; ts 155-156 per Roberts, D; ts 213-214 per Everitt, I
[207] ts 17 and 18 per Ingram, L C
[208] Exhibit 1, Volume 1, Tab 22
[209] ts 34 per Ingram, L C
[210] ts 78 per Speers, D J
[211] ts 84 per Speers, D J

244. Dr Vinen gave a similar explanation. He said that 'children will maintain a blood pressure and a reasonable cardiac output right up until the very end when they just basically drop their bundle.' The cardiac output goes up and stays up until the child reaches a certain point and has a decompensative process, which often leads to a cardiac arrest.[212]

245. Dr Roberts said that the deceased presented on 16 September 2010 with scarlet fever and a fast heart rate but relatively all right, indicating that the deceased was adequately perfusing his organs by having a high heart rate. Hence, he was compensated, but was in septic shock, which should have been recognised by the emergency room staff and by Dr Ingram.

246. Similarly, Dr Everitt said that septic shock can be subtle in children. They can maintain their perfusion until very late and then have a sudden and abrupt decompensation of their cardiovascular system. His interpretation of the deceased's medical notes was that the deceased was in compensated shock.[213]

247. It is of grave concern that Dr Ingram did not appear to appreciate the typical course of compensated septic shock.

248. All of the experts said that the deceased should have been treated with antibiotics and replacement fluids in boluses. Dr Everitt said that this is the standard conventional treatment of septic shock in children as per PMH emergency department guidelines.[214] Dr Ingram said that he did not give the deceased boluses of fluid because he did not consider him to be shocked.[215]

249. Had Dr Ingram recognised that the deceased had compensated septic shock and had he treated him with rapid boluses of saline fluid, he may have survived.

[212] ts 106 per Vinen, J D
[213] ts 223-224 per Everitt, I
[214] Exhibit 1, Volume 2, Tab 4
[215] ts 20 per Ingram, L C

Dr Vinen considered that appropriate treatment probably would have saved his life, but there was no guarantee.[216]

250. Dr Roberts said that, had the septic shock been recognised and treated early on 16 September 2010, the deceased may have survived.[217]

251. Dr Speers believed that if the deceased had been treated with antibiotics by 15 September 2010 he would have survived. He said that it was certainly possible that with fluid management in addition to the antibiotics, he may have survived on 16 September 2010.

252. It is unfortunate that Dr Ingram was not able to complete his evidence in order to address the contentions of the expert witnesses regarding his failures to diagnose and treat the deceased appropriately. However, in my view, it is inconceivable that he could offer an explanation that could justify or excuse those failures.

253. There was not, for example, any basis for a misunderstanding on his part because symptoms or information was not brought to his attention. He admitted the deceased into the HDU, so he must have been aware of the half-hourly record of the deceased's heart rate and respiration rate, the key indicators of compensated septic shock in circumstances where the deceased was well-perfused.

254. Dr Ingram raised as justification the blanching nature of the rash for his failure to diagnose sepsis, and in doing so demonstrated his incompetence in this area. He also relied on good peripheral perfusion as a basis of his belief that the deceased was not shocked, when good perfusion was an indicator of septic shock in patients experiencing tachycardia and tachypnoea as the deceased was.

255. In my view, the evidence establishes that Dr Ingram's failure to diagnose and treat sepsis or compensated septic shock meant that the care he provided the deceased was

[216] ts 108 per Vinen, J D
[217] ts 158 per Roberts, D

well below that to be reasonably expected from a consultant paediatrician.

NOTE-MAKING AND OBSERVATIONS

It is in the best interests of every patient/client and provider that the health record contains complete and accurate documentation of each episode of care.[218]

256. All of the expert evidence in relation to this issue supports the premise that proper note-taking by medical practitioners and nurses is necessary for the adequate provision of medical care. Dr Vinen said contemporaneous notes are required as standard practice.[219] Dr Roberts said such notes are important in medicine because they reflect the situation as it occurred at the time that the notes were made.[220] Dr Everitt said that it is very important to document an assessment done in an emergency department because, as in the deceased's case, often patients will come back on a later date. It is important to know how the patient changed in their clinical status.[221]

257. Dr Jamieson was more emphatic. He said that the keeping of good clinical notes is the cornerstone of clinical care, absolute cornerstone, and a non-negotiable cornerstone. He said that the keeping of notes was important for clinicians to organise their current thoughts and to enable them to set out in an orderly and rigorous manner their plan of care. Notes also communicate the information that clinicians have used to make their plan of care, so it is important for people to look at preceding notes and observations. On top of that, he said, it is important that the intention of the clinical plan be set out carefully in the notes so that, when other clinicians assume care of the patient, they are aware of what the note-maker had in mind.[222]

[218] Exhibit 1, Volume 3.AJ13 – WACHS/SMHS Clinical Practice Standard
[219] ts 94 per Vinen, J D
[220] ts 186 per Roberts, D
[221] ts 202 per Everitt, I
[222] 388 per Jamieson, A

258. The emergency department notes in the GRH file relating to the deceased's presentation on 15 September 2010 show a clear and concise note by a registered nurse at 1.50 pm followed by Dr Reddy's notes. Dr Reddy's notes reflect a reasonably comprehensive examination, but they are sometimes difficult to read.

259. Despite Dr Reddy's plan to observe the deceased in the emergency department, only one set of observations is recorded: at the time of presentation, and no blood pressure was recorded.[223]

260. Ms Kellett said that in 2010 there was a requirement for 30 minute observations of paediatric patients in the emergency department, as well as a blood pressure observation on presentation. This was of great concern to her.[224]

261. There are no entries by Dr Cupitt on 15 September 2010 and there is no discharge plan. Dr Cupitt accepted that she should have made entries. In her retrospective notes in relation to 15 September 2010, Dr Cupitt indicated that she thought she had made notes about her assessment of the X-ray.[225] She confirmed that in her oral evidence, and went on to say that writing notes at the end of a shift is problematic because the notes may be difficult to find and because of the stream of interruptions in the emergency department.[226]

262. When asked whether she thought there were any systemic changes that could be made to help prevent cases such as the deceased's in future, one suggestion Dr Cupitt made was to make sure that incomplete notes do not hit the system. She said that it occurs because patients are discharged by persons other than the treating doctor before notes are written.[227]

263. The notes relating to the deceased's presentation on 16 September 2010 commence with a brief entry by a

[223] Exhibit 1, Volume 2, Tab 5.C
[224] ts 371 per Kellett, C E
[225] Exhibit 1, Volume 1, Tab 23
[226] ts 332 per Cupitt, L A
[227] ts 328 per Cupitt, L A

nurse, indicating that the deceased was 'seen by Dr Abujalala; query scarlet fever, grunting on expiration. Severe rash on body, cherry red tongue. Sick looking baby.' Dr Ingram's brief notes then follow. Observations are recorded at 12.40 of temperature of 37.7 and 38.3 axilla; pulse 67; respiration 24; and, oxygen saturation 88%.

264. Of the observations, the pulse is almost certainly incorrect and the respiration rate appears inconsistent with a rate of 62 only an hour later.

265. An observation and treatment chart commences at 1.50 pm on 16 September 2010 with a pulse of 191, a respiration rate of 62, and has further entries at the intervals mentioned above in this finding under the heading '15 AND 16 SEPTEMBER 2010'.[228] There are several apparent gaps.

266. Integrated progress notes for the HDU contain an undated and untimed entry by a clinical nurse related to infection control, followed by an entry by a registered nurse at 3.00 pm on 16 September 2010. The next nursing notes were entered retrospectively from 3.00 am on 17 September 2010. There are no notes from doctors until Dr Ingram's and Dr De Mulder's notes of 2.00 am and 2.35 am on 17 September 2010 respectively. As previously noted, Dr Ingram did not make a note in relation to his visit to the deceased at 7.00 pm.

267. As I read it, a temperature and general observations form for the deceased in Room 19 has only three entries for 16 September 2010: 2.30 pm, 6.00 pm and 10.00 pm.[229] A nursing care plan shows observations to be: 4/24, but that is crossed out and 1/24 is inserted.[230] It is not clear why or when that change was made.

268. A fluid balance sheet shows the deceased receiving 60 millilitres of dextrose saline every hour from 1.00 pm

[228] Exhibit 1, Volume 2, Tab 5.X
[229] Exhibit 1, Volume 2, Tab 5.S
[230] Exhibit 1, Volume 2, Tab 5.T

until 11.00 pm and that he passed urine at 2.00 pm and 7.00 pm, but the quantities of urine are not shown.[231]

269. An intravenous fluid treatment form, apparently requiring authorisations by a doctor, has an entry for one 520 millilitre bottle of dextrose saline at a rate of 60 millilitres an hour commencing at 1.00 pm. Dr Ingram apparently signed for that bottle and a nurse and a checker also signed. Dr Ingram also signed for a second bottle, but there is no indication by way of start time or nurses' signatures to show that it was used, despite the fact that the first bottle must have been emptied within nine hours; that is, by 9.00 pm.

270. The foregoing indicates a troubling failure of documentation, note-making, observations and appropriate entries in forms.

271. Ms Kellett was especially concerned about the gaps in observations of the deceased while he was in the HDU.[232]

272. There also appeared to be a corresponding lack of use by clinicians of other clinicians' notes or assessments. For example, there is no indication that Dr Ingram checked Dr Reddy's notes, Dr Cupitt relied on Dr Reddy to tell her of his plan to discharge the deceased rather than reading his notes, and Dr Reddy did not ask Dr Cupitt about her assessment on 14 September 2010 in any detail.

273. Dr Jamieson said that the failure of doctors to check preceding notes is a perennial problem, partly because they are so time-poor. He said the way to instil the need for doctors to check notes is through education, re-education, insistence and reiteration and, hopefully, electronic health records which may come in towards the end of this year.[233]

[231] Exhibit 1, Volume 2, Tab 5.U
[232] ts 383 per Kellett, C E
[233] ts 412 per Jamieson, A

274. Since the deceased's death, a number of policies and standards have been implemented with respect to the keeping of notes by doctors and nurses.[234]

275. Ms Kellett described audits of documentation that took place at GRH. In particular, the audits showed a big uptake of a new colour-coded observations chart for clinically deteriorating paediatric patients.[235]

276. Dr Jamieson said that note-making and charting audits are done regularly by a health information management team. In addition, a process known as executive rounding, which involves doctors doing a ward round and checking patients' charts to see how well they are completed, is carried out at least monthly. He said unequivocally that GRH has improved in relation to the recording and responding to observations.[236]

277. The evidence relating to one case does not establish on its own that a lack of proper documentation was widespread at the time of the deceased's death, but there seems to have been recognition by WACHS that it was an area requiring improvement. It is heartening to learn that there have since been ongoing attempts to ensure that this cornerstone of medical care is in place.

SUPERVISION OF DR INGRAM

278. Dr Ingram was appointed as an Area of Need consultant paediatrician by WACHS from 1 July 2008 to 30 June 2011 on a fixed term contract. Prior to his engagement, he was interviewed by an OTP (which I take to stand for 'overseas trained practitioners') Assessment Panel and Specialist Advisory Committee in General Paediatrics whose members agreed that his training and experience were appropriate for the position and that he could fill the position on the understanding that Dr Jehangir and another consultant paediatrician, Dr Kenneth Whiting,

[234] Exhibit 1, Volume 3, Tab 1
[235] ts 370-372 and 378 per Kellett, C E
[236] ts 407 per Jamieson, A

were prepared to provide appropriate supervision and peer review for 12 months.[237]

279. Dr Jamieson said that the condition for supervision under the current requirements of the Australian Health Practitioner Regulation Agency (**AHPRA**) requires the supervised clinician to be able to contact a consultant supervisor by telephone. A supervised clinician is able to treat patients independently.[238]

280. My research into the current requirements of AHPRA as provided by the Medical Board of Australia revealed guidelines that provide four levels of supervision that appear to be determined on the criteria of 'who has responsibility for each patient'. Where the supervised international medical graduate has primary responsibility for each patient, as I understand the case to be with Dr Ingram in 2010, the supervisor must be available for consultation if the supervised clinician requires assistance.[239]

281. On 9 December 2008 the Medical Board of Western Australia (**the Medical Board**) granted initial assessment of Dr Ingram subject to satisfactory performance reports from the supervising clinician.[240] His curriculum vitae attached to an application to WACHS for initial credentialing shows an extraordinary academic and professional career in paediatrics.[241]

282. On 11 February 2009, Dr Ingram was engaged by WACHS as a consultant paediatrician for five years, effectively subject only to a probation period of six months and current registration with the Medical Board.[242] On 31 March 2009 the Medical Board granted conditional registration as a medical practitioner subject to continuing employment at GRH and satisfactory performance reports.[243]

---

[237] Exhibit 9, Tab 4
[238] ts 402 per Jamieson, A
[239] Medical Board of Australia, Guidelines: Supervised Practice for International Medical Graduates; see also Specialist Pathway for Area of Need - www.medicalboard.gov.au/Registration/International-Medical-Graduates/Specialist-Pathway.aspx
[240] Exhibit 9, Tab 6
[241] Exhibit 9, Tab 7
[242] Exhibit 9, Tab 8
[243] Exhibit 9, Tab 12

283. On 8 July 2009 the General Medical Council in the United Kingdom wrote to the medical director of GRH to inform him of a complaint about Dr Ingram involving his prescription in November 2008 of a fentanyl patch to a 10 year old opioid-naïve boy with cerebral palsy.[244]

284. The evidence provided with the letter indicated that the boy's parents attempted to fill the prescription at the hospital where Dr Ingram had written the prescription but the pharmacist was reluctant to dispense the fentanyl until Dr Ingram attended and eventually halved the prescription. Dr Ingram had also prescribed diazepam.[245]

285. The boy's parents applied the patch that night and the boy died the next day. A post mortem report indicated that toxicology results showed a fentanyl level within the toxic to fatal range. Pardovirus B19 was also found in a heart sample along with early myocarditis. It was possible that the boy had died from the myocarditis or the fentanyl or a combination of the two.[246]

286. Other evidence in WACHS' possession indicates that Dr Ingram was investigated by the National Clinical Assessment Service (**NCAS**) following the death of a 10 year old girl following the provision of sub-standard care by a doctor to whom Dr Ingram failed to ensure adequate supervision. There was evidence suggesting a possible deficit in his communication skills with both colleagues and patients.[247] It is not clear when this evidence was provided to WACHS.

287. On 20 July 2009, the regional director of WACHS-Midwest wrote to Dr Ingram to inform him that the General Medical Council had received a complaint about him and to request that he sign an undertaking that he not prescribe opiates until the investigation by the General Medical Council is completed.[248]

[244] Exhibit 9, Tab 14
[245] Exhibit 9, Tab 14
[246] Exhibit 9, Tab 14
[247] Exhibit 9, Tab 13
[248] Exhibit 9, Tab 15

288. On 28 August 2009 the Medical Board copied to the medical director of GRH a letter to Dr Ingram in which it restricted Dr Ingram's opiate prescribing.[249]

289. On 31 August 2009 Dr Ingram tendered his resignation from GRH for family reasons, but he agreed to cover Dr Jehangir's leave in December and to return each year to assist with leave cover if needed.[250]

290. On 12 December 2009 Dr Whiting completed a peer review report on Dr Ingram which indicated his opinion that Dr Ingram was at the highest level of competence provided in the report form.[251]

291. Dr Ingram was again engaged by WACHS as a consultant paediatrician from 3 May 2010 to 2 May 2014 on a fixed term contract basis.[252]

292. On 11 May 2010 the adjudication coordinator of the Fitness to Practice Directorate of the General Medical Council wrote to the regional director of WACHS-Midwest to inform him that conditions imposed on Dr Ingram's registration in 2009 were to be maintained. The most pertinent conditions were to be supervised by a consultant and that he not prescribe opiates to children under the age of 16.[253]

293. On 15 July 2010 the Royal Australian College of Physicians OTP Unit again wrote to the regional medical director of WACHS-Midwest to advise that Dr Ingram was appropriate to take up the position of paediatric consultant with a period of nine months under peer review.[254]

294. It seems that Dr Ingram again decided to return to the United Kingdom. On 2 August 2010 the regional medical director WACHS wrote a letter to 'whom it may concern' in which he recommended Dr Ingram as 'an excellent

[249] Exhibit 9, Tab 17
[250] Exhibit 9, Tab 18
[251] Exhibit 9, Tab 22
[252] Exhibit 9, Tab 23
[253] Exhibit 9, Tab 25
[254] Exhibit 9, Tab 27

paediatrician' as well as 'an excellent teacher and most professional and courteous person".[255]

295. On 2 August 2010 Dr Jehangir completed a referee report on Dr Ingram in which rated him as 'above average' on all aspects of clinical skill, except communication and consultation where he rated Dr Ingram as 'average'.[256]

296. On 11 August 2010 the Medical Board wrote to WACHS to advise that Dr Ingram had again been granted initial assessment subject to satisfactory performance reports.[257]

297. Rather than returning to the United Kingdom, on 10 September 2010 Dr Ingram entered into a three year contract with WACHS as consultant paediatrician at GRH.[258]

298. On the basis of the foregoing, in my view WACHS appropriately monitored and supervised Dr Ingram prior to his care of the deceased on 16 and 17 September 2010.

299. While WACHS had been made aware of a complaint against Dr Ingram in relation to the prescription of fentanyl, the complaint had not been resolved, Dr Ingram was still registered to practice in the United Kingdom and the potential issue of him wrongly prescribing opiates had been addressed. Importantly, Dr Ingram's professional supervisors, both of whom were consultant paediatricians, gave very positive reports as to his competence.

300. As somewhat of a postscript, on 28 September 2011 the General Medical Council wrote to the regional director of WACHS-Midwest to inform him that the complaint against Dr Ingram in relation to his prescription of fentanyl to a 10 year old boy in November 2008 had been considered by case examiners, one of whom was medical

[255] Exhibit 9, Tab 29
[256] Exhibit 9, Tab 30
[257] Exhibit 9, Tab 31
[258] Exhibit 9, Tab 32

and the other non-medical. The letter contained the decision by the case examiners.[259]

301. The case examiners noted that there were reports from North Wales National Health Service Trust relating to a series of incidents between 2004 and 2008 which led to Dr Ingram being referred to NCAS for assessment. However, Dr Ingram resigned his post, so the assessment never took place.[260]

302. The case examiners were aware of good references from Dr Ingram's current employer but were particularly concerned that his prescription of fentanyl was challenged by the pharmacist, and yet he did not pause to consider properly whether his actions were still appropriate.[261]

303. In addition, the case examiners did not consider that Dr Ingram demonstrated at any stage of the process that he had insight into the deficiency of his actions on the day in question or the severity of the consequences that resulted. The case examiners concluded that there was a realistic prospect of establishing that Dr Ingram's fitness to practice was *currently* impaired (italics in original).[262]

304. It seems clear that Dr Ingram is no longer practising as doctor.[263]

HOW DEATH OCCURRED

305. It is clear in my view that the deceased died from complications of a natural illness which were not appropriately treated, rather than from an accident or a misadventure that occurred in the course of his treatment.

306. In these circumstances, I find that death occurred by way of natural causes.

---

[259] Exhibit 9, Tab 37
[260] Exhibit 9, Tab 37
[261] Exhibit 9, Tab 37
[262] Exhibit 9, Tab 37
[263] Exhibit 2; ts 9 per Ingram, L C

CONCLUSION

307. The evidence at the inquest disclosed a series of seemingly insignificant missed opportunities and errors in the care of the deceased, which resulted in the deceased's initially minor illness turning into a serious condition that remained undiagnosed until the afternoon of 16 September 2010, when he was gravely ill.

308. It is possible, if not likely, that he could still have survived at that stage if provided appropriate treatment, but a clinical misjudgement left him without that chance.

309. Following the deceased's death, many systemic improvements were implemented by WACHS to address shortcomings at GRH that led to this preventable tragedy.

310. The community owes a debt to the deceased's parents, particularly Ms Piani, for their persistence in agitating for an inquest and for their honesty and courage throughout the process. Hopefully, the holding of this inquest will lead to continuing improvement of the care of children in hospitals, and thereby provide them with some consolation for their immeasurable loss.

Barry King
Coroner
20 May 2016