FINDINGS and RECOMMENDATIONS of Coroner Simon Cooper following the holding of an inquest under the *Coroners Act* 1995 into the death of:

Jason Mathew Henry Hosking

Contents

Record of Investigation into Death (With Inquest)

Coroners Act 1995
Coroners Rules 2006
Rule 11

I, Simon Cooper, Coroner, having investigated the death of Jason Mathew Henry Hosking with an inquest held at Hobart in Tasmania make the following findings.

Hearing Dates

10, 11, 12 and 13 April 2017 at Hobart in Tasmania

Representation

Counsel Assisting the Coroner: Mr A Gaggin

Counsel for Dr P Bremner: Mr AB Walker

Counsel for Dr KK Mykkanen: Ms AR Mills

Counsel for Dr E Philip: Mr M Wilkins

Introduction

1. Mr Jason Hosking died at his family home at Grove, south of Hobart, on 11 November 2014. He had been discharged from the Royal Hobart Hospital ("RHH") the evening before.

2. The *Coroners Act* 1995 (the '*Act*') provides that a death is reportable to the coroner if, *inter alia*, the death is one of a person that occurred in Tasmania, and that death is "unexpected, unnatural or violent" (see section 3).

3. Section 19 of the *Act* creates an obligation upon any person who becomes aware of what is suspected to be a reportable death to report that fact to the coroner.

4. The circumstances of Mr Hosking's death were such that pursuant to section 19 of the *Act* the fact of his death was reported to the Coronial Division of the Magistrates Court of Tasmania. This was so because his death was properly regarded as, at the very least, unexpected.

5. The *Act* provides that where a death has been reported to a coroner then she or he has jurisdiction to investigate that death.

6. Section 24 (2) of the *Act* provides that where a coroner has jurisdiction to investigate a death, he or she may hold an inquest (other than a mandatory inquest which is dealt with in section 24 (1)) where it is considered desirable to do so. The facts surrounding Mr Hosking's death that emerged as a consequence of the investigation, especially that it was apparent he died less than 24 hours after having been discharged from the RHH, led me to conclude that it was desirable to hold an inquest. I note the *Act* defines an inquest as being a public hearing.

7. In anticipation of, and preparatory to, the inquest, four case management conferences were held pursuant to the *Coroners Rules* 2006. On each occasion (2 August 2016, 10 October 2016, 13 October 2016 and 6 February 2017) the Tasmanian Health Service ("THS") appeared, represented by counsel. However the THS did not appear at the inquest.

8. It is appropriate to say something of the role of a coroner. Although a judicial officer, a coroner performs a different role to other judicial officers. The coroner's role is inquisitorial. She or he is required to thoroughly investigate a death and to make findings with respect to that death. This process requires the making of various findings, but without apportioning legal or moral blame for the death (see *R v Tennent; ex parte Jaeger* [2000] TASSC 64, per Cox CJ at paragraph 7). A coroner is required to make findings of fact from which conclusions may be drawn by others (see *Keown v Khan* [1998] VSC 297; [1999] 1 VR 69, Calloway JA at 75 – 76). The coroner neither punishes nor awards compensation – that is for other proceedings in other courts, if appropriate.

9. One matter that the *Act* requires a finding to be made about is how death occurred (section 28 (1) (b)). It is well settled that this phrase involves the application of the ordinary concepts of legal causation (see *March v E. & M.H. Stramare Pty. Limited and Another* [1990 – 1991] 171 CLR 506). Any coronial inquiry necessarily involves a consideration of the particular circumstances surrounding the particular death so as to discharge the obligation imposed by section 28 (1) (b) upon the coroner.

10. In addition to being required to make findings pursuant to section 28 (1) of the *Act* a coroner is empowered, in appropriate cases, to make "recommendations with respect to ways of preventing further deaths and on any other matter that the coroner

considers appropriate" (section 28 (2)) and to "comment on any matter connected with the death including public health or safety or the administration of justice" (section 28 (3)). Any recommendation or comment must be connected to the death the subject of the enquiry (see *Harmsworth v The State Coroner* [1989] VR 989). This obligation is one of particular importance in this case, given the circumstances of Mr Hosking's death.

The Scope of the Investigation

11. A number of issues (in addition to the matters in section 28 (1)) to consider at the inquest were identified as a result of the holding of the case management conferences and hearing from the parties. Those issues, obviously not exhaustive in the sense that they are a guide only to the areas to be examined at the inquest, were as follows:

    a) the initial (and continuing) diagnosis made by the medical staff at the RHH, namely that Mr Hosking was suffering from gastroenteritis;

    b) whether there was a failure to treat Mr Hosking by way of intravenous antibiotics at the RHH, even if sepsis (or other infection condition) was only a differential diagnosis;

    c) whether the decision to discharge Mr Hosking from the RHH was reasonable;

    d) whether the processes around the testing of Mr Hosking's urine and the communication of the results were acceptable;

    e) the RHH's response once the urine test results were known;

    f) the management of Mr Hosking by Dr Philip; and

    g) systems issues at the RHH, specifically relating to medical and nursing staff numbers and beds at the Department of Emergency Medicine on 10/11 November 2014, including but not limited to adequacy of staffing levels.

Findings of Fact

12. Set out below are my findings of fact concerning the last two days of Mr Hosking's life.

Monday 10 November 2014

13. At about 9.30am on Monday 10 November 2014, Mr Hosking attended his general practitioner Dr Emmanuel Philip at Huon Doctors Surgery. Dr Philip noted at the time that Mr Hosking:

    a) was febrile to touch;

    b) had an elevated heart rate (tachycardia);

    c) was pale;

    d) had abdominal cramps;

    e) had diarrhoea and vomiting; and

    f) was ill looking.

14. A preliminary diagnosis of gastroenteritis with dehydration was made by Dr Philip and an ambulance was called for transfer to the RHH for rehydration. An ambulance arrived at Huon Doctors Surgery at about 9.55am to take Mr Hosking to the RHH.

15. During the transfer of Mr Hosking by the ambulance, Mr Watson, the ambulance officer who gave evidence at the inquest, said that Mr Hosking:

    a) appeared pale and unwell;

    b) had low blood pressure;

    c) had an increased heart rate;

    d) could not have his oxygen saturation recorded;

    e) had cramping abdominal pains; and

    f) was given intravenous fluid.

    These observations were recorded and formed part of Mr Hosking's Digital Medical Record ("DMR") at the RHH.

16. The ambulance arrived at the RHH at around 10.48am. At 10.49am Mr Hosking was assessed by a triage nurse. He was noted to:

a) have low blood pressure;

b) be unable to tolerate food or fluid;

c) be pale; and

d) have had 700ml of IV fluid in the ambulance.

I observe that this last notation may not be correct, although it is doubtful in the context of this case whether anything turns on it. The evidence in fact was that Mr Hosking had 550ml of IVF during the journey from Huonville to the RHH. As a result of the initial examination Mr Hosking was assessed as a Priority Code 3 – to be seen within 30 minutes.

17. Mr Hosking was allocated the last available bed in the main acute adult Emergency Department ("ED").

18. At 11.15am (within the priority 3 target time) Mr Hosking was seen by Nurse J Byrne. He was noted to:

a) present with vomiting and diarrhoea;

b) have cramping abdominal pain; and

c) have had increased back pain radiating down the back of his legs.

Mr Hosking was given Endone 5mg, Paracetamol 1g and intravenous IV was commenced.

19. At around 11.15am the following tests were undertaken:

a) biochemistry (routine);

b) blood gases/electrolytes; and

c) full blood.

20. By, or about, 11.23am the test results revealed:

a) blood albumin (protein in the blood) was low at 32 (range 35-50);

b) CRP (C reactive protein – white cell count) was extremely high at 234.3 (range <8) (MR 32);

c) creatinine was high at 133 (range 60-110) (MR 32);

d) platelets were low at 107 (range 160-420) (MR 34);

e) neutrophils were high at 10.8 (range 1.5-7.5) (MR 34);

f) lymphocytes were low at 0.2 (range 0.8-3.5) (MR 34);

g) total while cell count was at the high end of the normal range at 11.0 (range 3.5-11) (MR 34);

h) urea was high at 9.9 (range 2.7-7.8) (MR 32); and

i) eGFR (glomerular filtration rate) was low at 56 (range >90) (MR 32).

21. At 11.30am Mr Hosking was noted to be responding to the medication provided and the IV that had been given with good effect.

22. At 12.15pm more tests were ordered. These were:

a) biochemistry urine; and

b) microbiology urine.

23. The further testing at 12.15pm revealed:

a) creatinine remained high at 139; and

b) leucocytes were high at 135.

24. A sample of Mr Hosking's urine was sent to the RHH laboratory for culturing, the results of which were not immediately available.

25. At 12.52pm further testing of blood gases/electrolytes was undertaken. This revealed:

a) creatinine was reduced but still high; and

b) lactate was high at 4.1 (range 0.6-2.4) (MR 27).

26. At 1.51pm a CT scan of Mr Hosking's kidney area was undertaken. A clinical history was obtained, and recorded in the DMR of "associated right upper quadrant tenderness, right renal angle tenderness, lower back pain". The CT scan was normal; apart from a finding that Mr Hosking had a renal fusion (horseshoe kidney). All medical

practitioners who gave evidence at the inquest about this issue, including Dr Lawrence the State Forensic Pathologist, and Dr Bell and Dr Cross, both highly experienced emergency physicians, said this condition played no role in Mr Hosking's death. I accept that this was so.

27. At 2.40pm Mr Hosking was again reviewed in the ED and was noted:

    a) to be pink and well perfused;

    b) not to have had further vomiting and diarrhoea; and

    c) not to have further abdominal cramping.

28. Further blood gases/electrolytes was taken at 3.31pm That testing revealed:

    a) lactate was reduced from 12.52 to 2.9 but remained high; and

    b) creatinine was reduced from 118 to 113 but remained high.

29. Mr Hosking was reviewed in the ED at 3.40pm. IV was advised to continue.

30. Mr Hosking's DMR next records that at 4.20pm Mr Hosking complained of:

    a) minor pain (2/10) in his back; and

    b) pain in his lower limbs, both legs but more in his right thigh, mainly on resting.

31. At 4.13pm Dr Mykkanen noted in Mr Hosking's DMR an initial history of:

    "pale, diaphoretic SBP 130 HR 90 T 37.0 Abdomen: slender, non distended, muscular, liver palpable – not enlarged, some RUQ tenderness, R) renal angle tenderness, no rebound, no overt peritonism".

    It was noted that Mr Hosking had received 2 litres of IV fluid and was looking and feeling better. He had a soft, non-tender abdomen.

32. Dr Mykkanen's diagnosis which was recorded in Mr Hosking's DMR was:

    a) probable viral gastro; and

    b) acute kidney injury with nephrosis secondary to dehydration.

    The DMR records that at the same time Mr Hosking had:

a) a creatinine level of 135 (high);

b) neutrophils of 10.8 (high);

c) CRP of 235 (high);

d) lactate of 2.7 (high); and

e) elevated protein/creatinine ration.

33. The plan to treat Mr Hosking, formulated and recorded in the DMR, by Dr Mykkanen, after discussion with Dr Helen Cooley the emergency specialist with responsibility for overseeing the acute ward of the ED at the RHH on that day, was to continue intravenous fluid, monitor in the Emergency Management Unit ("EMU") and reassess in a few hours.

34. On 10 November 2014 Dr Mykkanen was a junior registrar (or in other words a doctor in training). She started her shift that day at 8.00am and finished at about 5.30pm. From the start of her shift until 3.30pm, her supervisor (or consultant) was Dr Michael Rose. From 3.30pm until she finished her shift, Dr Mykkanen's supervisor was Dr Helen Cooley. Dr Mykkanen gave evidence that it was her practice to discuss "nearly every patient she looked after" with her consultant. She said that she discussed Mr Hosking's treatment and condition with both Dr Rose and Dr Cooley on 10 November 2014. I am satisfied that she did.

35. Consequently, Mr Hosking was admitted to the EMU at 5.30pm. When he was transferred to EMU one adult acute cubicle was available. Dr Mykkanen's shift concluded at 5.30pm. Upon his transfer to the EMU, Mr Hosking came under the care of Dr Paul Bremner. Before Dr Mykkanen completed her shift she briefed Dr Bremner. That briefing included Dr Bremner being advised as to Mr Hosking's history, examinations, investigation and general progress since his arrival at hospital. Dr Bremner was briefed as to the discussions Dr Mykkanen had had with Dr Rose and Dr Cooley. Dr Bremner was aware that the collective view was that Mr Hosking's most likely diagnosis was gastroenteritis and that Dr Rose and Dr Cooley both thought Mr Hosking would benefit from further observation in the EMU. He was aware that Dr Mykkanen's plan was for the admission of Mr Hosking to the EMU for continued IV treatment and observation overnight.

36. The evidence was that as at 10 November 2014 Dr Bremner was an emergency department registrar. He had been in that role for about 22 months. Dr Bremner commenced his shift at 1.30pm that day. Assisted by an intern, Dr Chung, Dr Bremner was in effect in charge of the EMU, although 'answerable' to Dr Cooley who had overall responsibility for the Department of Emergency Medicine, of which the EMU, with its 10 beds, formed part.

37. At 6.45pm Dr Bremner, at the request of nursing staff, reviewed Mr Hosking in the EMU. He had access of course to Mr Hosking's DMR. He said in evidence that he reviewed those records before he saw Mr Hosking. He carried out his own examination, the results of which he caused to be recorded in the DMR by the intern, Dr Chung. The DMR records of this consultation note that Mr Hosking:

    a) was alert and aware;

    b) was feeling much better;

    c) had last vomited at 9.00am;

    d) had not opened his bowels that day;

    e) had abdominal pain centrally;

    f) had drunk 2 cups of orange juice (but with no mention of anything eaten); and

    g) was keen to be discharged as he was feeling much better.

38. Accordingly, Dr Bremner having seen Mr Hosking just once, decided that the IV cannula in Mr Hosking's arm should be removed and he could be discharged. Dr Bremner did not discuss this decision with Dr Helen Cooley (or for that matter Dr Rose, who of course had finished his shift some hours earlier). Dr Bremner told the inquest that he "felt comfortable" with his decision.

39. The decision was, in my view, a poor one. It seems to have been prompted, at least in part, by reports (he said) from nursing staff that Mr Hosking had been taking himself outside the hospital for a cigarette from time to time. Dr Bremner also seemed to suggest in his evidence that Mr Hosking wished to go home. I do not accept that Mr Hosking wished to go home. Mrs Hosking, who impressed as a careful and reliable witness, said she was surprised that her husband, who had a general aversion to

hospital, expressed a wish to stay at the RHH at least overnight because of his exhaustion. I accept her evidence about this point.

40. In a statement made nearly two years after Mr Hosking's death (and tendered at the inquest), Dr Bremner said that prior to discharge he had a conversation with Mr Hosking in which he explained that in medicine nothing was 100% and with time it may become apparent that something else had caused Mr Hosking to be unwell. Dr Bremner said he discussed with him the benefits of remaining in hospital, including that he could continue to have ongoing observation and that he had abnormal blood tests. Nothing of this conversation is recorded anywhere in the DMR. When asked about this at the inquest Dr Bremner said that he would have "preferred" a record of this alleged conversation to be in the DMR but seemed to suggest that the fault for it not being recorded in the notes was attributable to the intern Dr Chung. I doubt that Dr Bremner had any such conversation with Mr Hosking. This is especially so given that the conversation, if it occurred, should have been recorded in the DMR, as Mr Hosking was in effect acting against advice.

41. I am satisfied that the decision to discharge Mr Hosking in the evening of 10 November was both inappropriate and most premature. I am not satisfied that Mr Hosking expressed a wish to be discharged; however I cannot be satisfied on the evidence that he expressed a desire to remain in hospital either. I doubt Dr Bremner had a conversation with Mr Hosking as claimed by him in his statement. In reaching these conclusions I am very conscious they may be thought to involve criticism of an otherwise conscientious medical practitioner. These conclusions are not ones reached lightly, and in finding as I do, I am satisfied on the evidence to the so called *Briginshaw* standard (see *Briginshaw v Briginshaw* (1938) 60 CLR 336; and in the coronial context *Chief Commissioner of Police v Hallenstein* [1996] 2 VR 1 Hedigan J at page19).

42. In anticipation of Mr Hosking's discharge his wife was contacted by the RHH. She was advised that her husband was to be discharged. She was surprised to be told her husband was to be discharged. It was her understanding he was staying at the RHH at least overnight. Mrs Hosking made her way straight to the hospital. She was taken to see Mr Hosking and said that he "appeared to have picked up a bit". Mrs Hosking said she then returned to the reception area of EMU to check if Mr Hosking was in fact clear to go. A receptionist confirmed that Mr Hosking was to be discharged. Mrs Hosking later said that she "thought it was a bit weird that the doctor didn't speak to us before we left".

43. Mr Hosking was discharged from the RHH at 7:35pm. The evidence was that although Mr Hosking had been given medication including Endone (oxycodone hydrochloride, an opioid analgesic used to treat severe pain) whilst in hospital, he was given no medication or prescriptions to take with him upon discharge. He was given nothing to take to his general practitioner and no discharge summary.

44. I observe that the evidence was that from his arrival at the RHH until discharge, Mr Hosking received approximately 3 litres of IV solution, in addition to the 550mls he received whilst in transit to the hospital in the ambulance.

45. It was noted in Mr Hosking's DMR that he was, at discharge, feeling a lot better. It was also noted that he had been treated for viral gastroenteritis and acute kidney injury from dehydration with IV fluids and symptomatic management of his nausea. A further note in the DMR indicated that Mr Hosking had been discharged with advice to see his GP for further follow up. At 8.05pm a note was made by the EMU intern, Dr Chung, in the DMR to be sent to Mr Hosking's GP requesting that his renal function be checked to ensure Mr Hosking was no longer dehydrated and was improving. The same note recorded that Mr Hosking's creatinine level had been improving prior to discharge.

46. Mr and Mrs Hosking went home, arriving there at about 8.00pm. Mrs Hosking said on the drive home her husband appeared tired and was quiet. She said he was keen "to lay down and get some rest". Accordingly, shortly after their arrival home Mr Hosking went to bed. Mrs Hosking said that during the night of 10/11 November her husband:

    a) suffered neither vomiting nor diarrhoea;

    b) was restless;

    c) experienced back pain;

    d) did not eat or drink; and

    e) took some Nurofen.

Tuesday 11 November 2014

47. The next morning, Tuesday 11 November 2014, Mr Hosking awoke and whilst he was still in pain and "not great" Mrs Hosking said that he had some colour back in his face. She suggested that he see Dr Philip straight away and Mr Hosking agreed.

Accordingly Mr and Mrs Hosking went to the Huon Doctors Surgery at around 9.30am. Mr Hosking told Dr Philip that:

a) his body was very sore and the combination of Panadol and Nurofen was not helping his pain;

b) his diarrhoea had subsided; and

c) he was eating and drinking sparingly.

Mr Hosking requested a prescription for Endone.

48. Dr Philip expressed concern that Mr Hosking had been discharged from the RHH, as he still appeared ill. Upon examination Dr Philip noted that Mr Hosking was ill looking and sweaty, had a normal blood pressure, and was drinking normally. Dr Philip provided Mr Hosking with the prescription he had requested for Endone and advised him to return to the surgery if he had any concerns.

49. After leaving Huon Doctors Surgery between 9.30am and 10.00am, Mr and Mrs Hosking went straight to Huonville Pharmacy (next door) and had the prescription filled. Mr Hosking took one of the Endone immediately.

50. Mr and Mrs Hosking then returned home (around 10.00am) and Mr Hosking lay on the couch. Mrs Hosking described her husband as being generally restless and in some pain. He was however able to tolerate fluid.

51. Meanwhile, the results of the culture growth from the testing of Mr Hosking's urine sample undertaken the previous day became available at about 10.50am. Dr Louise Cooley, the Director of the RHH Department of Microbiology and Infectious Diseases (and no relation to Dr Helen Cooley mentioned earlier), said those results were available on the RHH computer system at 10.52am. The results revealed the presence of Staphylococcus Aureus (often known as 'golden staph'). The results were available on the RHH computer for consideration by any practitioner involved with Mr Hosking's case. However no one saw those results until Dr Mykkanen looked at them at the start of her shift 2 ½ hours later.

52. Between approximately 11.30am and 12.00 noon Mr Hosking took another Endone. He complained of still feeling unwell. Over lunchtime/noon Mr Hosking continued to complain of pain and a feeling of his legs being "heavy". He continued to lie on the couch at home and was very restless. Mr Hosking's hands and feet were cold and a

pale purple colour, he appeared groggy, was slurring his words and was unable to walk without assistance.

53. At or about 1.30pm Dr Mykkanen started her shift and checked the test results for patients available on the RHH computer. One of those was the culture test for Mr Hosking. She saw that the test results were positive for the Staphylococcus Aureus organism. Dr Mykkanen immediately rang Mr Hosking and there was a discussion involving both Mr and Mrs Hosking. What was said was in dispute and I will return to the discussion in due course. Mrs Hosking said in her coroner's affidavit tendered at the inquest, that the phone call was from Dr Cooley but other evidence satisfies me that in fact it was Dr Mykkanen who advised that she would contact Huon Doctors Surgery to arrange a prescription for antibiotics. Mrs Hosking was in the room when her husband spoke to Dr Mykkanen and could hear what her husband said, and some of what was said by Dr Mykkanen. After Dr Mykkanen finished speaking to Mr Hosking he passed the telephone to Mrs Hosking who then spoke to the doctor.

54. As soon as this call ended, Dr Mykkanen attempted to contact Dr Philip, by telephone, at around 1.40pm. Dr Philip was unavailable and she left a message for him to call her back.

55. At around 2.30pm Mrs Hosking left her husband on the couch at home and went to Dr Philip's surgery to pick up the prescription for the antibiotics to treat the Staphylococcus Aureus. When she left Mr Hosking was complaining of feeling cold.

56. Mrs Hosking bought some items from Woolworths and picked up her 7-year-old son, Brady, from school. She then made her way to Huon Doctors Surgery at around 3.00pm. Upon her arrival she found no prescription was available for collection. Mrs Hosking spoke to Dr Philip. She was present in the room when Dr Philip spoke to Dr Mykkanen by telephone. Again, although in her statement Mrs Hosking refers to Dr Cooley as the doctor at the RHH with whom Dr Philip had that conversation, I am satisfied as a result of other evidence that the conversation was with Dr Mykkanen.

57. Meanwhile at about the same time, 17-year-old Jordan who was at home with his father and 14-year-old sister, Tayla, arranged a futon on the lounge room floor for his father to lie on. Whilst this was being arranged Jordan noted his father was very unwell, cold and slurring his words.

58. At around 3.25pm Dr Philip spoke to Mr Mykkanen. Dr Mykkanen advised Dr Philip that tests had revealed Mr Hosking had a kidney infection and as a matter of some urgency he needed antibiotics. During the conversation Dr Philip expressed concern, not at all unreasonably in my view, in strong terms, that Mr Hosking had been discharged from the RHH. Mrs Hosking was present during this conversation and could hear what was said by Dr Philip, but not Dr Mykkanen.

59. Dr Philip provided Mrs Hosking with a prescription, which Mrs Hosking took to the chemist next door. Mrs Hosking was advised it would take around ten minutes to fill. Before she could collect the prescription Mrs Hosking received a phone call from Tayla. Tayla told her mother that she and her brother had called an ambulance for their father as he did not appear to be breathing. Mrs Hosking went straight home.

60. As she arrived home, the ambulance officer, Mr Watson, who had been involved in transporting Mr Hosking to the RHH, also arrived. Both went inside and saw Jordan performing CPR on his father. Sadly, it was immediately apparent to Mr Watson that Mr Hosking was deceased and no further efforts were made to resuscitate him.

61. After formal identification at the family home, and having been photographed by a police forensic officer as part of the coronial investigation, Mr Hosking's body was transported by mortuary ambulance to the RHH.

Forensic Pathology Evidence

62. The next day at the RHH, the State Forensic Pathologist, Dr Christopher Lawrence, performed an autopsy on Mr Hosking's body. Dr Lawrence provided a detailed autopsy report and gave evidence at the inquest. After autopsy Dr Lawrence reached the conclusion that the cause of Mr Hosking's death was Staphylococcus Aureus sepsis and endocarditis. I accept his opinion.

63. Toxicological analysis of samples taken at autopsy was subsequently carried out at the laboratory of the Forensic Science Service Tasmania. Therapeutic levels of oxycodone, paracetamol and ibuprofen were located as having been present in Mr Hosking's body. So too was cannabis, at least in the form of the inactive cannabis metabolite THC-COOH, which the evidence was is an indicator of cannabis use but gives no indication of how recently that may have occurred or the amount thereof. In any event I am satisfied on the evidence that Mr Hosking's cannabis use had nothing to do with his death.

The Issues

64. A number of issues were identified, in advance of the inquest, as of particular importance in the investigation of Mr Hosking's death. Those issues have been set out earlier in this finding. It is convenient to consider the evidence in the context of each issue.

The initial (and continuing) diagnosis of gastroenteritis

65. Mr Hosking's initial presenting symptoms of vomiting, diarrhoea, paleness, abdominal cramps and high temperature, were all suggestive of gastroenteritis. All of the medical experts who gave evidence agreed this was so. It follows that it was appropriate for Mr Hosking to be treated initially for gastroenteritis (that is by observation and simple IV fluid) whilst testing was undertaken.

66. I am satisfied that the full blood test results taken at or about 11.15am on 10 November 2014 (the results of which were known at or around 11.23am), and other subsequent test results, should have alerted Mr Hosking's treating medical practitioners to the fact that his condition may well have been something more than gastroenteritis, and in particular a bacterial infection (other than gastroenteritis).

67. All of the doctors who gave evidence at the inquest agreed that a number of factors, identified as a result of testing, should have given, and did in fact give, cause for concern. In particular Dr Bell, Dr Cross and Dr Mykkanen all identified that a number of factors including low blood albumin, extremely high C reactive protein, and high creatinine, were all indicators of bacterial infection. In addition, Dr Bell and Dr Cross both expressed the opinion that low lymphocytes was also an indicator of bacterial infection. Finally, Dr Bell identified low platelets as being potentially a sign of disseminated intravascular coagulation related to sepsis and said that urea being high indicated a loss of kidney function.

68. The evidence satisfies me that as at 10 November 2014 gastroenteritis remained the main likely diagnosis. However, there were significant results to suggest that an acute bacterial infection of the urinary tract may be at play and needed to be further and fully investigated.

69. Clearly, any bacterial infection needed to be treated seriously, given that it could, as Dr Bell and Dr Cross both said, and Dr Mykkanen also clearly recognised, proceed to a

number of significant illnesses including pneumonia, sepsis, meningitis and endocarditis.

70. I am not satisfied that Mr Hosking was misdiagnosed during the afternoon of 10 November 2014. The differing views of Dr Cross and Dr Bell (which it is not necessary to attempt to reconcile in the circumstances), both highly experienced practitioners in the field, illustrate well the difficulty with a diagnosis in the circumstances. It may well have been that Mr Hosking was in fact suffering from gastroenteritis, although of course it is now quite apparent that he was not. It is important in any coronial inquiry to recognise that the death is being viewed with the benefit of hindsight, something that those involved in Mr Hosking's care did not of course possess.

71. But, given the test results available in respect of Mr Hosking by 11.23am on 10 November, it was not appropriate for Mr Hosking to be treated just for gastroenteritis. At the very least he needed, as Dr Mykkanen recognised, to be admitted, treated with simple IV, monitored and further tested.

The failure to treat Mr Hosking by way of intravenous antibiotics at the RHH, even if sepsis (or other infection) was only a differential diagnosis

72. The working diagnosis was of a viral gastroenteritis. I have already expressed the view that this diagnosis was, in the all of the circumstances, reasonable. That diagnosis having been made meant that there was no indication for antibiotics. In fact, the evidence was that the premature use of antibiotics may be counterproductive in some circumstances.

73. The evidence satisfies me that the proper course was, as Dr Mykkanen decided, to admit Mr Hosking to the EMU, continue normal IV fluids and keep him there whilst further testing was carried out. Had a bacterial infection been confirmed then Mr Hosking should have been commenced immediately on IV antibiotics. However, given he was discharged such a course was not possible.

The decision to discharge

74. I have already dealt with the decision to discharge earlier in this finding. I am satisfied it was a poor decision.

Were the processes around the testing of Mr Hosking's urine and the communication of the results acceptable?

75. No criticism was made, or is open, in respect of the taking of a sample of Mr Hosking's urine for the purpose of testing; the process for culturing that sample; the checking of the results; the conclusion, namely that Staphylococcus Aureus bacteria was present and confirmed; and the timing of the forwarding of those results to the RHH.

76. Counsel assisting submitted that the process with respect to the testing of the urine sample failed at the point of communication of the results of that testing to those responsible for the treatment of the patient, in this case Mr Hosking.

77. The evidence was that in November 2014 the practice was that urine test results would be forwarded and available quickly on the RHH computer for consideration by any doctor. However, the evidence was that whilst certain positive blood results were telephoned through, no such practice existed for urine results. Whilst it is accepted that it would be impractical to telephone through all positive urine results, given that the overwhelming percentage were minor and not of serious consequence, a positive Staphylococcus Aureus result was potentially very serious. No process was in place for this result to be specifically notified.

78. It is clear that this meant, as was the case with respect to Mr Hosking, that once the result was transmitted, it became a matter of chance as to when it would be considered and/or acted upon. In addition, at the time of Mr Hosking's death, advice to the effect that "Staphylococcus Aureus is an unusual cause of urinary tract infection ...Bacteraemia should be excluded" was not included. This omission, in my view, increased the probability that the significance of a positive result may not be fully appreciated, especially by busy, junior clinicians.

79. That Mr Hosking's positive result was read at all was only due to the fact that Dr Mykkanen was both conscientious and diligent enough to check the test results at the commencement of her shift on 11 November, some 2 ½ hours after they were available to be read. However, she was only able to read the results, and attempt to do something about them, because she was rostered on to work. Had Dr Mykkanen not been rostered on to work that day in all probability they would not have been checked at all.

80. I am satisfied that the process in place at the time of Mr Hosking's death was unacceptable. To the RHH's credit, it is acknowledged that in the aftermath of Mr Hosking's death the practice was reviewed and substantially altered. The evidence was that now, in the event of a positive test result in a urine sample for Staphylococcus Aureus, the clinicians involved are telephoned, rather than relying simply on the information being uploaded to the general hospital computer system, and hoping that someone will look at it and appreciate the significance of the result.

81. However, there is still room for improvement. Both Dr Mykkanen and Dr Bremner were unaware of this change in procedure. It is important that, if there is not a written protocol in place already, that one be developed and promulgated.

RHH response once urine test results known

82. There was no response, at all, by or from the RHH between the time of the urine culture results being transmitted from the laboratory (between 10.50am and 11.00am on 11 November 2014) and when Dr Mykkanen checked the results at or between 1.30pm and 1.40pm.

83. Both Dr Cross and Dr Bell gave evidence, which I accept, that once the test results were seen and the presence of Staphylococcus Aureus noted, then correct protocol would have dictated that Mr Hosking was immediately contacted and advised to return to hospital as a matter of urgency. Dr Bell suggested that an ambulance should have been arranged, immediately, to collect and return Mr Hosking to hospital. This was not done. In fact nothing was done until Dr Mykkanen saw the results and telephoned Mr Hosking at around 1.40pm on 11 November 2014.

84. Dr Mykkanen said that in the telephone call she advised Mr Hosking of his blood results and requested that he immediately return to hospital. She said that Mr Hosking declined to return to hospital and told her he was feeling much better. Dr Mykkanen said in evidence that in light of Mr Hosking declining to return to hospital she advised him to go to his GP to obtain a prescription for oral antibiotics.

85. This conversation has already been touched upon earlier in these reasons. The evidence was that after speaking to Mr Hosking the telephone was passed to Mrs Hosking, who then spoke to Dr Mykkanen. Mrs Hosking confirmed that before speaking to Dr Mykkanen she heard the doctor tell Mr Hosking that his "test results were in and that he had a kidney infection and that he would need antibiotics for the

infection". She heard Dr Mykkanen ask Mr Hosking if he was "okay". But she did not hear any mention of her husband returning to hospital. Dr Mykkanen did not, in her conversation with Mrs Hosking, say anything about Mr Hosking returning to hospital.

86. I am not satisfied that in fact Dr Mykkanen did advise Mr Hosking to return to hospital. There are several reasons for reaching this conclusion. First, in an email sent on 11 November 2014 by Dr Mykkanen to Dr Huckerby shortly after she was advised of Mr Hosking's death, she said:

> *"I contacted the patient by telephone. He stated that he was feeling ok, but had slept poorly. I explained that we had grown bacteria in his urine, which would require urgent commencement of PO Augmentin DF at the very least. Also that any deterioration in condition would require him to return to RHH for IV antibiotics. We arranged that I would contact his GP, and request that a prescription be generated for him to pick up this afternoon."*

87. The email makes no mention, at all, of advising Mr Hosking to return to hospital. Even allowing for the fact that she was, as she said, understandably upset at the time of composing the email, it is, as counsel assisting submits, inconceivable that an (almost) contemporaneous file note, made with the knowledge that it was to document the events that had occurred within the last 3 hours, would make no mention of a request for Mr Hosking to return immediately to hospital. In fact the email states to the contrary, indicating as it does that the advice given was that a return to hospital would be necessary if his condition deteriorated.

88. Second, Mrs Hosking gave evidence that she did not hear Dr Mykkanen advise Mr Hosking that he should return to hospital (and I am satisfied she was in a position to have heard). I have already said that I found her to be an impressive and likely accurate witness.

89. Third, when Dr Mykkanen spoke directly to Mrs Hosking her own evidence was that she made no mention of Mr Hosking returning to hospital. Dr Mykkanen said that she did not discuss the matter with Mrs Hosking as Mr Hosking had already made his position clear. The explanation lacks plausibility in my view. I consider it is inherently unlikely that Dr Mykkanen would not have told Mrs Hosking that she wanted Mr Hosking to return to hospital as soon as possible and seek her assistance to persuade him to return.

90. Finally, Dr Philip's evidence was that when he spoke to Dr Mykkanen at around 3.30pm that day she made no mention of Mr Hosking being requested to return to hospital. It is to my mind highly unlikely that Dr Mykkanen would not advise the general practitioner of Mr Hosking of her advice provided earlier.

91. I am satisfied that Dr Mykkanen did not advise Mr Hosking to return to hospital immediately. I am satisfied that she advised him that he should take oral antibiotics and for those to be obtained through his general practitioner.

92. However, while there is no doubt that Mr Hosking would have had a better chance of survival if he had returned to the RHH at or about 11.00am on 11 November 2014, and a better chance still had he not been discharged the evening before, by 1.30pm Mr Hosking was very sick indeed. It is impossible to reach any concluded view, on the evidence, whether the outcome for Mr Hosking would have been any different if he had returned to the RHH immediately after he was spoken to by Dr Mykkanen.

93. In summary though, I am satisfied that the response of the RHH once the urine test results were known was, in all the circumstances, unacceptable. Mr Hosking should have been requested to return immediately to the RHH, or an ambulance dispatched to collect him. Had either occurred he may not have died.

Dr Philip's management of Mr Hosking

94. The evidence satisfies me that, as his counsel submitted, Dr Philip performed his duty to Mr Hosking comprehensively and admirably. His decision to call an ambulance on 10 November and have Mr Hosking immediately admitted to hospital was a good one.

95. His management of Mr Hosking in the morning of 11 November was in the circumstances (which included the fact that he had not been provided with a discharge summary, or indeed any information, at all, from the RHH) appropriate. He was entitled to rely upon the fact that having been sent to hospital a proper decision to discharge Mr Hosking had been made.

96. The fact that Mr Hosking was not provided with his discharge summary was extremely regrettable. The apparent rationale for this decision was explained by Dr Huckerby, the Director of the RHH Emergency Department. She said:

> *"Okay, when Mr Hosking was discharged from the hospital, he wasn't provided with any documentation or any sort of referral letter or advice in writing – is that normal*

practice? …… The hospital discourages us from providing the patient with a hard copy of their discharge summary.

So why is that? …… It is because a patient had their copy of their discharge summary and they went to the toilets in the Argyle Street car park and they left their discharge summary there and other people found it and his privacy was breached so the hospital policy says that it is supposed to be sent electronically by email."

97. Counsel assisting submitted that this explanation is irrational. I agree. The fact that one patient had at some unspecified and unidentified occasion in the past breached her or his own privacy is no reason, at all, to fail to provide discharge summaries to any other patients. The RHH needs to urgently review this practice.

98. Finally, I am satisfied that when he was contacted by Dr Mykkanen in the early afternoon of 11 November 2014, Dr Philip responded appropriately, at a time when, unfortunately it was too late to do anything for Mr Hosking.

Systems issues at the RHH 10/11 November 2014

99. There was no evidence that a lack of beds in either ED or EMU was a factor which caused Mr Hosking's discharge or even contributed to the decision. Both units were busy, but the evidence was, not abnormally so. There was a bed for Mr Hosking in EMU.

100. Counsel assisting submitted that a matter of general concern was (and is) the apparent lack of oversight of relatively junior doctors such as Dr Mykkanen and Dr Bremner. There is no question that either doctor was anything other than appropriately conscientious. Dr Mykkanen was at the time at a level nationally recognised as a junior registrar (or as Dr Huckerby said a Basic Trainee in Emergency Medicine). Dr Huckerby said a doctor at this level would not be designated as a Senior Registrar in a Team Leader role and would not be expected to supervise more junior doctors. The evidence was that Dr Bremner, who was less experienced than Dr Mykkanen, was doing precisely this.

101. Dr Cross was asked about the issue (and Dr Huckerby's comments) and expressed surprise and concern that doctors so junior would be asked to perform such roles.

102. It was clear enough that staff shortage was a basic factor in such junior doctors performing such functions. It is instructive to set out a passage from Dr Huckerby's evidence about this issue:

> "*The main question that remains is whether if Mr Hosking had been reviewed by a Senior Clinician during his time in ED – or before he was allowed to leave EMU – would that have led to a decision being made to encourage him more forcefully to remain in hospital?*
>
> *It is increasingly the practice in Australian EDs that there is an expectation that all patients attending an ED are reviewed at some time during their stay by a specialist or senior registrar. It is recognised that experience is required to be able to differentiate the patient with a serious pathology presenting with what is a common picture for a less serious illness.*
>
> *Unfortunately, this requires sufficient medical staffing numbers to allow these senior doctors to undertake a predominantly supervisory role – reviewing 40 to 50 patients each shift. The staffing numbers at the RHH ED do not allow for this to occur as each staff specialist needs to have their own high patient load. As a consequence, whilst many patients leaving the ED may have been discussed with a Specialist, most will not have been reviewed in person.*
>
> *Submissions have been made through the RHH Executive, THS and Governing Council to achieve staffing levels which would enable the ED at the RHH to adopt this model of care."*

103. It would seem common sense that junior practitioners such as Dr Mykkanen and Dr Bremner should have available for consultation a specialist or senior registrar. In this case it would have allowed Dr Bremner to discuss the matter fully prior to Mr Hosking's discharge. Serious consideration needs to be given to increasing staffing numbers to enable specialists or senior registrars to exercise a supervisory role. At present it appears that one senior practitioner such as Dr Cooley and Dr Rose are supervising the entirety of the ED and EMU. The evidence is that such a situation is not acceptable and falls well short of national standards.

Formal Findings

104. The evidence satisfies me it is appropriate to make the formal findings set out below pursuant to section 28 of the *Coroners Act* 1995.

a) The identity of the deceased is Jason Mathew Henry Hosking;

b) Mr Hosking died in the circumstances set out in this finding;

c) Mr Hosking died as a result of Staphylococcus Aureus sepsis and endocarditis; and

d) Mr Hosking died on 11 November 2014 at 2263 Huon Highway, Grove in Tasmania.

Recommendations

105. As indicated at the beginning of this finding, part of the role of the coroner is, in appropriate circumstances, to make recommendations, if justified and appropriate, with "respect to ways of preventing further deaths or on any other matter that the coroner considers appropriate" (see section 28 (2) of the Act). The rationale for this requirement is for the community, as a whole, to attempt to learn lessons from tragedies such as the death of Mr Hosking. I am satisfied that the following recommendations should be made.

(a) I **recommend** that the RHH and the RHH laboratory ensure that written protocols are in place for the immediate communication of positive Staphylococcus Aureus urine culture results once known from the laboratory to the treating physician at the RHH and, in the event that the patient has been discharged, to the patient's general practitioner.

(b) I **recommend** that the RHH ensures that it has a system in place whereby discharge summaries are forwarded immediately to the patient's general practitioner. In the event this is not available, then the patient should be provided with a hard copy upon discharge.

(c) I **recommend** that consideration be given to increasing staffing levels in the RHH ED and EMU, so that an additional experienced physician is available to undertake a largely supervisory role for both units and to review and approve each discharge.

Conclusion

106. In concluding I wish to express my thanks to the assistance of all counsel who appeared at the inquest. I particularly thank Mr A Gaggin for the high level of assistance he afforded the inquest.

107. I wish to extend my condolences to the family of Mr Hosking on their loss.

Dated: 22 September 2017 at Hobart in Tasmania.

Simon Cooper
Coroner