MAGISTRATES COURT *of* TASMANIA

CORONIAL DIVISION

Record of Investigation into Death (Without Inquest)

Coroners Act 1995
Coroners Rules 2006
Rule 11

I, Olivia McTaggart, Coroner, having investigated the death of James Fredrick Hill

Find, pursuant to Section 28(1) of the *Coroners Act* 1995, that

a) The identity of the deceased is James Fredrick Hill, date of birth 5 November 1947.

b) Mr Hill died in the circumstances set out in this finding.

c) Mr Hill died of small intestinal ischemia caused by aortic atherosclerosis.

d) Mr Hill died on 16 December 2021 at the Royal Hobart Hospital, Tasmania.

In making the above findings, I have had regard to the evidence gained in the investigation into Mr Hill's death. The evidence includes:

- The Police Report of Death;
- Tasmanian Health Service Death Report to Coroner;
- Affidavits verifying identity and life extinct;
- Opinion of the forensic pathologist who performed the autopsy;
- Tasmanian Health Service medical records;
- Calvary Hospital medical records and investigation report; and
- Review of Mr Hill's medical care by Dr Anthony Bell, coronial medical consultant.

Background

Mr Hill was 74 years of age, lived in Oatlands and was a retired farmer. Mr Hill is survived by his wife of 51 years, Sally Hill, and his son, Todd Hill. Mr Hill had a variety of health issues including chronic obstructive pulmonary disease, severe reflux, Type 2 diabetes, high blood pressure and paroxysmal ventricular tachycardia. Mr Hill had also previously undergone a hemicolectomy (bowel resection) and hemithyroidectomy (partial removal of the thyroid gland). He had smoked cigarettes for 30 years.

Circumstances surrounding death

At 6.30pm on Monday 13 December 2021, Mr Hill fell and landed on his hip when he was getting out of the bath at home. He managed to get himself to bed and stayed there until the next morning.

At 6.40am on Tuesday 14 December 2021, Mr Hill experienced abdominal pain and had trouble getting out of bed. Therefore, an ambulance was called and he was transported to Calvary Lenah Valley Hospital ("Calvary") Emergency Department ("ED").

Below, I set out a chronology of Mr Hill's treatment at Calvary as it pertains to the issues in this investigation.[1] In setting out the sequence I have had regard to the detailed chronology contained in Calvary's Serious Clinical Incident Investigation document, the report of the Coronial Medical Consultant and the analysis of the records by the Coronial Nurse.

At 9.30am Mr Hill was admitted to the Calvary ED. Whilst in ED, Mr Hill's hip was x-rayed but no fractures were identified. No blood tests were conducted.

At 1.30pm, Mr Hill was transferred to the orthopaedics ward because he had fallen on his hip and was experiencing pain from that region. His blood pressure was measured as low at that time.[2] However, the Emergency Medical Officer ("EMO") had written an order that (without recording reasons) that Mr Hill's blood pressure would be tolerated if the systolic reading was higher than 90.

At 4.20pm Mr Hill underwent a physiotherapy review and was assessed as having a soft tissue injury but no fractures. It was noted that his pain limited his mobility.

In the Calvary records, there is no notation of a medical review or any documentation by the admitting doctor or any other medical staff members upon his admission to the orthopaedics ward.

At 2.30am the following morning, being Wednesday 15 December 2021, Mr Hill's observations were taken and showed a very low blood pressure, drop in oxygen saturations, increase in resting heart rate and increase in temperature. These observations were within the criteria for a Medical Emergency Team ("MET") call, although this did not occur at that time. However, the EMO was called to review Mr Hill and it appears that the EMO then continued to monitor him. Blood tests were conducted, and intravenous fluids administered.

[1] This chronology does not set out the full extent of Mr Hill's treatment and care.
[2] 88/53 and then increasing to 95/52.

At 3.58am the blood test results revealed white cell count and neutrophils were high and C-reactive protein was very high. There was poor renal function and acute kidney injury. The EMO's documentation noted the need to consider a possible septic left prosthetic hip. Therefore, urine and blood culture samples were collected.

In actual fact, the results indicated infection consistent with multiple organ dysfunction. However, sepsis was not diagnosed.

At 5.19am the nursing note indicated that Mr Hill's heart rate remained elevated and blood pressure remained low. It was noted that the plan was for the Visiting Medical Officer, Dr Scott Mackie (orthopaedic surgeon), to review Mr Hill.

Throughout the day, Mr Hill experienced ongoing vomiting, loose bowel movements and abdominal pain. The only medical response to these symptoms was the ongoing administration of an intravenous drip and oxygen. The condition of ischaemic bowel was not considered or diagnosed.

That afternoon, at 3.35pm, Mr Hill's blood pressure dropped to a systolic reading of 86 and he was hypothermic.[3] A staff member activated the emergency button to instigate a MET call. The House Medical Officer ("HMO") attended to review Mr Hill and said not to call a MET. Fluids were administered and Mr Hill was continuously monitored.

At 4.08pm, Mr Hill vomited again, and an antiemetic was given which helped with his symptoms. Again, the HMO attended but there was no MET call, as there should have been. Mr Hill denied abdominal pain and, after discussing the plan with Dr Mackie, the aim was to keep saturations above 94%, continue IV fluids and repeat blood tests the following day.

Dr Mackie's note stated that the blood results indicated possible sepsis. He noted the need to consider antibiotics or inotropic support if septic shock was observed. Mr Hill continued to have small dark brown vomits, loose bowel movements and mild abdominal pain. Dr Mackie spoke to his colleague, Dr Reza Davari, physician, who would review Mr Hill in the morning. Repeat bloods were ordered. It appears that Mr Hill may have been commenced upon antibiotics at this time.

At 9.00pm, Mr Hill was noted to have severe abdominal pain and distension. He was also sweating and had reduced saturations. Dr Mackie was contacted but formed the view that the Mr Hill's issues were not orthopaedic in nature and that he needed immediate review and advised a MET call. A hand over to the MET call team occurred but, due to poor staffing and heavy patient load, no other nurses were able to help with the MET call. At this time,

[3] Blood pressure 86/55, saturations 87 to 89% on 2 L of oxygen and resting heart rate 90 bpm.

Mr Hill was de-saturating, tachycardic and hypotensive. Intensive Care Unit staff also attended at this time, and it was determined that Mr Hill's treatment should be taken over by the Critical Care Unit ("CCU"). A CT scan of the abdomen and repeat bloods were ordered.

At 12.30am on 16 December 2021 the CT scan revealed a long segment of ischaemic (dead) small intestine. Mr Hill was transferred to the Royal Hobart Hospital ("RHH") as he required urgent surgery. He arrived at the RHH at 2.00am in septic shock with multiple organ dysfunction.

A laparotomy was performed which revealed that the entire small intestine was dead, and Mr Hill could not survive. The surgery was ceased upon discovery of the infarcted intestine and Mr Hill was transitioned to palliative care. Mr Hill passed away shortly thereafter, at 5.43am that morning,

At autopsy, the forensic pathologist Dr Christopher Lawrence, observed that Mr Hill had severe atherosclerosis in the abdominal aorta as well as rheumatic heart disease, ventricular tachycardia and coronary artery atherosclerosis. Dr Lawrence concluded that the cause of Mr Hill's death was atherosclerosis reducing blood flow and causing infarction (death) of the small intestine. I accept his opinion regarding cause of death.

Comments and recommendations

The question in this investigation was whether the medical staff at Calvary Hospital should have recognised, diagnosed and treated Mr Hill's ischaemic bowel and septic shock at an earlier time, so that there was a greater chance of preventing his multi-organ failure and death.

Calvary Hospital conducted a Serious Clinical Incident Investigation in relation to Mr Hill's medical care and treatment leading to his death. The report was available for the coronial investigation. The investigating team concluded that there were numerous deficits in Mr Hill's treatment that contributed to a delayed diagnosis and treatment.

The investigating team noted that baseline bloods should have been taken whilst Mr Hill was in the ED. Additionally, the underlying cause of Mr Hill's hypotension was not investigated, and unexplained modifications were made to the parameters of acceptable blood pressure.

The investigating team concluded that the MET should have been called to Mr Hill as early as 2.30 am on 15 December 2021. Instead of calling the MET, the HMO was contacted. The team found that the reason the MET call was not made earlier was due to the culture within the unit that had normalised calling the HMO over the MET. Additionally, a new staff member had not completed the orientation checklist and was unfamiliar with the MET process. The team

also concluded that were further identified points where Mr Hill should have been seen by the MET.[4] In any event, the investigating team concluded that Mr Hill should not have remained on the ward, but taken to the intensive care unit, at about 3.30pm on 15 December 2021 due to his instability and need for continued frequent observations.

Despite the deficits, the Serious Clinical Incident Investigation team concluded that earlier detection of Mr Hill's infarcted bowel may not have resulted in a different and better outcome for him.

In this investigation, I also requested a review of Mr Hill's medical treatment by the Coronial Medical Consultant, Dr Anthony Bell.[5] Dr Bell was also of the view that Calvary's medical care was not of an appropriate standard because it took significantly too long for Mr Hill's ischaemic bowel and sepsis to be diagnosed and treated.

Dr Bell commented in his report that Mr Hill became hypotensive as soon after arrival at Calvary. He stated that the medical record showed several significant dips in his blood pressure with inaction until medical review at 3.46am on 15 December 2021.[6] Dr Bell said that at that point the clinical signs were suggestive of shock. Further, the blood tests showed an elevated white blood cell count, a C-reactive protein consistent with bacterial infection, acute kidney injury and liver dysfunction consistent with multiple organ failure.

In his report, Dr Bell stated:

> "Shock is a life-threatening condition of circulatory failure that most commonly presents with hypotension. It can also be heralded by other vital sign changes or the presence of elevated serum lactate levels. The effects of shock are initially reversible but can rapidly become irreversible, resulting in multi-organ failure ("MOF") and death. Thus, when a patient presents with undifferentiated hypotension and/or is suspected of having shock, it is important that the clinician rapidly identify the aetiology so that appropriate therapy can be administered to prevent MOF and death."

Dr Bell stated that the blood tests results from the early hours of 15 December 2021 should have been correctly interpreted as they are commonly performed tests. He was of the opinion that the correct response was immediate transfer to the intensive care unit and review by an intensive care physician. He went on to say that it was not until 9.00pm that day that Mr Hill received appropriate intensive care treatment where his condition was recognised. However, by that time he was critically ill and his death could not have been prevented.

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[4] The points for MET intervention are apparent from the treatment chronology set out earlier in the finding.
[5] MD FRACP FCICM.
[6] This review is referred to in the treatment chronology is occurring at 2.30am onwards.

Dr Bell, like the Calvary investigating team, formed the view that a correct initial diagnosis would have given Mr Hill a greater chance of survival. If this had occurred, he may have undergone timely surgery before his entire small bowel had become infarcted and he had proceeded into septic shock and multi-organ failure.

Dr Bell, in his report, particularly noted the need for staff education regarding sepsis and around the calling and functions of a MET.

I accept the analysis of this case undertaken by the Serious Clinical Incident Investigation team and Dr Bell. I find that Mr Hill lost a significant chance of survival because of a delay of almost 18 hours in diagnosing this condition and initiating urgent treatment.

The Calvary investigating team made comprehensive recommendations for improved processes, education and training.

The recommendations focused upon recognition and treatment of sepsis, MET calls, modifications to observation parameters, staff escalation of concerns about a patient's condition, and admission processes (documentation and assessment, and investigation into the underlying cause of falls).

I am satisfied that the recommendations are responsive to the issues in this case and have been implemented by Calvary. That being the case, I do not consider that I am required to make any recommendations pursuant to section 28 of the *Coroners Act* 1995.

I convey my sincere condolences to the family and loved ones of Mr Hill.

Dated: 10 October 2024 at Hobart in the State of Tasmania.

Olivia McTaggart
Coroner