IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

COR 2017 005661

FINDING INTO DEATH WITHOUT INQUEST

Form 38 Rule 63(2)

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

Findings of:	AUDREY JAMIESON, Coroner
Deceased:	Christine Ann Stephen
Date of birth:	19 February 1950
Date of death:	8 November 2017
Cause of death:	1(a) Intra-abdominal sepsis complicating an anastomotic leak following elective surgery to repair a vesico-colic fistula
Place of death:	Holmesglen Private Hospital, 490 South Road, Moorabbin, Victoria 3189
Keywords:	Colorectal surgery, ntensive care and management, post-operative care, deteriorating patient

INTRODUCTION

1. On 8 November 2017, Christine Ann Stephen was 67 years of age when she died at Holmesglen Private Hospital following an anastomotic leak of an elective surgery site that she had undergone at the Bays Hospital a week earlier. At the time of her death, she lived with her husband, Brenton Stephen, in Patterson Lakes.

2. Mr Stephen describes his wife as an active person who enjoyed golfing, water skiing and fishing.

3. Mrs Stephen's medical history included cervical cancer, chronic back and neck pain. She was recently diagnosed with a vesico-colic fistula[1].[2] It appears the development of the fistula was due a hysterectomy that she underwent at the age of 28.[3]

THE CORONIAL INVESTIGATION

Jurisdiction

4. Mrs Stephen's death was reported to the Coroner as it fell within the definition of a reportable death in the *Coroners Act 2008* ('the Act'). Reportable deaths include deaths that are unexpected, unnatural or violent or result from accident or injury.

5. Mrs Stephen's death also meets the reportability criteria because it occurred following a medical procedure where the death is or may be causally related to the medical procedure, which a registered medical practitioner would not, immediately before the procedure was undertaken, have reasonably expected the death.[4]

6. The role of a Coroner is to independently investigate reportable deaths to establish, if possible, identity, medical cause of death, and surrounding circumstances. Surrounding circumstances are limited to events which are sufficiently proximate and causally related to the death. The purpose of a coronial investigation is to establish the facts, not to cast blame or determine criminal or civil liability.

---

[1] A colo-vaginal fistula is an abnormal communication between the large bowel and the vagina, resulting in the passage of bowel contents into the vagina. These fistulae arise in diverticular disease and occur due to localised infection and inflammation, causing adhesions and rupture of diverticulae between the colon and other abdominal or pelvic structures.

[2] Coronial Brief of Evidence (**CB**), Statement of Mr Eric Torey.

[3] Ibid.

[4] Section 4(2)(b)(ii) of the *Coroners Act 2008* (Vic) ("the Act").

7. Under the Act, Coroners also have the important functions of helping to prevent deaths and promoting public health and safety and the administration of justice through the making of comments or recommendations in appropriate cases about any matter connected to the death under investigation.

Conduct of my investigation

8. Mr Stephen, while being attended by coronial admissions and enquiries (**CAE**) staff, raised concerns about the post-operative care and management provided to his wife. Specific concern raised was whether there was a lack of initiative in the early stages of Mrs Stephen's deterioration. Consequentially, I referred Mrs Stephen's matter to the Health and Medical Investigation Team[5] (**HMIT**) within the Coroners Prevention Unit[6] (**CPU**) for a preliminary clinical review. The HMIT advised that Mr Stephen's concerns warranted a more extensive review.

9. Having regard to this preliminary advice, I determined Mrs Stephen's death required further investigation.[7] I then commissioned a further aspect of expert review to assist me in determining the adequacy and appropriateness of post-operative care and management Mrs Stephen received at the Bays Hospital (between 1 and 6 November 2017) and Holmesglen Private Hospital (from 7 November 2017 until her death).

Sources of evidence

10. This Finding is based on the entirety of the investigation material comprising of the coronial Brief of Evidence by then Police Coronial Support Unit (**PCSU**) member, Leading Senior Constable Tracey Ramsey (LSC Ramsey) including the statements of Mrs Stephen's treating clinicians, material obtained, and submissions provided after the provision of the Brief.

[5] [8] The HMIT is a specialist service that sits within the CPU, comprising of highly skilled and experience healthcare clinicians, independent of the health practitioners or institutions involved in the clinical management and care provided to the deceased. The HMIT provides advice to Coroners and assists them with their investigations.

[6] The CPU assist the Coroner with research in matters related to public health and safety in relation to the formulation of prevention recommendations, as well as assisting in monitoring and evaluating the effectiveness of the recommendations. The CPU is staffed by healthcare professionals, including practising physicians and nurses, who are not associated with the health professionals under consideration and are therefore able to give independent advice to the coroners.

[7] See paragraph 52.

Standard of proof

11. In writing this Finding, I will only refer to that which is directly relevant to my Findings or necessary for narrative clarity. In the coronial jurisdiction, facts must be established on the balance of probabilities.[8]

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

Circumstances in which death occurred

12. In May 2017, Mrs Stephen was admitted to a hospital to manage a pelvic abscess[9] secondary to diverticular disease[10]. Mrs Stephen later complained about flatulence and passing of faeces from her vagina, although this abscess previously settled without needing immediate surgery.

13. On 2 October 2017, Mrs Stephen was referred to colorectal surgeon Mr Eric Torey, by her general practitioner (**GP**), Dr Wickramasinghe Maithri. The reason for the referral was that Dr Maithri observed evidence of diverticular disease in the sigmoid colon, which suggested a possible diagnosis of colo-vaginal fistula[11].

14. Having also considered Mrs Stephen's previous post-operative hypotension and her ongoing smoking, Mr Torey referred her to a perioperative physician Dr Sam Kaldas for a pre-operative assessment.[12] The assessment included an electrocardiogram (**ECG**), cardiac scans, blood tests and a limited colonoscopy examination[13].

---

[8] Subject to the principles enunciated in *Briginshaw v Briginshaw* (1938) 60 CLR 336. The effect of this and similar authorities is that Coroners should not make adverse findings against, or comments about, individuals unless the evidence provides a comfortable level of satisfaction as to those matters taking into account the consequences of such findings or comments.

[9] A pelvic abscess is a life-threatening collection of infected fluid in the pouch of Douglas, fallopian tube, ovary, or parametric tissue. Usually, a pelvic abscess occurs as a complication after operative procedures. It starts as pelvic cellulitis or hematoma and spreads to parametrial tissue. It can also present as a result of the complexity of certain medical conditions like sexually transmitted infection, pelvic inflammatory disease, appendicitis, diverticulitis and inflammatory bowel disease.

[10] Diverticular disease is the presence of small outpouchings of the large bowel, known as diverticula. These may be asymptomatic but are prone to the development of infection and inflammation (diverticulitis). The bowel may perforate, leading to localised peritonitis and abscess formation. Inflammation and scar tissue may lead to adhesion to other abdominal or pelvis structures or fistulae – abnormal communications between different tissues or organs.

[11] The S-shaped section of the colon that connects to the rectum.

[12] CB, Statement of Mr Eric Torey, page 6.

[13] An investigation to determine malignancy.

First surgery – 1 November 2017

15. On 1 November 2017, Mrs Stephen was admitted to the Bays Hospital in preparation for undergoing surgery to repair the fistula.

16. At surgery, Mr Torey carried out a laparoscopically assisted sigmoid colectomy and repair of the colo-vaginal fistula and avoided the potential at-risk area left ureter. As part of the surgery, a primary hand sewn colo-rectal anastomosis was performed with a drain tube placed into the pelvis near the anastomosis. The fistula tract was excised, and the defect was covered using an omental pedicle to minimise the fistula's recurrence. The sigmoid colon to the left of the pelvic wall and vaginal vault was anticipated and dealt with accordingly. No intraoperative course was noted.

17. Following her surgery, Mrs Stephen's condition improved such that she was discharged back to the surgical ward from the High Dependency Unit on the same day. Her post-surgery condition was stable until she was noted to develop an anastomotic leak on 5 November 2017.

18. On 5 November 2017, Mrs Stephen became nauseous but was not febrile or tachycardic. She later presented with some increased abdominal distension and tenderness. A computed tomography (**CT**) scan was subsequently ordered. CT imaging did not show evidence of a collection within the area but revealed a small amount of intra-abdominal gas. The reporting radiologist considered it *"may simply be a reflection of recent surgical intervention"* and was *"not necessar[ily] indicative of perforation"*.

Second surgery – 6 November

19. On the afternoon of 6 November 2017, nursing staff noticed peritoneal irritation as Mrs Stephen was having diarrhea and feeling feverish.[14] Mr Torey decided to return Mrs Stephen to the operating theatre.

20. At surgery, Mr Torey noted a localised area of "faeco-purulent" contamination in the left side of the pelvis but considered the peritoneal cavity not to be overtly contaminated[15]. This was treated with washout and conversion to a Hartmann's procedure[16]. Mr Torey encountered

[14] Symptoms of peritonitis.
[15] As Mr Torey noted there was minimal soiling beyond the left side of the pelvis and no free gas.
[16] Hartmann's procedure involves removing a segment of the distal large bowel (colon). The two ends of the bowel are not re-joined, and a colostomy is fashioned. The distal end is closed as a rectal stump.

some venous bleeding (of approximately 500 millilitres) during the procedure and required the assistance of a vascular surgeon for haemostasis.

21. Mrs Stephen's condition stabilised but remained critical, prompting Mr Torey to transfer her to the nearest hospital with an Intensive Care Unit (**ICU**).

Transfer to Holmesglen Private Hospital

22. On 7 November 2017, at approximately 1.00am, Mrs Stephen arrived at Holmesglen Private Hospital and was swiftly admitted to the ICU. Her care was transferred to consultant surgeon Mr Mikhail Fisher, as Mr Torey did not have visiting rights at the Holmesglen Private Hospital.[17]

23. Mrs Stephen's clinical history in the transfer form suggested that she may have had hypoadrenalism given her post-operative hypotension. The transfer form also noted Mr Torey's observation of a bowel volvulus which was addressed during her second surgery.

24. Upon arrival, Mrs Stephen was sedated and intubated. She also required noradrenaline for blood pressure support. Apart from a low total white cell count, her blood test results ordered at 2.00am, were overall normal. Her arterial blood gases demonstrated adequate oxygenation, a mixed metabolic and respiratory acidosis with a mildly elevated lactate.

25. At 6.00am, Mrs Stephen received noradrenaline at 5mcg/min, propofol at 30mg/hr and morphine at 2mg/hr. Her respiratory rate was 16 and oxygen saturation was 99 per cent. She was subsequently extubated by RN Shepherd at 8.45am, without complication. Her noradrenaline continued at 5mcg/min, and her morphine infusion was reduced to 1mg/hr.

26. At approximately 9.25am, Mrs Stephen was assessed by the on-duty ICU registrar, Dr Matthew Guisti. Dr Guisti documented a borderline urinary output and mild metabolic acidosis. The on-call Consultant Intensivist Dr David Anderson[18] who also attended, noted she "looked well" although she complained of feeling some pain in her abdomen.[19]

27. Mr Fisher also attended her in the morning, but it is unclear from the medical records at which point of time in the morning. Mr Fisher noted she appeared comfortable following her extubation earlier. Her abdomen was noted to be moderately distended, soft and tender,

[17] CB, Statement of Mr Eric Torey, page 8.
[18] Dr Anderson was rostered on-call from 12.00am on 7 November to 12.00am on 8 November 2017.
[19] Court File (**CF**), Statement of Dr David Anderson dated 26 October 2020.

consistent with a post-operative ileus.[20] Mr Fisher also noted her urine output remained low, which he was of the impression was a systemic inflammatory response syndrome[21] (**SIRS**).

28. At approximately 4.00pm, the afternoon ICU ward round was conducted by Dr Anderson and the night shift ICU Registrar, Dr Mehdi Rostami, who was also an ICU Fellow. The doctors noted Mrs Stephen was doing clinically well. Dr Anderson considered her inotropic requirement (noradrenaline) of 6 to 8 mg per minute was not unusual. He also considered the increased lactate[22] from 1.7 at 2.00am to 2.9 at 3.48pm in the context of her overall condition was good. Dr Anderson left the hospital shortly after.[23]

29. At 9:30pm, Dr Rostami reviewed Mrs Stephen and noted significantly worsening acidosis. He documented *"the arterial blood gases with a pH of 7.16, bicarbonate of 14 and a lactate of 4.1"*. While making the entry in the clinical notes, Dr Rostami also noticed a notation indicating the ionotropic plan to increase noradrenaline to 20 micrograms per minute, meaning Mrs Stephen required additional support to increase her blood pressure.

30. Dr Rostami contacted Mr Fisher and informed him of Mrs Stephen's presentation. Mr Fisher advised him that no surgical intervention was warranted at that time, and his clinical impression was that she had worsening SIRS.

31. Dr Rostami also contacted Dr Anderson concerning his discussion with Mr Fisher earlier. Dr Anderson then recommended an infusion of albumin of 250ml and for an ECG to be performed.[24] Her blood was also taken for pathological testings.

32. At 11.30pm, Dr Rostami reviewed Mrs Stephen and documented *"further arterial blood gases with a pH of 7.11, bicarbonate of 13.3 and a lactate of 4.2"*. Having discussed these results with Dr Anderson, Dr Rostami proceeded to commence sodium bicarbonate infusion. Dr

[20] Ileus is the cessation of the normal movement and function of the small bowel. This occurs for various reasons but is an anticipated occurrence after significant abdominal surgery.

[21] Systemic inflammatory response syndrome (**SIRS**) is an exaggerated defence response of the body to a noxious stressor (infection, trauma, surgery, acute inflammation, ischemia or reperfusion, or malignancy, to name a few) to localize and then eliminate the endogenous or exogenous source of the insult. Treatment is directed at supporting the various affected organ systems and addressing the underlying cause, for example infection.

[22] Lactate or lactic acid is a product of tissue metabolism that is produced when tissues do not have enough oxygen. Elevation of lactate may be physiological, such as in exercise. Pathological elevations of lactate occur in shock of any cause or when tissues such as the bowel experience loss of blood supply (ischemia). The normal level is 0.6-1.8 mmol/L. Severe lactic acidosis is considered to be a level of >5.

[23] CF, Statement of Dr David Anderson dated 26 October 2020.

[24] CF, Statement of Dr Mehdi Rostami dated 26 August 2020; Statement of Dr David Anderson dated 26 October 2020.

Anderson considered her rising metabolic acidosis appeared to be originating either from the kidneys and/or lungs and therefore, did not instruct Dr Rostami to commence dialysis.[25]

33. By approximately 1.00am, on 8 November 2017, Mrs Stephen's condition had continued to deteriorate. She required increased dosages of vasoactive medications to maintain her blood pressure. The noradrenaline was increased from 40mcg/min to 70mcg/min within half an hour. Her lactate level increased to 5.4, and her haemoglobin reading was 10.8. Her abdomen was noted to be distended, tense and with mottling of the skin.

34. Dr Rostami immediately contacted the on-call Consultant Intensivist Dr Alexander Richardson, who had just commenced his shift at midnight. Based on the clinical impression of Dr Rostami's as conveyed to him over the telephone, Dr Richardson ordered Dr Rostami to insert a dialysis catheter and to commence her on renal replacement therapy to help correct the metabolic acidosis.

35. Mr Fisher was also contacted to discuss Dr Richardson's advice to return to the theatre for an exploratory laparotomy or undergo further x-ray imaging. Mr Fisher considered Mrs Stephen's deterioration was due to progressing multi-organ failure and worsening metabolic acidosis and advised there was no surgical reversible cause for her deterioration. A CT scan was not arranged as Dr Richardson and Mr Fisher agreed it was unlikely to assist with her diagnosis.[26]

36. At approximately 4.00am, Dr Rostami noted that Mrs Stephen's blood pressure continued to decrease and required a higher dosage of noradrenaline to assist her heart functioning. Her arterial blood gas measurement was at pH7.1 and her lactate level at 6.8. He also noted increasing abdominal distension and a purple discolouration in the skin. He immediately discussed these observations with Dr Richardson.

37. Given the slow progressive effect of dialysis, Dr Richardson's plan was to escalate Mrs Stephen's antibiotic regime[27] and commence the use of hydrocortisone (steroid). She remained extubated at this time as he considered her oxygen and carbon dioxide levels were adequate.

[25] CF, Statement of Dr David Anderson dated 26 October 2020.
[26] CB, Statement of Mr Mikhail Fisher dated 9 June 2018, page 12.
[27] Dr Richardson ceased ceftriaxone and metronidazole and commenced meropenem, vancomycin, clindamycin and fluconazole (anti-fungal medication).

38. Dr Rostami also spoke to Mr Fisher and again discussed whether Mrs Stephen required an exploratory laparotomy. While Mr Fisher was resolute in his opinion there remained no surgical reversible cause, given there were no other treatment options, it was decided that Mrs Stephen be returned to the operating theatre.

39. Mrs Stephen continued to deteriorate requiring intubation and renal support. At approximately 6:30am, while being transferred to the theatre, Intensive Care Specialist Dr Jason McClure found Mrs Stephen to be "in extremis". She was pale and mottled and required a brief episode of resuscitation while being anaesthetised.

40. At operation, Mr Fisher noted faecal soiling and patchy ischaemia of the terminal ileum, consistent with peritonitis. He resected the patchy ischaemia, fashioned another stoma (an ileostomy) and treated the peritoneal soiling with a peritoneal "washout".

41. Mrs Stephen's condition did not improve, and her prognosis remained poor. Following a discussion with her family, it was decided that the ICU team cease all aggressive treatment and care and that she be transitioned to comfort care. Shortly after comfort care was commenced, Mrs Stephen passed away at 4.35pm, on 8 November 2017.

Identity of the deceased

42. On 8 November 2017, Christine Ann Stephen, born 19 February 1950, was visually identified by her husband, Brenton Stephen.

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

Medical cause of death

44. On 9 November 2017, Forensic Pathologist Dr Gregory Ross Young from the Victorian Institute of Forensic Medicine (**VIFM**) conducted an external examination on the body of Christine Ann Stephen. Dr Young also reviewed a post-mortem CT scan and referred to the Victoria Police Report of Death (Form 83) and E-Medical Disposition Form. Dr Young provided a written report of his findings dated 10 November 2017.

45. The post-mortem examination revealed evidence of surgical and medical intervention without any unexpected signs of trauma. CT scanning confirmed an operated abdomen and evidence of large pleural effusion.

46. Dr Young noted that an anastomotic leak was one of the complications[28] arising from Mrs Stephen's first surgery to treat the fistula. The leakage led to an abdominal infection (peritonitis or intra-abdominal sepsis), which resulted in multiple-organ failure.

47. Toxicological analysis of blood sample was not performed as it was not indicated.

48. Dr Young ascribed the medical cause of death to 1 (a) intra-abdominal sepsis complicating an anastomotic leak following elective surgery to repair a vesico-colic fistula.

SUBSEQUENT RESPONSE – ICU MORTALITY AND MORBIDITY REVIEW

49. Mrs Stephen's death was discussed at the Holmesglen Private Hospital ICU Mortality and Morbidity Review (**MMR**). Dr McClure, the Director of Intensive Care was present for the Review.[29]

50. In his statement provided to the Court, Dr McClure summarised that the MMR committee agreed Mrs Stephen's tragic outcome occurred despite appropriate clinical and medical strategies.[30] However, he advised that her incident prompted an opportunity for the ICU team to re-evaluate ICU procedures around after-hours consultant notification by onsite medical and nursing staff.

51. As a result of the MMR, Holmesglen Private Hospital confirmed that the hospital had implemented the following recommendations[31]:

    (i) Introduction of mandatory calling criteria for consultant notification. For example, when a patient's noradrenaline requirement is greater than 20 mcg/min; serum lactate is greater than 4.0mmol/L; and when the support modality is escalated or changed (such as during commencement of non-invasive ventilation or intubation).

    (ii) Reinforcement to ICU Fellows about the importance of notification of the ICU Consultant prior to communication with other specialities to get a clear idea of the expected plan for the patient's treatment.

[28] An anastomotic leak occurs when a surgical anastomosis fails and contents of a reconnected body channel leak from the surgical connection
[29] CB, Statement of Dr Jason McClure dated 16 May 2018, page 21.
[30] Ibid.
[31] Ibid.

(iii) Reinforcement to ICU Fellows that if another specialty does not attend or respond in a timely manner, it should be escalated to the intensivist for a consultant-to-consultant discussion.

(iv) Closed loop communication – The instigation of a requirement that should there be a deviation from an intensivist's plan, there is communication back to the treating intensivist.

(v) Empowering nursing staff to call the specialist within the notification criteria if needed.

CPU REVIEW

52. On 16 February 2018, following a triage meeting with the CPU, I referred Mrs Stephen's matter to the CPU for a full review. Specifically, the CPU was requested to review the post-operative care and management provided to Mrs Stephen at the Bays Hospital and Holmesglen Private Hospital. The review included obtaining statements from relevant treating clinicians and a thorough evaluation of clinical notes and medical evidence.

Initial surgery at The Bays Hospital

53. The CPU noted Mrs Stephen underwent the surgery on 1 November 2017 without any apparent complications.

54. The CPU was not critical of Mrs Stephen's post-operative care at the Bay Hospital. The CPU was also not critical on whether intraoperative factors such as surgical technique manifested an anastomotic leak. The CPU noted that such surgeries are susceptible to complications of chronic inflammation, infection and further scarring, given the nature of scar tissues.

Subsequent care at Holmesglen Private Hospital

55. The CPU considered the non-attendance of the consultant surgeon and the consultant intensive care physician to review Mrs Stephen in person was a departure from a reasonable standard of care.

Discussions of contributing factor

56. The CPU posited the contributing factor to the pathophysiology of an anastomotic leak was most likely Mrs Stephen's underlying pathology.

57. Although Mrs Stephen's subsequent deterioration in the ICU was well recognised and documented, the CPU considered the ICU team lacked the foresight and intuition to identify a potential underlying and possibly reversible cause for someone who has an anastomosis, whose health is deteriorating.

Potential efficacious interventions/Conclusion

58. As mentioned, Mrs Stephen was returned to the theatre for an exploratory laparotomy to explore treatment for her deteriorating condition, as Mr Fisher considered that was a last resort. The CPU noted that it was unclear on the available evidence why her treating team did not undertake a surgical intervention earlier than when she was in extremis. The CPU opined that earlier surgical intervention would have improved or could have possibly changed her outcome.

59. The CPU informed me the review was conducted from a general clinical standpoint and the opinion extends so far as to comment on the general clinical care and management provided to Mrs Stephen and the prevention opportunities. The CPU recommended that the opinion of a colorectal surgeon and an ICU specialist be sought regarding the management of Mrs Stephen.

EXPERT OPINION

60. In furtherance of the views expressed in the CPU review, I requested expert reports from Mr James Keck and Professor Antony Tobin. Their respective reports dated 21 and 26 November 2018 were subsequently provided to the Court.

61. Mr Keck is a colorectal surgeon who, at the time of providing his report, was the Clinical Director of Colorectal Surgery at Eastern Health and the Acting Head of Colorectal Surgery at St Vincent Health. He was also the immediate past President of the Colorectal Surgical Society of Australia and New Zealand.

62. Professor Tobin is a specialist doctor in Intensive Care Medicine and at the time of providing his report, had practised in this discipline for 18 years. He was also the Deputy Director of Intensive Care at St Vincent Hospital.

63. As some subject matter of Mr Keck and Professor Tobin's evidence was overlapping, and their expert opinion reports were provided to the interested parties, I will not set out each of

the expert opinions separately in this Finding. Instead, I will discuss concurrently various issues of which the experts were asked to provide their opinion on and discuss certain issues separately if they concerned a specific area of care.

64. Mr Keck was asked to comment on the difficulties or potential complications of a colo-vaginal fistula surgery performed on a patient with an underlying pathology, such as Mrs Stephen, and the overall assessment of Mrs Stephen's surgical management before her transfer to Holmesglen Private Hospital.

65. Mr Keck described patients developing a fistula between the colon and vagina due to infections. Infections can be due to a previous episode of diverticulitis. Diverticulitis occurs when a diverticulum becomes inflamed with perforation of the colon, and usually results in an abscess, which drains through the vaginal vault leading to a fistula between the bowel and vagina.

66. Mr Keck noted that a fistula of such kind often produces a fairly tough connection between the bowel and vagina, which can be difficult to dissect and free up. However, there might be instances where fistulas are "fairly minor" and can be easily separated from the vagina.

67. Although Mr Keck considered Mrs Stephen's surgery did not present as a "particularly difficult" surgery, it was, nevertheless, technical. He describes that Mr Torey was required to mobilise the sigmoid colon, separate the colon from the vagina, remove the diseased segment of the colon (which contained diverticular disease) and then perform an anastomosis. He also noted Mr Torey had taken measures to prevent the recurrence of the fistula.

68. Mr Keck was satisfied with the method used by Mr Torey in constructing the anastomosis by way of an anterior resection. However, he could not detect whether a routine intraoperative air testing for an anastomotic leak was carried out to check whether there was a technical problem with the anastomosis. In Mr Keck's experience, he assumed that the test might have been done as part of *"a routine fashion"* which he commented *"was entirely at the standard expected of a surgeon operating on this type of pathology"*.

69. Mr Keck explained the occurrence of an anastomotic leak is possible after any colorectal anastomosis. It is an unavoidable complication, albeit with a low chance of leak rate. Based on the type of anastomosis in Mrs Stephen's circumstances, Mr Keck estimated the leak rate would be between 2 to 5 per cent. He noted that pre-existing conditions in the patient's (unhealthy) tissues might also increase the risk of leak rate.

70. Mr Keck agreed with how Mr Torey attended the subsequent anastomotic leak by way of Hartmann's procedure. He states that this is an appropriate surgical intervention that his peers would do. He commented that he was unable to find fault with Mrs Stephen's clinical management by the Bay Hospital prior to her transfer to Holmesglen Private Hospital.

71. Overall, Mr Keck considered Mrs Stephen's surgery *"appears to have been undertaken in a satisfactory manner"*. He noted Mr Torey subsequently treated her *"in the most safe[set] and conservative fashion"* by taking down the anastomosis and creating an end colostomy. Mr Torey's response in transferring Mrs Stephen to a facility with intensive care and monitoring after treating her anastomotic leak was also appropriate.

72. Mr Keck, as well as Professor Tobin were also asked to address many aspects of the post-operative care and management provided by Mrs Stephen's treating clinicians at Holmesglen Private Hospital, including:

a) The overall assessment of Mrs Stephen's intensive care and surgical management after her transfer to Holmesglen Private Hospital;

Intensive care management

Overall, Professor Tobin noted that Mrs Stephen's respiratory and metabolic state worsened after her extubation on the morning of 7 November 2017. He considered Mrs Stephen was "on the wrong trajectory" by 8.00 to 9.00pm on the night of 7 November 2017, which in his view, necessitated an escalation of discussion with the Consultant Surgeon.

While Professor Tobin did not raise any concern about the intensive care and treatment provided between 9.30am and 8.00pm on 7 November 2017, he noted there was no documentation of the medical rationale for those treatments.

Surgical management

Overall, Mr Keck was of the view that the exploratory laparotomy should have been performed on the evening of 7 November 2017.

b) What was the significance of the signs of Mrs Stephen's deterioration (increased lactate and requirement for blood pressure support) on the evening of 7 November 2017?

While Professor Tobin explained Mrs Stephen's elevated lactate results and increased requirement for blood pressure support were indicative of many possible diagnoses such as uncompensated sepsis, inadequate volume resuscitation, cardiac dysfunction, intra-abdominal organ ischaemia or a combination of these, her blood test results throughout 7 November 2017, nevertheless supported a diagnosis of uncontrolled sepsis. He believed that an early diagnosis would have prompted a review of strategies for managing her respiratory, cardiac and renal function.

Similarly, Mr Keck outlined that an increased requirement for blood pressure support as a result of low blood pressure can be causative of sepsis. However, he also noted that low blood pressure can be due to blood loss, low blood volume or cardiac disease including myocardial infarction.

(i) what would be considered a reasonable response from her surgeon?[32]

Given such presentations, Mr Keck was of the view that a surgeon would consider whether there is any surgical reversible cause to address these changes. Mr Keck did not specifically comment whether Mr Fisher's judgement in response to Mrs Stephen's presentation on that evening was reasonable or appropriate, except to comment that Mr Fisher had considered surgery and came to a conclusion there was no surgical reversible cause.

(ii) in addition to the intensive care and treatment provided, what would be reasonably required from the ICU team?

Professor Tobin believed that Mrs Stephen should have been seen and reviewed at an earlier time because a diagnosis from a consultant level clinician was more likely due to their experience in recognising severe sepsis and instituting appropriate interventions.

(iii) and should any particular intervention(s) have been considered or undertaken?

Professor Tobin outlined that Mrs Stephen's condition at that time had indicated worsening of respiratory function and metabolic acidosis where she required increased blood pressure support. He considered her treating clinicians should have instituted mechanical ventilation and discussed renal replacement therapy and reviewed her antibiotic therapy. He also considered reasonable to commence hydrocortisone given the hypoadrenalism raised in her transfer letter and her increasing inotropic requirement. Moreover, he regarded appropriate,

[32] This question was only directed towards Mr Keck.

at that point, to discuss Mrs Stephen's presentation with Mr Fisher, with a focus on whether there were any concerns related to the surgery conducted earlier.

Mr Keck, from his surgical perspective, noted that the relevant intervention when Mr Fisher was informed of Mrs Stephen's significant decline was whether to undergo a further laparotomy.

c) what was the significance of Mrs Stephen's presentation of a distended and tense abdomen and mottled skin at 1.00am on 8 November 2017?

Mr Keck explained that distention and tension in the abdomen were caused by internal pressure and usually happen due to fluid build-up or retention within the bowel. Professor Tobin also considered such presentations might be due to sepsis or intra-abdominal infections. Mr Keck noted presentation of mottling around the abdomen indicates poor blood supply to the abdominal wall, due to the use of inotropic drugs and/or underlying sepsis. Alternatively, Profession Tobin considered it might be due to inadequate resuscitation or a failure to respond to existing treatment.

(i) what would be considered a reasonable response from her surgeon?

Similar to his response to the above question in (b)(i), Mr Keck did not specifically comment whether Mr Fisher's judgement in response to Mrs Stephen's presentation on this point was reasonable or appropriate, except to comment that Mr Fisher's *"decision would most likely have not changed despite her ongoing decline and deterioration"*.

(ii) in addition to the intensive care and treatment provided, what would be reasonably required from the ICU team?

Professor Tobin considered measurements of intraabdominal pressure at this point may have been helpful. He explained that increasing intraabdominal pressure can cause cardiovascular, renal and respiratory embarrassment. Moreover, in such a setting, the process of diagnosing intraabdominal hypertension would have warranted a discussion with the surgeon about the benefit and risks of an exploratory laparotomy to exclude gut ischaemia and laparostomy to relieve the pressure.

(iii) should any particular intervention(s) have been considered or undertaken?

Mr Keck was of the opinion that there was no indication for any particular intervention. Professor Tobin believed that Mrs Stephen should have been ventilated in addition to commencing her on renal replacement therapy and that these interventions should also have been considered several hours earlier.

d) what was the significance when Mrs Stephen was observed with additional presentations of "colour change to purple and tense" at 4.00am on 8 November 2017?

Professor Tobin noted the additional presentations might suggest the worsening of Mrs Stephen's condition. He explained that ileus and fluid extravasation into the abdominal cavity will result in distension, whilst the purple colouration suggests severe septic shock with skin hypoperfusion. He considered these presentations should have prompted a review of her fluid resuscitation and blood pressure support as they are not definitive symptoms of ischaemic bowel.

While Mr Keck did not indicate whether such presentations were suggestive of the worsening of Mrs Stephen's condition, he was of the same view as Professor Tobin. He noted that abdomen distention relates to fluid retention within the abdominal cavity and tissue oedema (swelling) of the contents of the abdomen cavity, particularly the gut which leads to tight distention. The colour change indicates worsening blood flow to the abdominal wall.

(i) what would be considered a reasonable response from her surgeon?

Mr Keck considered Mr Fisher's decision to return Mrs Stephen to theatre appropriate. However, he did not directly comment on whether Mr Fisher's previous consideration was reasonable or appropriate. He also did not comment further on any appropriate investigations and possible interventions that Mr Fisher should undertake. Mr Keck was resolute in his opinion that Mr Fisher had considered all possible interventions before making his decision to return Mrs Stephen. In his opinion, a reasonable response would be performing the laparotomy as soon as a decision had been made.

(ii) in addition to the intensive care and treatment provided, what would be reasonably required from the ICU team?

Professor Tobin believed the consultant intensivist should have attended to Mrs Stephen personally and considered intubation for her worsening acidosis and possible respiratory failure.

(iii) What discussion would reasonably be expected to be held between an intensive care consultant and the consultant surgeon in such circumstances?[33]

Profession Tobin was of the opinion that there should be a discussion of the merits and risks of an exploratory laparotomy and the possible benefits, particularly whether it would alleviate intra-abdominal pressure.

(iv) should any particular intervention(s) have been considered or undertaken?

While Professor Tobin suggested an exploratory laparotomy should be considered by her treating clinicians, he noted that it was difficult to comment on whether it was warranted without adequate resuscitation on Mrs Stephen at that time. He considered that she might have improved with adequate resuscitation and support earlier, without the need to proceed to theatre.

e) What were the reasonable and appropriate intensive care management or surgical principles to be considered for a patient such as Mrs Stephen, who, in the setting of an anastomotic leak developed multiple organ failure?

Professor Tobin was of the view adequate supporting therapy and measures, including antibiotic therapy and respiratory and inotropic support in stabilising a patient, are crucial in a such scenario. Subsequently, if these measures fail to improve a patient's condition, surgery should be considered.

In Mr Keck's experience, he considered if an anastomotic leak can be established as the cause of sepsis, the surgical principles of a clear cause would warrant surgical interventions to be commenced at an early stage. While Mr Keck did not explain what he considers an early stage in this context, he believed that patients *"tend to do better before sepsis has developed to a terminal stage"*.

[33] This question was only directed towards Profession Tobin.

Mr Keck noted Mrs Stephen underwent a laparotomy with peritoneal lavage 24 hours before developing multiple-organ failure. He opined that Mr Fisher's belief there was no surgical reversible cause for her decline was reasonable.

f) What would be the optimum timeframe for a surgical intervention taking into account Mrs Stephen's potential underlying pathology and her overall condition?

Mr Keck was of the view that Mrs Stephen's outcome may have potentially be altered if the exploratory laparotomy had been undertaken earlier at 9.30pm on 7 November 2017. He believed Mrs Stephen was still "at a stable enough stage" where she may have survived or the laparotomy would at least benefit her in some way. Professor Tobin was also of the same view that a surgical intervention should be acted on as soon as possible.

g) Whether Mrs Stephen's outcome could have been potentially changed given the complications arising from her initial surgery, including ischaemic bowel?

While Professor Tobin was of the opinion Mrs Stephen's intensive care and management of her septic shock and multiple-organ failure were delayed, he found it difficult to comment definitively on whether she would have survived with early surgical interventions.

He considered the outcome of patients with sepsis to be very difficult to predict. The overall poor prognosis of sepsis meant that even patients with the most "assiduous care" would often not survive. He believed that the delay did impact on her chances of a successful outcome.

Mr Keck agreed with Mr Fisher's opinion that by the time when Mrs Stephen returned to the theatre on the morning of 8 November 2017, her condition had deteriorated to such a stage that there was almost no chance of survival.

Mr Keck was also in agreement that intraoperative observation of the ischaemic change in the terminal ileum was due to sepsis rather than a cause of sepsis. He posited that Mrs Stephen may have already developed ischaemic gut changes on the evening of 7 November 2017. He also posited that the vasoconstricting effects of the high dose of inotropic medication administered may have caused ischaemic change.

While Mr Keck believed that a resection undertaken at that time might have possibly changed her course of recovery, he noted that the likelihood was low.

Alternatively, in Mr Keck's experience, patients with overwhelming sepsis may benefit from an open abdomen technique, which helps prevent severe pressure changes within the abdomen. However, due to her marked abdominal distention, Mr Keck posited that Mrs Stephen likely had developed an abdominal compartment syndrome. He considered this may have been an area of potential for intervention, although it was not the sole cause of her decline.

73. Mr Keck and Professor Tobin were also asked to comment on Holmesglen Private Hospital's ICU mortality and morbidity review.[34]

74. Overall, Professor Tobin found that the key findings *"regarding mandatory escalation to the consultant are prudent and may help overcome a culture where junior staff are reluctant to call the consultant. However, this must be reciprocated by the consultant staff being responsive and prepared to review patients at the bedside. An important aspect of this culture is allowing junior staff to specifically ask the consultant to attend rather than waiting for the consultant to offer. Empowering nursing staff to call the intensive care consultant independently of the junior medical staff is also important in ensuring that deterioration is acted on"*.

75. Mr Keck agreed with all the key findings of the review and found them appropriate. He highlighted that in his experience, empowering nursing staff to call specialists is particularly crucial when patients are deteriorating.

MENTION HEARINGS

76. Two Mention Hearings were held on 19 July 2019 and 24 March 2021, Sergeant Tracy Weir and LSC Ramsey from PCSU appeared to assist me at the respective hearings.

77. The first Mention Hearing was convened for the purpose of determining additional materials required to progress my investigation and enable interested parties to raise outstanding issues that might warrant further investigation.[35]

78. Having also had regard to the two expert reports received before the first Mention Hearing, I informed interested parties that, although my investigation to date was unable to identify

[34] See paragraph 51.
[35] Transcript of Mention Hearing on 19 July 2019.

whether Mrs Stephen's death was preventable, I had, nevertheless, identified potential opportunities lost for preventing her demise. I then indicated that I anticipated interested parties to put further information, including restorative and preventative measures implemented and their position as to the holding of an Inquest in writing by way of a written submission.[36]

79. During the first Mention Hearing, the legal representative for Dr Anderson, in response to Professor Tobin's report, raised that Dr Anderson was concerned about Professor Tobin's limitation to review and comment extensively on the ICU care and management given he was not provided with the intensive care observation and drug chart. I informed all parties that I was mindful of that limitation and indicated that my recourse to possibly request a supplementary expert opinion from Professor Tobin was contingent on Dr Anderson's submissions.[37]

80. The second Mention Hearing was convened for the purpose of informing interested parties that I did not anticipate the need to proceed to an Inquest and that the available evidence allowed me to finalise Mrs Stephen's matter by means of an In-Chambers Finding.[38]

POST MENTION HEARINGS

81. Having perused Dr Anderson's submission in conjunction with Professor Tobin's opinion, I determined that a supplementary report from Professor Tobin was not warranted. Moreover, I requested an opinion from Dr David Eddey, a consultant physician at the CPU, on the potential variability of Professor Tobin expert opinion, given he was not provided with the ICU care and drug chart. Dr Eddey advised that the level of details available to Professor Tobin was sufficient.

82. I subsequently received additional material in the form of a statement from Dr Rostami to clarify his interactions with Dr Anderson, Dr Richardson and Mr Fisher throughout providing Mrs Stephen intensive care and treatment. I also received a submission from Holmesglen Private Hospital.

[36] Transcript of Mention Hearing on 19 July 2019.
[37] Ibid.
[38] Transcript of Mention Hearing on 24 March 2020.

Holmesglen Private Hospital's submissions

83. Holmesglen Private Hospital conceded that its nursing staff did not escalate Mrs Stephen's increased vasopressor requirement and increased lactate level of 4.2 on four occasions on 7 November and 8 November 2017 to a Consultant Intensivist.

84. While the hospital acknowledged there had been discussions between nursing staff and Dr Rostami regarding the escalation of Mrs Stephen's deteriorating condition, the hospital conceded that these discussions were not documented.

85. Since Mrs Stephen's death, Holmesglen Private Hospital informed me that it has educated its nursing staff on its revised notification criteria and ensured staff compliance with the relevant deterioration policy.

86. Notably, Holmesglen Private Hospital advised that:

- In the event of a MET call, the Hospital's Clinical Deterioration Policy (Policy 8.45) provides that the Hospital Coordinator must respond to the relevant area. The Coordinator's presence ensures that the Nurse-In-Charge is supported at the time of patient's deterioration and assists with ensuring the most appropriate assessment and medical treatment have been instigated.
- The hospital's compliance with Policy 8.45 is monitored on a routine basis in accordance with the Policy's evaluation and auditing requirements contain in Policy 8.45.
- The hospital has educated its ICU nursing staff on the need to document any discussion between medical staff about the issues of escalation of a patient's clinical condition to a Consultant or Intensivist.
- The Hospital has disseminated the MMR's recommendations to relevant staff.
- The Hospital has ensured that all ICU nursing staff familiarise themselves with Policy 8.45 on an annual basis.

Treating clinicians' response

87. In addition to Holmesglen Private Hospital's preventative and restorative initiative, Mrs Stephen's treating clinicians, including Dr Anderson and Mr Fisher, advised that they had implemented changes to their clinical practice.

88. Dr Anderson advised that he had changed his practice and now documents all ward rounds, regardless of his usual management plan.[39]

89. Mr Fisher advised that he now took a more proactive role in communicating with his ICU Intensivist colleagues and in attending to his patients in person if they required intensive care and if there had been a significant decline in their clinical presentations.[40]

Responses to Court's Experts

90. Following the provision of the Court's expert reports, I received supplementary material in the form of statements from Mr Fisher, Dr Anderson and Dr Richardson, respectively. They engaged their own independent experts to provide expert reports in response to the issues raised in Mr Keck and Professor Tobin's reports. Mr Fisher commissioned a colorectal surgeon, Dr Sanjay Kariappa and Dr Anderson and Dr Richardson commissioned an anaesthetist and intensive care specialist, Associate Professor Craig French ("A/Professor French").

91. I will examine those materials in the context of the relevant issues addressed and discuss the issues separately from the surgical and intensive care perspectives. However, there were instances where the issues of intensive and surgical care overlapped.

Intensive care issue: whether Mrs Stephen's death would have been prevented by the early interventions raised by Professor Tobin?

92. In response to the specific interventions[41] raised by Professor Tobin, A/Professor French, and Dr Richardson made the following relevant comments:

[39] CF, Statement of Dr David Anderson dated 26 October 2020 [24].
[40] CF, Written submissions of Ingrid Nunnik (on behalf of Mr Mikhail Fisher) dated 21 October 2019.
[41] See paragraph 74(b)(iii).

Intra-abdominal pressure investigation:

In Dr Richardson's opinion, a measurement of intra-abdominal pressure is not a form of "therapeutic intervention" but instead a form of monitoring which would not have changed the management or the outcome of Mrs Stephen's case. He believed it would not be beneficial in her situation.[42]

Additionally, Dr Richardson noted no evidence to support a diagnosis of abdominal compartment syndrome. He posited if so, Mr Fisher would not have been able to close the abdomen after the exploratory laparotomy fully.[43]

Intubation:

A/Professor French was of the opinion that Mrs Stephen's death would not have been prevented by early intubation (or institution of invasive mechanical ventilation). He considered intubation did not treat the underlying cause of septic shock but instead played a supportive role in managing septic shock.[44]

Further to A/Professor French's opinion, Dr Richardson recalled Mrs Stephen had an adequate respiratory function, and the "best treatments" for her situation were instituting ongoing antimicrobial medications and maintaining adequate blood pressure.

Hydrocortisone:

A/Professor French was of the opinion that an early administration of hydrocortisone would not have prevented Mrs Stephen's death. He noted that although the *2016 International Guidelines for Management of Sepsis and Septic Shock* recommended the administration of intravenous hydrocortisone in managing septic shock when a patient is unable to restore haemodynamic stability with adequate fluid resuscitation and vasopressor therapy, the recommendation is considered as *"weak recommendation[45], low quality of evidence"*.[46]

[42] CF, Statement of Dr Alexander Richardson dated 11 September 2019, [2.2] and [2.3].
[43] CB, Statement of Dr Alexander Richardson dated 11 September 2019, [2.4] and [2.5].
[44] CB, Expert Report of Associate Professor Craig French dated 4 August 2018, page 44.2.
[45] See grading of recommendations. A Rhodes et al, S*urviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock: 2016*, Intensive Care Med (2017) 43:304-377, page 306.
[46] CB, Expert Report of Associate Professor Craig French dated 4 August 2018, page 44.2-3.

Renal replacement therapy:

A/Professor French was of the opinion that Mrs Stephen's death would not have been prevented by an early institution of renal replacement therapy. He considered the therapy a supportive treatment for managing septic shock. He noted in his experience there is substantial variation as to when to commence renal replacement therapy, and the effect as to the timing of commencement is also uncertain.[47] Dr Richardson agreed with A/Professor French's opinion for the reasons as discussed above.

Antibiotics regime:

A/Professor French was of the opinion that an early change in the antibiotic regime would not have prevented Mrs Stephen's death as he believed ceftriaxone had been effective in treating the organism that caused the septic shock.[48]

Intensive care issue: whether personal attendance on a patient in Mrs Stephen's circumstances necessary?

93. While Dr Anderson did not comment on whether he should have attended Mrs Stephen on the evening of 7 November 2017[49], Dr Anderson recalled that he was left with the impression from Dr Rostami that Mr Fisher had already attended her in person. Moreover, Dr Anderson believed that Mrs Stephen's deterioration was not so urgent to the point that it necessitated in-person attendance.[50]

94. Dr Anderson did, however, on that point, note that it was not considered the *"best or usual practice in an ICU"* when an ICU Registrar contacted the Consultant Surgeon for advice before the Consultant Intensivist.[51]

95. Dr Richardson conceded this is a reasonable point. With the benefit of hindsight, Dr Richardson stated he should have attended to her in the early hours of 8 November 2017. Although Dr Richardson considered Dr Rostami, *"an experienced junior clinician"* and was reassured by Dr Rostami of their agreed treatment plan, Dr Richardson also conceded that *"it is good management to attend the hospital personally in such circumstances"*.[52]

[47] CB, Expert Report of Associate Professor Craig French dated 4 August 2018, page 44.2.
[48] Ibid.
[49] Neither did A/Professor French comment on this issue on behalf of Dr Anderson.
[50] CF, Statement of Dr David Anderson dated 26 October 2020, [59].
[51] Ibid [44].
[52] CB, Statement of Dr Alexander Richardson dated 11 September 2019, [2.5] and [2.7].

Surgical issues: Whether Mr Fisher's management reasonable at 9.45pm on 7 November, 1.00am and 4.00 on 8 November 2017?

96. Dr Kariappa was of the opinion that Mr Fisher's management of Mrs Stephen's presentation at 9.45pm on 7 November was reasonable. In forming his opinion, Dr Kariappa noted Mr Fisher was correct in advising the ICU team there was no surgical reversible cause.[53] Mr Fisher also at that time suggested treating staff to improve supportive care for Mrs Stephen.

97. Dr Kariappa agreed with Mr Keck and Professor Tobin's view that a CT scan would unlikely have aided in the diagnosis of Mrs Stephen's presentation at 1.00am on 8 November. He also recognised that a consultant surgical review should have been warranted at this point.[54]

98. Dr Kariappa also agreed with Mr Fisher's decision to return Mrs Stephen to theatre to determine if there was a reversible cause for deterioration.[55]

Surgical issues: Was there a surgically correctable cause that reasonably ought to have resulted in surgical intervention?

99. On balance, Dr Kariappa considered there was no surgical correctable cause for her deterioration on either of these three occasions.[56]

100. As discussed, Dr Kariappa explained that improving supportive care at 9.45pm on 7 November would be a reasonable response. At 1.00am on 8 November 2017, he noted that there was no evidence to support an intra-abdominal bleed given that her haemoglobin level was stable. Dr Kariappa supported Mr Fisher's finding and decision at 4.00am that there remained no surgical correctable cause. He agreed that a decision to undertake an exploratory laparotomy was the last resort, given all intensive treatment had failed.[57]

Surgical issues: would Mrs Stephen's clinical course have been different had the surgery been performed earlier?

101. Dr Kariappa was resolute in his opinion that Mrs Stephen's clinical course would not have been different had the surgery been performed earlier. He outlined that her metabolic acidosis

[53] CB, Expert Report of Dr Sanjay Kariappa dated 21 October 2019, page 44.11-12.
[54] Ibid.
[55] Ibid.
[56] Ibid.
[57] Ibid, page 44.13.

and continuously elevated lactate levels likely resulted from causes that cannot be rectified with surgery.[58]

COMMENTS

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

1. The circumstances surrounding Mrs Stephen's death highlight the challenges faced by ICU clinicians in diagnosing and treating sepsis. Evident in many medical literatures, sepsis can often be over-diagnosed or under-diagnosed. Mr Keck and Professor Tobin too provided the opinion that sepsis was one of the possible diagnoses of Mrs Stephen's first signs of deterioration on the evening of 7 November 2017. For that reason, the main focus of my investigation is not so much a matter of determining whether her death was preventable but more to identify the opportunities missed in optimising her post-operative care and management.

2. Considering Mrs Stephen's medical history and clinical presentation prior to her elective surgery, I accept that surgical intervention was the only way to achieve a curative outcome for her fistula. I am satisfied with the performance of the surgery as it was appropriately performed. I am also satisfied that the appropriate course of managing her anastomotic leakage after her surgery and the critical condition that ensued was through intensive care and monitoring.

Early ICU interventions

3. While Drs Anderson and Richardson (and also by way of an expert opinion) were given opportunities to respond to Professor Tobin's opinion, I note that the topic of preventability of Mrs Stephen's death was not put to Professor Tobin for consideration. Rather, Professor Tobin considered the suggested interventions in a way that was reasonable and appropriate in the circumstances of Mrs Stephen's deterioration. Clearly, A/Professor French responded to these interventions from a different perspective. As such, I am not in a position to determine whether A/Professor French's opinion is preferred over Professor Tobin's as their evidence was not explored nor tested in Court.

[58] CB, Expert Report of Dr Sanjay Kariappa dated 21 October 2019, page 44.13.

4. I do, however, acknowledge that the general rationale behind Professor Tobin's suggested interventions have the potential for ICU treating clinicians to consider alternative diagnosis for Mrs Stephen's deteriorating condition that may have assisted them in expediting assessment and treatment for sepsis.

Surgical care

5. Regarding Mr Fisher's surgical care and management, I accept Mr Keck and Dr Kariappa's opinions that an urgent laparotomy would not have altered Mrs Stephen's clinical course and outcome. The weight of the available evidence also supports that no further surgical interventions would have led to an early diagnosis of sepsis.

6. Given the overall opinion of all treating clinicians and the results of the histological report, I also accept that an early surgical intervention would not have necessarily altered Mrs Stephen's outcome.

Clinician attendance/Escalation criteria

7. As foreshadowed, the lack of an in-person review was another opportunity lost for the Consultant Surgeon and Consultant Intensivist to discuss Mrs Stephen's post-operative care and management and the possible avenues for treating her deteriorating condition.

8. I share Profession Tobin's view that consultant-level clinicians are more experienced in recognising severe sepsis and instituting appropriate interventions. As underpinned by the Australian Commission on Safety and Quality ("the Commission") in Health Care in its most recent Sepsis Clinical Care Standard, part of the indicator for time-critical management of sepsis is to *"ensure [a] patient is promptly assessed by a clinician with expertise in recognising and managing sepsis or patient deterioration"*. Examples of clinicians with expertise provided by the Commission include infectious diseases physicians, intensivists and advanced practice nurses.

9. Furthermore, there were many occasions when nursing staff failed to escalate Mrs Stephen's treatment and care and alternatively make appropriate documentation according to the hospital's deterioration policy at the time. I accept Holmesglen Private Hospital's concessions on these oversights and commend that Holmesglen Private Hospital has taken immediate restorative and preventative actions in the wake of Mrs Stephen's demise. I also note that these concerns have been appropriately acknowledged by Mr Fisher and Dr Anderson.

Other prevention opportunities

10. While providing his opinions on the issues of Mrs Stephen's intensive care and management, Professor Tobin also provided his suggestions on opportunities for improvement in a clinical scenario such as Mrs Stephen's. Professor Tobin suggested that remote access to a patient's medical records of observations and results of relevant pathological tests and analysis electronically would have helped to better inform the consultant intensivist of the seriousness of a patient's clinical presentations. He highlighted that *"the ability to observe trends over hours is important in detecting and responding to deterioration"* and then make accurate clinical decisions remotely.

11. Dr Richardson also agreed that remote patient monitoring and remote access to a patient's medical records "would be useful". He added that video conferencing would too be helpful. Drawing his experience while working at another hospital, Dr Richardson explained that remote access to medical records benefits him in reviewing a patient's previous and current presentation before commencing his shift or when he was on-call at home.[59]

12. Having regard to the utility of Professor Tobin's suggestion in improving a clinical scenario such as Mrs Stephen's and preventing similar deaths, I determine that making a Recommendation in the circumstances is appropriate. At the final stage of concluding this Finding, I directed my solicitor to inform Healthscope of my proposed Recommendation[60] via a letter dated 6 January 2023. I intended to recommend Healthscope to review and update its Recognising and Responding to Clinical Deterioration Policy and other relevant policies to include remote patient monitoring and telehealth consultations as part of the clinical review in monitoring and responding to deteriorating patients

13. On 13 February 2023, Healthscope responded by way of their legal representative to the proposed Recommendation. Healthscope informed that it does not have an Electronic Medical Record in place across its facilities and as such the inclusion of remote patient monitoring via telehealth consultations is not feasible.

14. As a result, I make the following the Recommendation.

[59] Although Dr Richardson expressed his support for these methods, he remained that his intensive care and management of Mrs Stephen's would be the same.

[60] This was done in light of the rollout of telehealth consultations during COVID-19 and the feasibility of the proposed Recommendation in an intensive care setting.

RECOMMENDATION

Pursuant to section 72(2) of the Act, I make the following recommendation connected with the death:

1. In the interests of promoting public health and safety and with the aim of preventing similar deaths, I recommend that Healthscope consider developing a suitable rigorous and reliable technology-based[61] alternative to an electronic patient monitoring system in a manner that is consistent with the Medical Board of Australia's guidelines on telehealth consultations.

FINDINGS AND CONCLUSION

1. Pursuant to section 67(1) of the *Coroners Act 2008* I make the following findings:

   a) the identity of the deceased was Christine Ann Stephen, born 19 February 1950;

   b) the death occurred on 8 November 2017 at Holmesglen Private Hospital, 490 South Road, Moorabbin, Victoria 3189; and

   c) I accept and adopt the medical cause of death ascribed by Dr Gregory Ross Young, and I find that Christine Ann Stephen died from intra-abdominal sepsis due to or as a consequence of an anastomotic leakage arising from a complication of the elective surgery to repair a vesico-colic fistula.

2. AND, while I cannot find with certainty the missed opportunities in an early diagnosis of sepsis would have been outcome-changing for Mrs Stephen, I do consider an early diagnosis of sepsis would have been significant in maximising the potential for her post-surgery recovery. This represents an opportunity missed to afford her better clinical outcomes.

ACKNOWLEDGEMENTS

I am grateful for the considerable assistance of the Police Coronial Support Unit in this matter. I also extend my appreciation to Sergeant Tracy Weir and to then Police Coronial Support Unit member, Leading Senior Constable Tracey Ramsey for their assistance in this matter and their appearances at the Mention Hearings.

[61] Medical Board of Australia's guidelines for technology-based patient consultations provide the definition of technology-based patient consultations as patient consultations that use any form of technology, including but not restricted to videoconferencing, internet and telephone, as an alternative to face-to-face consultations. See further at https://www.medicalboard.gov.au/codes-guidelines-policies/technology-based-consultation-guidelines.aspx

The interested parties have also thoughtfully cooperated and engaged with the issues raised by this investigation, and to that extent have assisted the Court to avoid the holding of an Inquest.

I convey my sincere condolences to Mrs Stephen's family.

ORDERS

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

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

Brenton Stephen

Senior Sergeant Jen Brumby, Police Coronial Support Unit

Avant Law, Lawyers for Dr Eric Torey

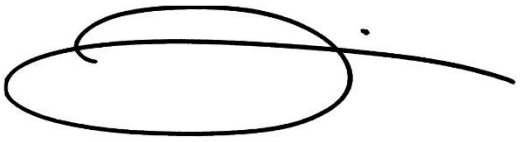
Gilchrist Connell, Lawyers for Dr Mikhail Fisher

Kennedy Law, Lawyers for Dr Alexander Richardson and Dr David Anderson

Minter Ellison, Lawyers for Holmesglen Private Hospital, Healthscope

Health Information Services Manager, The Bays Hospital

Signature:



AUDREY JAMIESON

CORONER

Date: 22 February 2023

NOTE: Under section 83 of the ***Coroners Act 2008*** ('the Act'), a person with sufficient interest in an investigation may appeal to the Trial Division of the Supreme Court against the findings of a

coroner in respect of a death after an investigation. An appeal must be made within 6 months after the day on which the determination is made, unless the Supreme Court grants leave to appeal out of time under section 86 of the Act.