IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

Court Reference: COR 2018 003392

FINDING INTO DEATH WITH INQUEST

Form 37 Rule 63(1)
Section 67 of the **Coroners Act 2008**

Deceased:	Michael Stankic
Delivered on:	31 July 2023
Delivered at:	Coroners Court of Victoria, 65 Kavanagh Street, Southbank
Hearing date:	28, 29, 30 September 2021
Findings of:	Coroner Paresa Antoniadis Spanos
Coroner's Assistant	Senior Constable Premala Thevar, Police Coronial Support Unit
Representation	Mr Raph Ajzensztat of Counsel appeared on behalf of Western Health
Key words:	Attempted suicide, circulatory collapse and arrest, mental health patient, restraint, prolonged immobility, deep vein thrombosis, pulmonary thromboembolism, thromboprophylaxis

CONTENTS

INTRODUCTION

1. On 14 July 2018, Michael Stankic was 29 years old when he died in Sunshine Hospital. At the time of his death, her lived in Caroline Springs with his wife, Lisa Stankic, and their children. Mr and Mrs Stankic's relationship began in 2011 and they married in 2014, later welcoming two children.[1]

2. Mr Stankic had experienced depression since his teenage years and, in 2017, he was prescribed Zoloft (sertraline) following a three-month period during which he felt down with occasional suicidal thoughts. At about this time, Mr Stankic also began using cocaine, which he continued almost daily until just before his death. He was later also known to use alcohol excessively.[2]

3. Mr Stankic later reported to his general practitioner that the prescribed medication had good effect. In January 2018, he noted that his mood was better and denied suicidal thoughts and anxiety. He last saw his general practitioner in April 2018, at which time the prescribed medication continued to be effective.[3]

4. In addition to a diagnosis of major depression, Mr Stankic's medical history included antisocial personality disorder.[4] In 2018, Mr Stankic attended six sessions of court mandated Anger Management Intervention Course at Western Plain Psychology to assist with his anger management issues.[5]

5. Mrs Stankic described her husband as a hard-working person who always helped people. He was family oriented, loved spending days off with his family, and was a good father.[6]

CIRCUMSTANCES PROXIMATE TO DEATH

6. In the early hours of 7 July 2018, Mr and Mrs Stankic argued about his drug use. Mrs Stankic eventually went to bed, believing that Mr Stankic was going to watch a movie before also retiring to bed.[7]

7. At about 4.30am, Mrs Stankic awoke to find her husband was not in bed. While searching the house for him, she found him hanging in the garage. Mrs Stankic contacted emergency

[1] Coronial brief, page 22.
[2] Coronial brief, pages 22, 28.
[3] Coronial brief, pages 28-29.
[4] Coronial brief, page 60.
[5] Coronial brief, pages 23, 30-31.
[6] Coronial brief, page 22.
[7] Coronial brief, page 23.

services and worked on cutting her husband down. Once he was lowered to the ground, Mrs Stankic started administering cardiopulmonary resuscitation (**CPR**).[8]

8. Victoria Police members were the first responders to the scene. Ambulance Victoria paramedics arrived a short time later and found Mr Stankic breathing spontaneously but profoundly unconscious. He was intubated to protect his airway and transported to Sunshine Hospital Emergency Department (**ED**), arriving at 6.11am.

9. In the ED, computed tomography (**CT**) scans of the brain, cervical spine, and thorax excluded any injuries. Mr Stankic was transferred to the Intensive Care Unit (**ICU**) at 7.55am to be extubated in a controlled environment and was sedated to facilitate intensive care treatments.[9]

10. At approximately 11.00pm, Mr Stankic was administered the first of what was to be a daily dose of 40mg enoxaparin sodium[10] (**enoxaparin**) subcutaneously in accordance with Western Health's Adult Venous Thromboembolism (**VTE**)[11] Prevention procedure.[12]

11. The following day, on 8 July 2018, Mr Stankic was sedated throughout the morning. He was extubated at 1.30pm, and his level of sedation was reduced. At this stage, he was not alert enough for psychiatric assessment. At 10.30pm, Mr Stankic was again administered enoxaparin for VTE prophylaxis.[13]

12. On the morning of 9 July 2018, a code grey[14] was called after Mr Stankic left his bed and started walking around the ICU, behaving aggressively towards staff, and threatening to leave. Once he was returned to bed, Mr Stankic was placed in four-point mechanical restraints (at wrists and ankles) for the first time during his admission and sedated.[15] The restraints were released intermittently over the following hours and there was a continuous period of release between 1.30pm and 9.30pm, after which time the restraints needed to be reapplied.

[8] Coronial brief, page 24.
[9] Coronial brief, pages 36-38, 66.
[10] Anticoagulant medication that thins the blood. The dose given is the standard dose given for the prevention of VTE.
[11] Venous thromboembolism (**VTE**) is a condition in which a blood clot forms most often in the deep veins of the leg, groin or arm (known as deep vein thrombosis (**DVT**)) and travels in the circulation, lodging in the lungs (known as pulmonary embolism (**PE**)). Together, DVT and PE are known as VTE.
[12] Coronial brief, pages 44, 91. The procedure is at Coronial brief, pages 151-156.
[13] Coronial brief, pages 45, 67.
[14] A coded alert sent to hospital security staff indicating their assistance is emergently required for an 'unarmed threat'.
[15] Mechanical restraint: the use of straps to restrain a patient to a bed. Chemical restraint: the use of medications (usually antipsychotics) to decrease a patient's aggression and agitation.

Mr Stankic was also placed on an Inpatient Assessment Order whilst he awaited psychiatric review.[16] [17]

13. Due to the ongoing active threat Mr Stankic posed to himself and staff, the Assessment Order was extended[18] and he was both chemically and mechanically restrained[19] whilst awaiting psychiatric review. A further three code greys were called throughout the day in response to Mr Stankic's behaviour.[20]

14. Due to staff safety concerns, Mr Stankic's daily dose of enoxaparin (which was due at 10.30pm) was withheld for a few hours with the dose subsequently being administered at 2.00am the following morning.[21]

15. At 9.17am on 10 July 2018, a psychiatric review determined that Mr Stankic should be placed on an Inpatient Temporary Treatment Order.[22] [23]

16. After being updated on the previous day's events, the ICU consultant attempted to de-escalate Mr Stankic's behaviour and protect staff by decreasing the invasive treatment Mr Stankic was receiving. His intravenous antibiotic was changed to an oral antibiotic and the enoxaparin was ceased; the last dose having been administered at 2.00am that morning.[24]

17. Thereafter, Mr Stankic continued to be mechanically restrained intermittently.

18. In the early hours of 11 July 2018, Mr Stankic independently removed his restraints and left his bed. Wrist restraints were reapplied a short time later and ankle restraints were added a few hours later. Apart from temporary releases, Mr Stankic remained in mechanical restraints until his discharge from the ICU.[25]

19. Later that morning, Mr Stankic was deemed medically stable for discharge to the psychiatric unit, but no beds were available. The psychiatry team and the ICU team agreed on the need

[16] Coronial brief, pages 66, 86, 249; Western Health medical records, page 716 of 754.
[17] An Assessment Order is made pursuant to the *Mental Health Act 2014* (Vic). It enables the person who is subject of the order to be compulsorily examined by an authorised psychiatrist to determine whether the treatment criteria apply to them.
[18] Western Health medical records, page 715 of 754.
[19] According to Dr James Douglas, four-point mechanical restraints were used: Coronial brief, page 42.
[20] Coronial brief, page 87.
[21] Coronial brief, pages 42, 45, 49.
[22] A Temporary Treatment Order is also made pursuant to the *Mental Health Act 2014* (Vic) by an authorised psychiatrist after assessing a person in accordance with an Assessment Order. An Inpatient Temporary Treatment Order enables the person who is subject of the order to be compulsorily taken to, detained, and treated in a designated mental health service.
[23] Coronial brief, page 45; Western Health medical records, page 713 of 754.
[24] Coronial brief, page 45.
[25] Coronial brief, pages 42, 66.

for ongoing mechanical restraint as Mr Stankic had managed to free himself of his restraints, which had necessitated further code greys and the attendance of security staff to stop him from absconding.[26]

20. On the morning of 12 July 2018, Mr Stankic complained of leg pain.[27] The ICU team noted a swollen leg and arranged a bedside ultrasound which showed a deep vein thrombosis (**DVT**). Therapeutic anticoagulation was commenced. Initially, he was prescribed 120mg of enoxaparin to be administered subcutaneously, but this was not given. Instead, he was later prescribed a therapeutic dose of oral rivaroxaban (another anticoagulant) 15mg twice a day for 21 days,[28] the first dose of which Mr Stankic received at 10.49am.[29]

21. Mr Stankic was also reviewed by the Internal Medicine Team, who determined that further monitoring on the medical ward was not necessary.[30]

22. At approximately 3.20pm Mr Stankic was transferred to the Sunshine Adult Acute Psychiatric Unit (**SAAPU**).[31] Mr Stankic was observed every 15 minutes during the day and every 30 minutes overnight.[32] He was not restrained whilst in the SAAPU.

23. On 13 July 2018, Mr Stankic was reviewed by the psychiatric team. Mr Stankic reported ongoing pain in his leg[33] but was otherwise feeling 'ok'. He displayed no evidence of psychosis or active thoughts of self-harm and was willing to engage with psychiatrists, psychologists, and drug and alcohol specialists with regards to a treatment plan. As he was no longer an imminent threat to himself or others, the compulsory Temporary Treatment Order was revoked,[34] and he remained a voluntary patient in the low dependency section of SAAPU with escorted day-leave privileges.[35]

---

[26] Coronial brief, pages 42, 67.
[27] According to his family, Mr Stankic had complained of both arm and leg pain throughout his admission: see statements of Melissa Stankic and Ourania Bazzano.
[28] Direct Oral Anti-Coagulant (**DOAC**). An oral equivalent to enoxaparin that is recommended therapy for both deep vein thrombosis and pulmonary emboli. The recommended dose is 15mg twice a day for three weeks then 20mg daily for six months.
[29] Coronial brief, pages 45-47, 54, 80. The plan was for the dose to be decreased to 20mg once daily for three months and a repeat ultrasound at three months.
[30] Coronial brief, page 46.
[31] SAAPU while on the Western Health's Sunshine premises is organizationally run by NorthWestern Mental Health which is part of Melbourne Health. There is agreement between the two services that they will consult services for each other – functionally acting as one system.
[32] Coronial brief, page 60.
[33] A common symptom of DVT which disappears after weeks of treatment as the clot is reabsorbed by the body.
[34] Western Health medical records, page 720 of 754.
[35] Coronial brief, page 61.

24. At approximately 12.00pm on 14 July 2018, Mr Stankic was allowed two hours of day leave. He subsequently went to a family member's house in Taylors Hill where a number of other family members were present. While still with his family, at about 2.07pm, Mr Stankic complained of shortness of breath, became anxious, and then collapsed. Family members commenced CPR and called emergency services.

25. Responding Ambulance Victoria paramedics arrived at 2.14pm and continued resuscitation efforts. Mr Stankic was transferred to Sunshine Hospital ED.[36]

26. Mr Stankic arrived at the ED at approximately 3.19pm. Given there had been no signs of electrical cardiac activity for an hour and there was no cardiac activity on bedside echocardiogram,[37] resuscitation was ceased and Mr Stankic was verified deceased at 3.35pm.[38]

INVESTIGATION AND SOURCES OF EVIDENCE

27. This finding draws on the totality of the coronial investigation into the death of Mr Stankic including evidence contained in the coronial file comprising the inspection report and toxicology report from the Victorian Institute of Forensic Medicine (**VIFM**), statements from family members and relevant clinicians, and Mr Stankic's medical records.

28. All of this material, together with the inquest transcript, will remain on the coronial file.[39] In writing this finding, I do not purport to summarise all the material and evidence but will only refer to it in such detail as is warranted by its forensic significance and the interests of narrative clarity.

PURPOSE OF A CORONIAL INVESTIGATION

29. The purpose of a coronial investigation of a 'reportable death'[40] is to ascertain, if possible, the identity of the deceased person, the cause of death and the circumstances in which death

[36] Coronial brief, pages 32-35.
[37] Ultrasound of the heart.
[38] Coronial brief, pages 38-39.
[39] From the commencement of the *Coroners Act 2008* (**the Act**), that is 1 November 2009, access to documents held by the Coroners Court of Victoria is governed by section 115 of the Act. Unless otherwise stipulated, all references to legislation that follow are to provisions of the Act.
[40] The term is exhaustively defined in section 4 of the Act. Apart from a jurisdictional nexus with the State of Victoria a reportable death includes deaths that appear to have been unexpected, unnatural or violent or to have resulted, directly or indirectly, from an accident or injury; and, deaths that occur during or following a medical procedure where the death is or may be causally related to the medical procedure and a registered medical practitioner would not, immediately before the procedure, have reasonably expected the death (section 4(2)(a) and (b) of the Act). Some deaths fall within the definition irrespective of the section 4(2)(a) characterisation of the 'type of death' and turn solely on the status of the deceased immediately before they died – section 4(2)(c) to (f) inclusive.

occurred.[41] Mr Stankic's death clearly falls within the definition of reportable death, specifically section 4(2)(a) of the Act which includes (relevantly) a death that appears to have been unexpected.

30. The 'cause' of death refers to the 'medical' cause of death, incorporating where possible the 'mode' or 'mechanism' of death. For coronial purposes, the 'circumstances' in which death occurred refers to the context or background and surrounding circumstances but is confined to those circumstances sufficiently proximate and causally relevant to the death, and not all those circumstances which might form part of a narrative culminating in death.[42]

31. The broader purpose of any coronial investigations is to contribute to the reduction of the number of preventable deaths through the findings of the investigation and the making of recommendations by coroners, generally referred to as the 'prevention role'.[43]

32. Coroners are empowered to report to the Attorney-General in relation to a death; to comment on any matter connected with the death they have investigated, including matters of public health or safety and the administration of justice; and to make recommendations to any Minister or public statutory authority on any matter connected with the death, including public health or safety or the administration of justice.[44] These are effectively the vehicles by which the coroner's prevention role can be advanced.[45]

33. Coroners are not empowered to determine the civil or criminal liability arising from the investigation of a reportable death and are specifically prohibited from including in a finding or comment any statement that a person is, or may be, guilty of an offence.[46]

IDENTITY OF THE DECEASED

34. On 14 July 2018, Michael Stankic, born 26 June 1989, was visually identified by his mother, Connie Bazzano, who signed a formal Statement of Identification to this effect.

---

[41] Section 67(1).
[42] This is the effect of the authorities – see for example *Harmsworth v The State Coroner* [1989] VR 989; *Clancy* v *West* (Unreported 17/08/1994, Supreme Court of Victoria, Harper J.)
[43] The 'prevention' role is now explicitly articulated in the Preamble and purposes of the Act, compared with the *Coroners Act 1985* where this role was generally accepted as 'implicit'.
[44] See sections 72(1), 67(3) and 72(2) regarding reports, comments, and recommendations respectively.
[45] See also sections 73(1) and 72(5) which requires publication of coronial findings, comments and recommendations and responses respectively; section 72(3) and (4) which oblige the recipient of a coronial recommendation to respond within three months, specifying a statement of action which has or will be taken in relation to the recommendation.
[46] Section 69(1). However, a coroner may include a statement relating to a notification to the Director of Public Prosecutions if they believe an indictable offence may have been committed in connection with the death. See sections 69 (2) and 49(1).

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

MEDICAL CAUSE OF DEATH

36. Senior Forensic Pathologist, Dr Michael Burke, from the Victorian Institute of Forensic Medicine (**VIFM**), conducted an examination on 18 July 2018 and provided a written report of his findings dated 10 August 2018.[47]

37. The post-mortem examination revealed coils of thromboembolism occluding the main pulmonary trunk and left and right main pulmonary veins.

38. Dr Burke explained that pulmonary thromboembolism results in obstruction to blood flow through the lungs and vasomotor changes.

39. He further noted that pulmonary thromboembolism occurs when peripheral deep venous thrombus ('clots' within peripheral veins) dislodge and enter the circulation and impact within the pulmonary circulation within the lungs. The risk factors for deep venous thrombosis include changes in blood coagulation, damage to the endothelial lining of the blood vessel, and stasis of blood flow. Dr Burke added that bed rest is a recognised predisposing factor in the development of deep venous thrombosis.

40. Routine toxicological analysis[48] of ante-mortem samples collected on 13 July 2018 detected codeine,[49] pholcodine, diazepam[50] and nordiazepam, haloperidol,[51] olanzapine,[52] and paracetamol.[53]

41. Dr Burke provided an opinion that the medical cause of death was *"1(a) Pulmonary thromboembolism"* secondary to *"1(b) Deep venous thrombosis"*. He was of the opinion that the death was due to natural causes.

42. I accept Dr Burke's opinion.

[47] Coronial brief, pages 5-12; Exhibit A.
[48] Coronial brief, pages 13-21.
[49] Codeine is a narcotic analgesic related closely to morphine but having approximately one-tenth the activity of morphine as an analgesic and possessing antitussive activity.
[50] Diazepam is a sedative/hypnotic drug of the benzodiazepines class. Metabolites of diazepam include nordiazepam, temazepam, and oxazepam.
[51] Haloperidol is used therapeutically as an anti-psychotic agent.
[52] Olanzapine is indicated for the treatment of schizophrenia and related psychoses. It can also be used for mood stabilization and as an anti-manic drug.
[53] Paracetamol is an analgesic drug.

FOCUS OF THE CORONIAL INVESTIGATION

43. As is often the case in this jurisdiction, the focus of the coronial investigation and inquest into Mr Stankic's death was on the circumstances in which the death occurred. More specifically the focus of this inquest was:

    (a) assessment and management of Mr Stankic's DVT risk whilst in hospital;

    (b) administration of subcutaneous enoxaparin as DVT prophylaxis;

    (c) the effect of ceasing the subcutaneous enoxaparin; and

    (d) Mr Stankic's subsequent development of DVT.

44. On the first day of inquest, I heard from Dr Burke and Dr James Douglas, Intensive Care Physician at Western Health. On the second day of inquest, I was assisted by a panel of expert witnesses who provided concurrent oral evidence:

    (a) Professor Craig French, Director of the Intensive Care Unit, Western Health;

    (b) Dr Peter Blombery, Consultant Physician;

    (c) Professor Huyen Tran, Head, Haemostasis Thrombosis Unit, Alfred Health;

    (d) Professor Andrew Spencer, Principal Specialist in Haematology, Alfred Health;

    (e) Dr Scott Dunkley, senior staff specialist Haematologist at the Institute of Haematology and Chris O'Brien Life-House oncology centre at Royal Alfred Hospital, and Director of the Thrombosis and Haemostasis Clinic, Charles Perkin's Centre, University of Sydney; and

    (f) Dr Robert Lefkovits, Consultant Physician.

ASSESSMENT OF MR STANKIC'S VTE RISK

45. In his expert reports[54] prepared for the Court, Professor Tran explained that approximately 5,000 episodes of hospitalisation associated VTE, comprising of DVT and PE, are diagnosed each year within Australia. It is one of the leading preventable causes of death in hospital.

[54] Coronial brief, pages 104-113, 240-245.

46. Professor Tran was of the opinion that all patients admitted to hospital – including psychiatric inpatients – should be assessed for risk and that the current VTE assessment tool for adult medical patients may be applied to hospitalised adults with a mental illness. But he also noted that a patient's *specific* risk should also be considered, such as history of VTE, active cancer, known thrombophilia, recent surgery, obesity, estrogen therapy, gross varicose veins, and myeloproliferative disorders. The addition of *any* one of those risk factors gives rise to a need for thromboprophylaxis.[55]

47. Immobility is a well-known risk of hospitalised patients, but Professor Tran noted that it is critical to define the extent of immobility:[56]

> *In relation to immobility, an example of a simple functional definition is in the* ***Table***[57] *and should be written into the background document of* ***current*** *VTE assessment tools. The simple question for clinicians to ask is: "Is the patient at their* ***usual*** *level of mobility and functioning?" If not, he/she is considered immobile.*
>
> *Or "Is the patient spending* ***more than 14 hours*** *a day in bed?" If yes, he/she is considered immobile for the VTE assessment and should be offered thromboprophylaxis. In this context, pharmacological or mechanical restraint is likely to be associated with immobility.*

48. He acknowledged that there is a paucity of high-quality evidence but considered it plausible that patients with an acute episode of psychiatric illness who are medically or mechanically restrained leading to significant immobility are at increased risk of VTE and should be considered for pharmacological thromboprophylaxis.[58]

49. In his expert report, Dr Blombery agreed that patients who are immobile in hospital (such as in the ICU or post-surgery) are at an increased risk of development of DVT. To minimise this risk, patients are administered blood thinning agents, such as enoxaparin. The appropriate

[55] Coronial brief, page 105.
[56] Coronial brief, pages 105-106 [original emphasis].
[57] The table lists examples of medical indication for hospitalisation and patient specific risks that are associated with increased risk for VTE and indicated for thromboprophylaxis. Medical reason for hospitalisation & increased VTE risk indications: congestive heart failure, chronic obstructive lung disease, sepsis, pneumonia, acute Inflammatory disease – e.g. flare of inflammatory bowel disease (IBD); medical reasons associated with significant immobility (bedbound for ≥14h/day or inability to walk >5m unaided. Patient specific risks for VTE indications: age >60 and at least one of the following: history of VTE, active cancer, known thrombophilia (e.g., Factor V Leiden mutation or deficiency of natural anticoagulants, antiphospholipid syndrome), surgery in the last four weeks, obesity (BMI >30 kg/m2), estrogen therapy, gross varicose veins, myeloproliferative disorders.
[58] Coronial brief, page 105.

dose of enoxaparin is 40mg for prevention, which is injected under the skin of the abdomen on a daily basis whilst the patient is less mobile than usual.[59]

50. Practice at Western Health reflected these known risks. In oral evidence, Dr Douglas explained that when a patient is admitted to an ICU, the usual procedure is to consider the patient for DVT prophylaxis and the assessment of DVT. He noted that the specific risk factors for VTE that were relevant to Mr Stankic were that he was an intensive care patient and had been intubated at the start of his admission, and therefore immobilised.

51. Further consideration would then examine why the patient *could not* be given prophylaxis, for example if it would dangerously increase the person's chance of bleeding.[60]

52. Professor French, in oral evidence, agreed this was the appropriate approach:[61]

> *So all patients admitted to intensive care are assumed to be at high risk of venous thromboembolism so therefore no additional risk assessment is performed. The* ***default*** *is for all patients admitted to intensive care to have pharmacological prophylaxis unless there is a contraindication. In a small number of patients additional risks might be considered. They relate to specific patient factors of which Mr Stankic did not have any.*

53. While Mr Stankic did not have any previous additional risk factors for VTE, his suicide by hanging attempt *"may have contributed indirectly and principally relate to his brief period of circulatory arrest and the ambulance notes which describe a period of cardiac pulmonary resuscitation."* It was plausible that during his period of CPR the blood flow around the body was relatively slow, and it is possible this slow blood flow could have predisposed Mr Stankic to VTE risk. But there was no significant trauma to the neck that would have increased Mr Stankic's risk of DVT.[62] Professor French went on:[63]

> *He was critically ill, he had a brief period of circulatory arrest; he required intensive care management and invasive mechanical ventilation by sedation during those 24 hours of intensive care. All of those things were as a result, I guess as a consequence, of the suicide attempt. But all in itself were risk factors and contributing*

[59] Coronial brief, page 96.
[60] Transcript, pages 30-31.
[61] Transcript, page 68 [emphasis added].
[62] Transcript, pages 68, 98.
[63] Transcript, page 98.

factors to – well, potential risk factors increasing his chance of venous thromboembolism.

54. Dr Burke was asked to comment on whether the hanging had any impact on VTE risk and he similarly noted:[64]

Virchow's triad states that the risk of DVT is associated with (1) venous stasis, (2) activation of blood coagulation, and (3) vein damage. It is intuitive that in an episode of attempted hanging and cardiac risk there will be pooling of blood in dependent peripheral veins.

55. In terms of *ongoing* risk, Professor French explained that although difficult to quantify, Mr Stankic's risk may have been affected by:[65]

(a) his increased mobility, which would have *decreased* the risk; and

(b) the ongoing need for mechanical restraint, which would limit mobility, and in turn may have *increased* the risk more so than other persons who did not require mechanical restraint.

ADMINISTRATION OF ENOXAPARIN AS DVT PROPHYLAXIS TO MR STANKIC

56. Given his known risk, Mr Stankic was prescribed a prophylactic dose of enoxaparin 40mg to be administered subcutaneously daily.[66] He was administered this medication on 7, 8, and 10 July 2018.

57. As noted above, according to Dr Blombery, this was the appropriate dose for prevention.

CESSATION OF ENOXAPARIN AS DVT PROPHYLAXIS TO MR STANKIC

58. On the morning of 10 July 2018, Dr Douglas decided to cease all of the medication that had been administered to Mr Stankic subcutaneously,[67] including enoxaparin. In his statement, Dr Douglas explained that he weighed the risk to staff and the potential benefits of continuing Mr Stankic's prophylaxis and took into account the following considerations:[68]

[64] Exhibit E.
[65] Transcript, page 69, 73.
[66] Coronial brief, page 107.
[67] Subcutaneous administration is the insertion of medications beneath the skin either by injection or infusion.
[68] Coronial brief, page 45.

(a) Mr Stankic was ready to mobilise;

(b) he was medically ready to be discharged from the unit; and

(c) he would not have been continued on enoxaparin upon discharge.

59. In oral evidence, he clarified as follows:[69]

> *So the decision I reached on the morning when I decided to stop the enoxaparin was for the combination of reasons that, one, the risk to the staff and the violence but also his own clinical state was* ***he did not need it anymore*** *because there was every reason to believe in three hours he would have gone …*

60. Some of the medications, such as the antibiotic prescribed for aspiration pneumonia, were switched to oral medication. In answer to a question posed to Dr Douglas as to whether he similarly considered an alternative administration route for VTE prophylaxis, he responded in oral evidence, *"… no, I did not".* He explained further, *"I did not think that he needed oral anticoagulants at that point for the reasons stated".* He explained that at that point he thought Mr Stankic would be discharged and therefore mobile:[70]

> *But I didn't think he had a high risk of having a DVT given the treatment he had already had and where he was in his illness.*

61. Dr Douglas was asked whether Mr Stankic would have been co-operative in taking an oral VTE prophylaxis given he was taking oral antibiotics if the necessity of taking the medication was explained to him. However, Dr Douglas did not think that was a feasible alternative, noting that the conversation with Mr Stankic would have been *"very, very difficult"* given he could go from being very sedated to very aggressive quickly. Mr Stankic was also mentally unwell, which affected his ability to absorb information.[71]

62. However, Dr Douglas noted that at the time, he *"was not aware of* ***any*** *oral alternate"* that he could have used.[72] Later, he explained that while there were other direct-acting oral anticoagulants (**DOACs**) available, they were not indicated for use in those circumstances,

[69] Transcript, page 37 [emphasis added].
[70] Transcript, pages 32-33.
[71] Transcript, pages 33-34.
[72] Transcript, page 38 [emphasis added].

and he would have been *"extremely uncomfortable"* in prescribing them when not so indicated.[73]

63. While Dr Douglas gave evidence that one reason for ceasing subcutaneous enoxaparin was his belief that Mr Stankic would be discharged home or to the SAAPU shortly, Mr Stankic remained in the ICU until 12 July 2018. He was asked whether at any stage between 10 and 12 July 2018 he considered re-assessing Mr Stankic's risk for VTE and the prophylaxis management plan. Dr Douglas could not recall whether he did so but stated:[74]

> *I think what I was doing every day was re-assessing in, I guess, a holistic sense in terms of his mobility, his violence and aggression and so I think what was done was ongoing intensive care assessment.*

64. He explained that the fact that Mr Stankic had not left the ICU on 10 July was not in and of itself a reason to resume the subcutaneous enoxaparin – Mr Stankic was *"vigorous in bed"* in that he moved around, and he did manage to mobilise out of bed at times. Dr Douglas further noted that being able to walk was one of the strongest indications to stop prophylaxis treatment because the calf muscles would be contracting and moving blood around, which is one of the best preventers of DVT and would have reduced the risk.[75] The evidence also revealed that at times, only two-point restraints were applied, meaning Mr Stankic's legs were free to move.[76]

65. While the other reason given for ceasing subcutaneous enoxaparin was staff safety, Dr Douglas was taken to parts of Professor French's statement which outlined the other medications[77] administered to Mr Stankic intramuscularly or intravenously on 10 and 11 July 2018.[78] He noted he was probably not on the Unit at those times and assumed that clinicians decided to administer those medications due to Mr Stankic becoming aggressive and violent and in order to keep him safe.[79]

66. Dr Douglas explained there was a difference in the way subcutaneous and intramuscular injections were administered:[80]

---

[73] Transcript, pages 44-45.
[74] Transcript, page 39.
[75] Transcript, pages 42-44. Professor French explained that while mechanical restraint restricts mobility, *it does not prevent all* movement of the limbs: Coronial brief, page 65.
[76] See for example Western Health medical records, pages 695-698 of 754.
[77] Dexmedetomidine and propofol for sedation, haloperidol as an antipsychotic, promethazine, and diazepam.
[78] See Coronial brief, page 65. In his statement, Dr Douglas noted that he made a clinical decision to stop all intravenous and subcutaneous treatment: Coronial brief, page 45.
[79] Transcript, page 40.
[80] Transcript, page 41.

So the Clexane is usually given in the stomach sort of just under a pinch of skin in the stomach because it has to get sort of – just the idea with that one is it just goes under the skin which is what the subcutaneous one, whereas with the intermuscular you can basically just in a situation with someone who is potentially very aggressive you can just go straight in, whereas with the Clexane you actually have to be quite gentle and make sure it goes into just the right spot. You need a calm person to do that.

Whether it was appropriate in the circumstances to cease the subcutaneous enoxaparin

67. Professor Spencer, on behalf of the expert panel, stated that given Mr Stankic's aggressive behaviour during his ICU admission, it was reasonable and appropriate for his subcutaneous enoxaparin to be ceased.[81] He went on to explain:[82]

> *... in any clinical situation, the clinician or clinicians have to weigh the relative risks and benefits of what they're doing. And at that time point, Mr Stankic was considered to be ward able. He no longer actually required intensive care management. And his optimal location for accommodation would have been a psychiatric unit. ...*
>
> *... it was contemplated, I think, that because he had periods of increasing mobility, that the relative risk, in terms of harm both to himself and members of staff in trying to administer the enoxaparin was outweighed by not administering the enoxaparin, because in fact, he no longer was a critically ill ICU patient. So, it – it's not black and white.*

68. However, when it was clear that Mr Stankic was not going to be discharged, and in fact remained in the ICU for two further days, Professor Spencer was of the opinion that the *"situation should be constantly reviewed"* and it was not clear from the medical notes whether reinstating anticoagulation was in fact considered. Notably, he believed that Mr Stankic was no longer in a *"critically ill scenario"* and had also been mobilising around the unit. Additionally, it was not clear at the time when Mr Stankic would be discharged from the ICU.[83]

69. The expert panel was asked whether it would have been reasonable to reassess Mr Stankic's risk and develop another VTE prophylaxis management plan. Dr Dunkley stated that it

[81] Transcript, page 72.
[82] Transcript, page 74.
[83] Transcript, page 75.

appeared risk assessment was ongoing, and dynamic, and therefore appropriate. He noted that a number of factors were relevant for consideration:[84]

(a) the fact that Mr Stankic remained in the ICU and was not as mobile as he may have been in a psychiatric ward or general medical ward;

(b) whether oral pharmacological DVT prophylaxis could be given; and

(c) whether physical measures, like stockings or calf compressors, were appropriate.

Whether alternatives to subcutaneous enoxaparin were available and/or should have been considered

70. In his expert report, Professor French outlined the DOACs approved by the Therapeutic Goods Administration for use in Australia:[85]

(a) dabigatran (brand name Pradaxa);

(b) rivaroxaban (brand name Xarelto); and

(c) apixaban (brand name Eliquis).

71. These are approved for use in the following indications:

(a) prevention of VTE in adults who have undergone total hip or total knew replacement surgery;

(b) the prevention of stroke or systemic embolism in adult patients with non-valvular atrial fibrillation and at least one additional risk factor;

(c) the treatment of DVT and PE in adult patients;

(d) the prevention of recurrent DVT and PE in adult patients; and

(e) the prevention of major cardiovascular events in patients with coronary artery disease and/or peripheral artery disease (rivaroxaban only in combination with aspirin).

72. Professor French noted that DOACs are not approved now, and were not approved in 2018, for prevention of VTE in persons admitted to the ICU. In addition, his review of relevant

[84] Transcript, page 78.
[85] Coronial brief, pages 238-239.

literature did not reveal any recommendation for the use of DOACs for VTE prevention in ICU and trauma patients. In Professor French's experience, the 'off label' use of DOACs for this indication is extremely uncommon. He referred to a single retrospective study comparing rivaroxaban with enoxaparin as primary prophylaxis in adult trauma patients (both ICU and non-ICU patients) which suggested that rivaroxaban may be a safe alternative.[86]

73. In his expert report, Professor Tran similarly noted that DOACs, such as apixaban and rivaroxaban, have been evaluated in randomised control trials involving hospitalised medical patients as suitable for use as an alternative to low molecular weight heparin (**LMWH**) where subcutaneous administration is unsuitable.[87]

74. In fact, both apixaban and rivaroxaban are both approved by the Food and Drug Administration in the United States for use in acute medically ill patients. Professor Tran considered use of DOACs in a hospital setting in Australia:[88]

> *… should be left to the judgment of learned clinicians where it may be prescribed safely. There is no increased risk of bleeding with DOAC compared with LWMH [low molecular weight heparin] if used appropriately. Therefore, a DOAC may be considered safe to replace a LWMH when the next scheduled dose is due and continued until the VTE risk has resolved.*

75. Professor Tran noted that while DOACs would not usually be provided to ICU patients because they are usually critically unwell and likely unable to swallow, in this instance where a patient such as Mr Stankic was not intubated, it would be suitable to consider the use of a DOAC. He went on:[89]

> *But as we've somewhat alluded to, there's no TGA [Therapeutic Goods Administration] indication or prophylaxis for medical patients and also it's not currently typical to use these agents in that ICU setting as well. But these agents are available on virtually all hospital pharmacy formulae for consideration.*

[86] Coronial brief, pages 238-239. Confirmed by Professor Tran: Coronial brief, page 106; Transcript, page 81.
[87] Coronial brief, page 106.
[88] Coronial brief, page 106.
[89] Transcript, pages 82-84.

76. Later, he stated:[90]

> *... if someone needs ongoing thromboprophylaxis, if it's clinically decided that a patient needs ongoing thromboprophylaxis and low molecular weight heparin injection can't be administered for any reason, then an alternative such as a DOAC can be considered. Noting however at the moment that it's not common practice, it's atypical and there's no TGA approval in Australia.*

77. Professor Tran added that there would not be any additional risk in switching to a DOAC following commencement of enoxaparin, explaining that it was possible to effectively substitute one for the other.[91]

78. In considering Mr Stankic's specific presentation, Professor Tan was of the opinion that if it was determined that Mr Stankic *remained* at increased risk for VTE, and it if was considered inappropriate to continue the enoxaparin, the suitable alternative pharmalogical option could have been either rivaroxaban 10mg once daily or apixaban 2.5mg twice daily (as prophylactic doses) until Mr Stankic returned to his usual level of mobility.[92]

79. Professor Tran acknowledged that the prophylactic doses of these DOACs would have continued to *minimise* but not *eliminate* the risk for VTE and he cited a rate of 2.5 to 6.2 percent of people developing VTE despite prophylaxis. Professor Tan opined:[93]

> *Where subcutaneous injections cannot be continued safely, the institution should consider an oral pharmacological antithrombotic agent as an alternative to avoid interruptions.*

80. In response to a question put to the panel as to whether there were there any standard protocols or published guidance for intensive care physicians setting out the management and VTE prophylaxis in the circumstances of patients such as Mr Stankic in July 2018, Professor Spencer noted that while there were certainly national and international guidelines for the management of VTE prophylaxis for patients in intensive care, there were no specific guidelines on how to manage VTE prophylaxis in patients such as Mr Stankic, where his behaviour had the effect of leading to modification of his management in ICU.[94]

[90] Transcript, pages 83-85; also see page 99.
[91] Transcript, pages 85, 99.
[92] Coronial brief, page 107.
[93] Coronial brief, page 245.
[94] Transcript, page 73.

81. The expert panel confirmed that subcutaneous enoxaparin is the recommended first choice for pharmacological VTE prophylaxis in an ICU setting. Standard practice is to administer it subcutaneously on the abdomen. However, Professor Tran noted that if that is not feasible for any reason, it can be administered in other parts of the body where one can find fatty tissue – such as the buttock or the upper limb; the thigh is less preferrable as it is muscular. He explained that LMWH (enoxaparin) can only be given subcutaneously. It is not a drug that should be given intravenously or intramuscularly, nor can it be given orally.[95]

82. Given there was no risk, and even though not approved by the TGA, the panel considered that where subcutaneous injections cannot be continued safely it would be reasonable for ICU clinicians to consider DOACs as an alternative to avoid interruptions to VTE prophylaxis.[96]

83. As there is no guidance regarding use of DOACs in situations where the use of subcutaneous injection is difficult, the panel agreed that I should make a recommendation in this regard, and it was suggested that I direct such a recommendation to the Thrombosis and Haemostasis Society of Australia and New Zealand, which is a national body that provides guidance about clotting and bleeding disorders. Approval from the Therapeutic Goods Administration to use DOACs for this particular indication would assist the Society to do this.[97]

84. In the end, the panel was of the view that in these relatively unique circumstances and noting that there is no guarantee of preventing DVT even with prophylactic anticoagulant, the management of Mr Stankic's VTE risk and VTE prophylaxis in the ICU was appropriate.[98]

EFFECT OF CESSATION OF PROPHYLACTIC ENOXAPARIN

85. The expert panel was asked about the effect on VTE risk of commencing prophylactic enoxaparin and then ceasing it after three doses, and whether cessation would cause a disruption to the body's blood coagulation system that could lead to increased risk of VTE.

86. Dr Dunkley stated that there would not be an *increase* in risk but there is a loss of any benefit it was providing while it was being continued. Mr Stankic would have maximum benefit – or risk reduction – from the first three days when he was on prophylaxis.[99]

[95] Transcript, pages 79-80.
[96] Transcript, page 90.
[97] Transcript, pages 92-95.
[98] Transcript, pages 91-92.
[99] Transcript, page 76.

87. The expert panel was also asked whether the risk of VTE would increase if prophylactic enoxaparin is interrupted for two days in a patient such as Mr Stankic. Dr Dunkley explained that the risk is higher whilst the patient is not on prophylaxis, but the panel was unable to quantitate the relative risk.[100]

88. The panel was asked what effect, if any, the cessation of enoxaparin had on Mr Stankic's DVT and pulmonary embolism if DVT began to develop in the days prior to the decision to cease enoxaparin. Dr Blombery explained it if that clot had been developing whilst he was on enoxaparin, that would suggest that the enoxaparin was not being effective in terms of prevention. Cessation of enoxaparin would therefore have had a minimal, if any, effect.[101] This issue is discussed further below.

89. I asked Dr Blombery whether anticoagulation may help to dissolve an already developed clot. He explained that anticoagulants do not in fact dissolve clots. It is body's own mechanisms that dissolve the clot. Anticoagulants will however prevent further clot developing.[102] As noted in his expert report, *"Treatment of DVT is aimed at preventing extension of the clotting process with the use of anticoagulant medication in a* ***therapeutic*** *dose. This aids in gradual resolution of clotting".*[103]

90. The panel was asked whether Mr Stankic's DVT or pulmonary embolism would have been prevented had he had received anticoagulant prophylaxis on 9 and 11 July 2018 (in addition to 7, 8, and 10 July). Dr Blombery stated that no drug would absolutely prevent DVT but:

> *... it's possible that had the ... prophylaxis been given for the full five days without any break, it may have reduced the – the risk of DVT slightly in frequency. But it is very unlikely to have prevented the DVT. And the same applies to the cause of the embolism. So, it's really a matter of ... likelihood of DVT may have been reduced at frequency. That's about as much as we can say.*

[100] Transcript, page 76.
[101] Transcript, page 87.
[102] Transcript, page 88.
[103] Coronial brief, page 96 [emphasis added].

MR STANKIC'S SUBSEQUENT DEVELOPMENT OF DVT

91. On the morning of 12 July 2018, Mr Stankic underwent an ultrasound of his lower legs which revealed extensive DVT throughout his right lower limb. There was no DVT in his left leg.[104]

92. In oral evidence, Professor French referred to a 2011 study which suggested that about nine percent of patients who receive DVT prophylaxis *still* go on to develop a VTE.[105] For persons who do not receive DVT prophylaxis, the expert panel estimated the relative risk of getting a blood clot was about 15 to 20 percent. DVT prophylaxis reduces – not eliminates – the relative risk of getting a blood clot by about 50 per cent:[106]

> *So most persons still, most persons who don't receive DVT prophylaxis will not get a clot but those that do receive DVT prophylaxis, less, a few of them get a clot, around half.*

93. As Dr Blombery explained in his expert report, the major risk of DVT is a piece of the clot breaking off and travelling to the lung, which results in a PE. The majority of PE cases are not fatal and usually result in symptoms such as chest pain, shortness of breath, and low oxygen levels. However, extensive PE can be, and in this case, was fatal.[107]

94. In oral evidence, Dr Burke noted that there was a large amount of clot within Mr Stankic's lungs, and the main arteries to his lungs, which he described as *"at the severe end".* He went on to explain that an otherwise fit and young person can usually tolerate some clots within their lungs, so a large amount of clot within their lungs would be needed to cause their death.[108]

95. Dr Burke was asked to comment on Mr Stankic's complaint of pain in his right calf on the morning of 12 July 2018. He explained that while autopsy did not reveal clots within either of Mr Stankic's calves, the complaint of pain suggested that there may have been a clot there at the time, which could have dissolved thereafter or travelled up to the chest.[109] He went on to state:[110]

---

[104] Coronial brief, page 145.
[105] Also see Cook D et al, Deep venous thrombosis in medical-surgical critically ill patients: prevalence, incidence, and risk factors. Crit Care Med. 2005; 33(7):1565. In this study of 261 ICU patients – all of whom received VTE thromboprophylaxis – the incidence of DVT development was 9.6 percent.
[106] Transcript, pages 70-71.
[107] Coronial brief, page 96.
[108] Transcript, pages 9-10.
[109] Transcript, pages 12-16, 23.
[110] Transcript, pages 18-19.

I think seeing he's had pain in that leg and I've seen a clot in the right leg organised to the vessel wall at autopsy, I think it's reasonable to conclude that it's much more likely that the clot has come from the right leg. Is it feasible that there could have been some clot in the left calf which has flicked off to the lungs, yes, it is, but I would have thought if someone has symptoms and pain in their calf on the right side it's much more likely that it's come from that side.

96. Taken to the report of the ultrasound conducted on the morning of 12 July 2018, Dr Burke agreed that the extent of the clot indicated it had likely been developing over a number of days. He added that the *"healing process"* of the right femoral vein identified at histopathology indicated a period of a number of days – more than 24 or 48 hours.[111]

97. Dr Blombery agreed that there were certain features on ultrasound which suggested the clot was *"old"*, but he was unable to be more specific in terms of time.[112] Later, when taken to the transcript of Dr Burke's evidence, he proffered a possible period of three to five days, but not much longer than that.[113]

98. Professor French added, from a clinical perspective, Mr Stankic would have been most at risk of developing a clot during the period of circulatory arrest. And the development of the clot would occur sometime before the development of symptoms – that is, pain and swelling.[114]

99. Professor Leftkovitz proffered a period of four to five days. If Mr Stankic had cardio-circulatory collapse at the time of the hanging, that certainly would have been a major predisposing factor.[115]

100. Dr Dunkley agreed that the clot developed early on in Mr Stankic's presentation and more likely than not this was at a time when he was receiving thromboprophylaxis.[116]

101. In closing submissions, Mr Ajzensztat submitted that the weight of the evidence was that Mr Stankic's right leg DVT began early in his admission to ICU and separately before the decision was made to cease the enoxaparin on the morning of 10 July 2018.

[111] Transcript, pages 20-22.
[112] Transcript, pages 85-86.
[113] Transcript, pages 104-106.
[114] Transcript, pages 106-107.
[115] Transcript, page 109.
[116] Transcript, page 111.

INTERNAL REVIEW FOLLOWING MR STANKIC'S DEATH

102. Following Mr Stankic's death, Western Health undertook a joint root cause analysis with Melbourne Health, which identified the following issues:[117]

(a) due to bed unavailability at the SAAPU, Mr Stankic continued to be managed in the ICU, which was an unsuitable environment for a physically ambulant and distressed patient;

(b) due to this, and Mr Stankic's behaviour and the need to ensure patient safety, he was restrained for prolonged periods of time;

(c) it was unclear whether the restraint was causative of the development of Mr Stankic's DVT, but it was noted likely to be contributory;

(d) Mr Stankic's attempted hanging, along with a period of circulatory arrest and admission to the ICU, were likely primary factors that increased the likelihood that Mr Stankic would develop a DVT; and

(e) there were no issues with Mr Stankic's DVT prophylaxis management.

103. The review included two recommendations:[118]

(a) The first was related to an increase in mental health beds to ensure patients are cared for in the most appropriate environment. Western Health has now expanded its ED to include a Behaviour Assessment Unit, which includes four mental health beds within the ED for patients who present with an acute psychiatric condition and a Crisis Hub, which includes four interview rooms and six mental health beds within the ED for patients who present with mental health and/or psychosocial issues; and

(b) Noting that NWMH did not have access to Western Health's paging system and was therefore unable to page medical registrars for concerns regarding the management of NWMH patients, it was recommended that communication tools be aligned. The Western Health paging system is now in use at all three NWMH wards (SAAPU, Adult Mental Health Rehabilitation Unit, and Aged Persons Mental Health Unit).

[117] Coronial brief, pages 81, 88, 90-91.
[118] Coronial brief, pages 82-83, 91.

104. In addition to the recommendations, Western Health also identified the following actions:[119]

(a) review of mental health access and DVT policies; and

(b) implementation of processes to improve Western Health's daily operating systems to increase patient flow to create more bed spaces.

FINDINGS AND CONCLUSION

105. The applicable standard of proof for coronial findings is the civil standard of proof on the balance of probabilities, with the *Briginshaw* gloss or explications. [120]

106. Moreover, the effect of the authorities is that Coroners should not make adverse comments or findings against individuals or institutions, unless the evidence provides a comfortable level of satisfaction that they departed materially from the standards of their profession and in so doing, caused, or contributed to the death.

107. It is axiomatic that the material departure from applicable standards be assessed without the benefit of hindsight, on the basis of what was known or should reasonably have been known at the time, and not from the privileged position of hindsight. Patterns or trajectories that may be appreciated at a later time or may even obvious once the tragic outcome has come to pass are to be eschewed in favour of a fair assessment made while standing in the shoes of the individual or institution whose conduct is under scrutiny.

108. Having applied the applicable standard of proof to the available evidence, I find that:

(a) The deceased was Michael Stankic, born 26 June 1989.

(b) Mr Stankic died on 14 July 2018 at Sunshine Hospital, 176 Furlong Road, St Albans, Victoria.

(c) The cause of Mr Stankic's death was pulmonary thromboembolism secondary to deep venous thrombosis.

[119] Coronial brief, page 84.

[120] *Briginshaw v Briginshaw* (1938) 60 CLR 336 especially at 362-363: *"The seriousness of an allegation made, the inherent unlikelihood of an occurrence of a given description, or the gravity of the consequences flowing from a particular finding, are considerations which must affect the answer to the question whether the issues had been proved to the reasonable satisfaction of the tribunal. In such matters "reasonable satisfaction" should not be produced by inexact proofs, indefinite testimony, or indirect inferences…"*.

(d) Mr Stankic attempted suicide by hanging on the morning of 7 July 2018. His wife found him and administered cardiopulmonary resuscitation successfully, which enabled him to be transported to Sunshine Hospital in a breathing but unconscious state.

(e) When admitted to the Intensive Care Unit, it was recognised that Mr Stankic was at increased risk of venous thromboembolism due to his critical illness – relevant considerations included his intubation (and therefore unconscious state) at the start of his admission, and his immobility. I accept the evidence of the expert panel that factors that predisposed Mr Stankic to risk of venous thromboembolism included circulatory collapse and arrest prior to his hospital presentation.

(f) Mr Stankic was prescribed the appropriate prophylactic dose of enoxaparin 40mg daily. He received this medication on 7, 8, and 10 July 2018.

(g) Due Mr Stankic's aggressive behaviour, orders were made that he be restrained. At various times during his admission, he was chemically and/or mechanically restrained (via four-point or two-point restraints) for safety reasons, which led to further immobility. He had intermittent temporary releases from those restraints.

(h) On the morning of 10 July 2018, in an attempt to de-escalate Mr Stankic's behaviour, and with regard to staff safety, a clinical decision was made to cease the enoxaparin. I accept the consensus of the expert panel that the decision to cease subcutaneous enoxaparin was reasonable in the circumstances.

(i) Unfortunately, a lack of acute psychiatric beds meant Mr Stankic remained in the Intensive Care Unit and resulted in mechanical restraint being applied longer than would have been the case had beds been available.

(j) Mr Stankic did not receive any further anticoagulant medication until the morning of 12 July 2018, when he was diagnosed with extensive DVT throughout his right lower limb. He was appropriately prescribed a therapeutic dose of oral rivaroxaban 15mg twice a daily. I am satisfied that Mr Stankic's deep vein thrombosis was diagnosed and treated in a timely manner and in accordance with accepted practice.

(k) On the afternoon of 12 July 2018, Mr Stankic was transferred to the Sunshine Adult Acute Psychiatric Unit, where he was not restrained. I accept that there was no reason

to keep Mr Stankic in the Intensive Care Unit and his treatment for deep vein thrombosis was able to be continued in the psychiatric unit.

(l) On the afternoon of 14 July 2018, Mr Stankic was granted day leave and left hospital to visit family. There were no clinical indicators that Mr Stankic was about to arrest from a pulmonary embolus, and I am satisfied that it was appropriate for Mr Stankic for have leave from hospital and ambulate.

(m) Whilst on leave from hospital, Mr Stankic collapsed. Cardiopulmonary resuscitation was administered, and he was transported to hospital where he was verified deceased.

(n) I accept the evidence of the expert panel that while Mr Stankic was appropriately prescribed thromboprophylaxis, no medication will entirely remove the risk of VTE. Indeed, just under one in 10 intensive care patients who receive thromboprophylaxis still develop deep vein thrombosis. Prophylaxis merely reduces the risk.

(o) Given thromboprophylaxis is not a universally effective prevention strategy, medical staff need to remain vigilant in both diagnosing and treating deep vein thrombosis, which occurred in Mr Stankic's case.

(p) While the Dr Burke and the expert panel varied in their opinions as to the age of the clot found on 12 July 2018, they agreed that it had likely been there for several days, likely beginning very early in his admission, and before symptoms were clearly evident. This was despite Mr Stankic receiving prophylactic doses of enoxaparin from 7 to 10 July 2018. I therefore accept the evidence of the expert panel that pharmacological thromboprophylaxis was likely not efficacious in this instance.

(q) The weight of the evidence favours the view that Mr Stankic's deep vein thrombosis began to develop before the morning of 10 July 2018, before the decision was taken by Dr Douglas cease subcutaneous enoxaparin.

(r) Accordingly, I am satisfied that the cessation of enoxaparin like had minimal, if any effect, on the development of the deep vein thrombosis and subsequent pulmonary embolism. Put another way, had Mr Stankic received enoxaparin on 9 and 11 July, as well and 7, 8 and 10 July 2018, it is likely the deep vein thrombosis/pulmonary embolism would not have been prevented.

(s) The weight of the evidence supports a finding that the decision to cease prophylactic enoxaparin did not cause or contribute to Mr Stankic's death.

109. I convey my sincere condolences to Mr Stankic's family for their loss.

COMMENTS

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

111. While I am satisfied that the cessation of Mr Stankic's thromboprophylaxis medication did not cause or contribute to his death, the evidence from the expert panel revealed a lack of guidance in two specific areas of clinical practice:

(a) When is a patient considered immobile enough so that they are at increased risk of developing venous thromboembolism?

(b) If and when direct-acting oral anticoagulants can be used as thromboprophylaxis for hospitalised patients?

112. The first issue was identified by Professor Tan, who advocated for a definition of 'immobility' not only for medical patients but also for psychiatric patients. He suggested that two threshold questions be asked:

(a) Is the patient at their usual level of mobility and function? If not, the patient is considered immobile; and

(b) Is the patient spending more than 14 hours a day in bed? If yes, the patient is considered immobile for the purposes of venous thromboembolism assessment and should be offered thromboprophylaxis.

113. Whilst various guidelines and assessment tools refer to *reduced* or *limited* mobility, there appears to be a lack of clear guidance about the point in the sliding scale where reduced mobility becomes a risk. Therefore, this finding will be provided to the Australian Commission on Safety and Quality in Health Care for consideration of inclusion of a definition of 'immobility' that is clear and easy to for clinicians to apply in the context of thromboprophylaxis assessment tools and clinical guidelines. For the same reason, this finding will also be provided to Safer Care Victoria for consideration of opportunities to engage with hospitals, including Western Health and psychiatric inpatient units, on this issue.

114. While the addition of a direct-acting oral anticoagulant to Mr Stankic's pharmacological regime may not have been efficacious in preventing deep vein thrombosis, the expert evidence suggests a lack of clear guidance about their use as thromboprophylaxis for admitted patients.

115. The evidence from the expert panel was that the anticoagulant effects of low molecular weight heparin and direct-acting oral anticoagulants were the same, and therefore could therefore be theoretically used as a prophylaxis for hospitalised patients without any additional risk. However, there were two limitations to their use in this way:

(a) The Therapeutic Goods Administration has not approved the use of direct-acting oral anticoagulant as an alternative to low molecular weight heparin as thromboprophylaxis for patients in an Intensive Care Unit; and

(b) There were therefore no guidelines regarding when direct-acting oral anticoagulant could be used in such a setting.

116. Professor Tran noted that both apixaban and rivaroxaban are approved by the Food and Drug Administration in the United States for use in acute medically ill patients and similar use should be considered in Australia. In circumstances where a patient requires ongoing thromboprophylaxis, and low molecular weight heparin injection cannot be administered, he believed direct-acting oral anticoagulants can be considered. He thought it should be left to the judgment of his colleagues as to the circumstances in which those drugs may be prescribed safely.

117. However, the expert panel were unable to point to any standard protocols or published guidance for physicians on how to manage venous thromboembolism prophylaxis for patients in an Intensive Care Unit who cannot receive low molecular weight heparin as thromboprophylaxis, for whatever reason.

118. In a case such as Mr Stankic's, where he was unable to be administered subcutaneous enoxaparin, it would have been helpful to his clinicians to be able to turn to guidelines for assistance.

119. For the reasons discussed above, I will also distribute my finding to the relevant medical societies and colleges, in addition to Therapeutic Goods Administration, for their consideration for the expansion of the use of direct-acting oral anticoagulant in circumstances where low molecular weight heparin cannot be provided as thromboprophylaxis in a hospital setting.

PUBLICATION OF FINDING

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

DISTRIBUTION OF FINDING

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

Lisa Stankic, senior next of kin (copy to Carbone Lawyers)
Western Health (care of Lander & Rogers)
Melbourne Health (care of Meridian Lawyers)
NorthWestern Mental Health Service (care of DTCH Lawyers)
Dr Saffray Hamid (care of Kennedys Lawyers)
Office of the Chief Psychiatrist
Safer Care Victoria
Thrombosis and Haemostasis Society of Australia and New Zealand
Royal Australian and New Zealand College of Psychiatrists
Royal Australasian College of Physicians
College of Intensive Care Medicine of Australia and New Zealand
Australian Commission on Safety and Quality in Health Care
Therapeutic Goods Administration
Senior Constable Aaron Bird, Victoria Police, Coroner's Investigator

Signature:

Coroner Paresa Antoniadis
Spanos_____
Date: 28 July 2023

NOTE: Under section 83 of the ***Coroners Act 2008*** ('the Act'), a person with sufficient interest in an investigation may appeal to the Trial Division of the Supreme Court against the findings of a coroner in respect of a death after an inquest. An appeal must be made within 6 months after the day on which the determination is made, unless the Supreme Court grants leave to appeal out of time under section 86 of the Act.