FINDINGS, COMMENTS and RECOMMENDATIONS of Coroner Olivia McTaggart following the holding of an inquest under the *Coroners Act* 1995 into the death of:

VALERIE JOY BOWERMAN

Contents

Record of Investigation into Death (With Inquest)

Coroners Act 1995
Coroners Rules 2006
Rule 11

I, Olivia McTaggart, Coroner, having investigated the death of Valerie Joy Bowerman, with an inquest held at Hobart in Tasmania, make the following findings:

Hearing Dates

16 and 17 February 2021, with final written submissions received by 23 March 2021

Representation

Counsel Assisting the Coroner: V Dawkins
Counsel for Tasmanian Health Service: G Chen
Counsel for Lyle Turnbull: S Wright

Introduction

1. Mrs Valerie Bowerman, aged 80 years, died at the Royal Hobart Hospital on 12 September 2017 as a result of a head injury sustained in a fall at her home on the evening of 9 September 2017. Shortly after she sustained the injury, she was attended to and assessed by an Ambulance Tasmania paramedic and volunteer ambulance officer (VAO) but was not transported to hospital. Over the following several hours, Mrs Bowerman displayed signs of neurological deterioration whilst at home in the company of her daughter. An ambulance was called back to her home and, as a result of her poor condition, the same paramedic and VAO conveyed her directly to hospital for assessment and treatment. Unfortunately, her head injury at that time had progressed to massive bleeding in the brain such that surgical and other medical intervention could not assist her. She was provided with palliative care and passed away three days later.

2. Following a comprehensive investigation by the investigating police officers, I decided to hold a public inquest into Mrs Bowerman's death. The main issue for inquiry at the inquest was whether the paramedic and VAO should have or could lawfully have transported Mrs Bowerman to hospital when they first attended at her home, despite her showing no signs of a serious head injury at that time. In particular, they were aware that Mrs Bowerman was prescribed an anticoagulant, warfarin, for her atrial fibrillation, which increased the risk of bleeding upon the sustaining of such an injury. The matters for consideration in this regard included the knowledge of the paramedic and VAO regarding the mechanism of her fall, the contents of their discussions with Mrs Bowerman and her daughter, Katrina O'Halloran, in

relation to the potentially serious nature of the injury in combination with her prescription of warfarin, and whether Mrs Bowerman refused to be transported to hospital having been advised of such risks. Further issues arising for consideration was the adequacy of training provided to senior paramedic, Mr Lyle Turnbull, in respect of the correct procedures and actions for transportation of patients taking warfarin where they have suffered a head injury.

Evidence Tendered at Inquest

3. The evidence to which I have had regard in making these findings comprises the following:

- The Tasmania Police Report of Death for the Coroner;
- Affidavits confirming life extinct and identification;
- Autopsy report of Dr Christopher Lawrence, State Forensic Pathologist;
- Ambulance Tasmania records, 000 calls, pager details and other recordings relating to attendance upon Mrs Bowerman;
- Royal Hobart Hospital medical records for Mrs Bowerman, including medical imaging reports;
- Records, correspondence and oral evidence from Dr Ralph Peters, Mrs Bowerman's general practitioner;
- Clinical review document prepared by Ambulance Tasmania;
- Medical review report and oral evidence from Dr Anthony Bell, Coronial Medical Consultant;
- Affidavits and oral evidence of Katrina O'Halloran, Mrs Bowerman's daughter;
- Affidavit and oral evidence of Craig Bowerman, Mrs Bowerman's son;
- Affidavits and oral evidence of Victoria Rawnsley, Philip Rawnsley and Eric Verdon – neighbours attending to Mrs Bowerman after her fall;
- Affidavit, correspondence and oral evidence of Lyle Turnbull, attending Ambulance Tasmania paramedic;
- Affidavit and oral evidence of Madelin Fox, attending volunteer ambulance officer;
- Affidavits of four attending and investigating police officers;
- Affidavit and oral evidence of Dr Con Georgakas, Director Medical Services, Ambulance Tasmania, Department of Health;
- Ambulance Tasmania policies; and
- Ambulance Tasmania Root Cause Analysis report.

Mrs Bowerman's Background and Medical History

4. Valerie Joy Bowerman was born in Hobart on 25 June 1937. She is survived by her three children, Craig Bowerman, Katrina O'Halloran and Leigh Bowerman, and also her older sister,

Janice Bowerman. Her husband died in 1996 and she lived independently on her own in New Norfolk from that time.

5. Mrs Bowerman enjoyed a close relationship with her sister and children until the time of her death. In a closing statement to the inquest, her family described her as a loving and caring mother and grandmother who adored and was very proud of her family. They described her as independent and still driving herself around the local area and catching the bus to Hobart to meet family members. They described her as having a sense of fun and being engaged in the social life of the community.

6. Mrs Bowerman was in fairly good health at the time of her death. Since 1997, she had been regularly treated by her general practitioner, Dr Ralph Peters. She suffered a stroke in 2004, affecting the left side of her body, especially her left arm. Since 2009, she had been taking warfarin, a prescribed anticoagulant (blood thinning medication), for atrial fibrillation. Since 2015 until the time of her death, she had been admitted to hospital twice, once for influenza and once in February 2017 after she had a fall.

7. Dr Peters said in evidence that Mrs Bowerman was an ideal patient - engaged in her treatment and took her medication as prescribed. Dr Peters monitored her regularly due to her taking warfarin. He stated in evidence that all his patients on warfarin were given advice by him about the risks of bleeding and bruising whilst on warfarin, particularly in the context of suffering trauma. He said that Mrs Bowerman would "well and truly" have been aware of the increased risk of bleeding from warfarin, even for minor trauma, as she had been taking it for many years. I accept that Mrs Bowerman did know that there were dangers of excessive bleeding due to warfarin.

8. Mrs Bowerman frequently drove herself around to her medical appointments. In his affidavit for the coronial investigation, Craig Bowerman observed that in the year before her death his mother was struggling a little, relying on a walking stick at home and using a trolley for shopping when she was only buying a small amount of items.

Circumstances Surrounding Death

9. The evidence allows me to find that the following sequence of events occurred on Saturday 9 September 2017 and into the early hours of Sunday 10 September 2017. I set out below these findings, which are largely uncontested. I will then return to discuss the contested evidence relating to the issues relevant to this inquest.

10. At approximately 6.00pm, Mrs Bowerman walked out of her house and down a concrete ramp at her back door to collect wood for her fire. As she was carrying the wood back into

her house, she lost her balance and fell over. At approximately 6.50pm, Mrs Bowerman called out to her neighbour, Victoria Rawnsley, for help when she saw their outside rear light illuminate.

11. Mrs Rawnsley and her husband, Philip Rawnsley, found Mrs Bowerman on the ground, lying on her side. She told them that she had fallen having gone to get wood and said that she had been there for a "good while". When they were unable to lift Mrs Bowerman they went to get further assistance from another neighbour, Eric Verdon. Mr Verdon and Mrs Rawnsley assisted Mrs Bowerman back into her house and she was alert at that time. Mrs Bowerman appeared to have sustained some swelling and bruising on the left side of her face but not a full "black eye". I will discuss further below the nature of the visible injuries on her face.

12. Mr Rawnsley rang for the ambulance, as she had apparently suffered a head injury and was elderly. Mrs Rawnsley telephoned Dr Peters who advised that a cold compress should be applied to Mrs Bowerman's head. He provided no further advice as he was made aware during the call that an ambulance was coming to attend to her. Dr Peters gave evidence that he was comforted by this news as he believed that she should go to hospital.

13. Mrs Rawnsley and Mr Verdon stayed and chatted until the ambulance arrived. Mr Verdon gave Mrs Bowerman a packet of frozen peas to apply to the injured area on her face. Mrs Bowerman did not appear confused or slurred in her speech during this time. She did not display any particularly negative reaction to the prospect of the ambulance being called. She told Mr Verdon that she did not want to go to hospital, even though he offered to take her. She said that she had a bad experience 18 months before and did not like hospitals.

14. Phone calls were also made to Mrs Bowerman's son, Craig Bowerman, and daughter, Katrina O'Halloran, to advise them of the situation.

15. At 8.22pm paramedic Lyle Turnbull and VAO Madelin Fox, arrived at the residence. Mr Turnbull was an experienced paramedic employed by Ambulance Tasmania and Ms Fox was a VAO acting in a support role to Mr Turnbull. Mr Turnbull and Ms Fox spent approximately 30 minutes with Mrs Bowerman during which time they monitored her condition. She did not display a negative reaction to their arrival. She did not show signs of deterioration and was responsive in her communication. Before leaving, Mr Turnbull had a discussion on the telephone with Mrs O'Halloran about Mrs Bowerman. Mrs O'Halloran indicated that she would come to her mother's house. As stated, I will discuss the circumstances of their attendance further on in this finding.

16. Mrs O'Halloran arrived at Mrs Bowerman's home at approximately 9.20pm. They watched the football game. Mrs Bowerman was alert, walking around and discussing the football score.

Towards the end of the game, Mrs O'Halloran noticed that her mother began yawning a lot and appeared sleepy. She assisted her in changing into her nightie and taking her to the toilet. Mrs Bowerman's movements became sluggish and she was dragging her feet. When she sat on the toilet, she appeared to be leaning to the left and was unable to pull herself up after. Mrs O'Halloran assisted her in walking back to her bed as she appeared to be struggling but was unable to put her on the bed. She lowered Mrs Bowerman onto her knees and she slouched on the bed.

17. Mrs O'Halloran believed that her mother was having a stroke at that time and rang for an ambulance. The operator instructed Mrs O'Halloran to conduct simple tests to assess Mrs Bowerman's symptoms. At that time, Mrs Bowerman was unable to form a proper smile, with one side of her mouth being lopsided, and was unable to repeat after Mrs O'Halloran what she had said. The 000 call between Mrs O'Halloran and the operator was played in court. In the call, Mrs O'Halloran told the operator that her mother could not talk – this was clear from the garbled sounds made by Mrs Bowerman in the call.

18. At 11.46pm, Mr Turnbull and Ms Fox received the call to re-attend Mrs Bowerman's residence. They found Mrs Bowerman to be in a state of decreased consciousness, with a GCS (Glasgow Coma Score) of 9. She was extricated by stretcher from the house and into the ambulance. Ms Fox then drove the ambulance to the Department of Emergency Medicine (DEM) at the Royal Hobart Hospital while Mr Turnbull was in the back maintaining and monitoring Mrs Bowerman's condition. Mrs O'Halloran followed them in a separate vehicle.

19. Although, upon his return to her home, Mr Turnbull formed the view that Mrs Bowerman had suffered a stroke, as opposed to symptoms of head trauma, the treatment required was the same for both conditions. The relevance of this "diagnosis" to the issues at inquest is more to do with Mr Turnbull's lack of appreciation that her previous minor head trauma might cause such deterioration in her condition. There is also no issue in this inquest concerning the examination, treatment or transportation of Mrs Bowerman by the paramedic and VAO on this second occasion. Their care was of a good standard and the transport was efficient.

20. Craig Bowerman arrived at the hospital at approximately 2.00am on 10 September 2017. The attending doctor and neurosurgeon explained to Mr Bowerman and Mrs O'Halloran that there was severe bleeding in the brain and that there would be a low chance of recovery with surgery. This assessment was based upon results of a CT scan returned at 1.38am. It was decided that Mrs Bowerman would not be given active treatment but provided with palliative care. Mrs Bowerman passed away at 11.45am on 12 September 2017 in the presence of her family.

21. Mrs Bowerman's death was a "reportable death" under the *Coroners Act* 1995, it appearing to be an unnatural death resulting from an accidental fall. Her death was formally reported and an investigation commenced.

22. Dr Christopher Lawrence, State Forensic Pathologist, performed an autopsy on Mrs Bowerman on 13 September 2017. He observed that she had a large bruise around the right eye and on the upper portion of the right cheek. Dr Lawrence determined the cause of death was a result of an acute subdural haematoma following a fall while on warfarin for atrial fibrillation. I accept his opinion as to cause of death.

Discussion Regarding the Contentious Evidence

23. Below I set out under various headings the important areas for fact finding concerning the circumstances of Mrs Bowerman's death. Resolution of these facts is required to determine the adequacy of the advice given and communication by Mr Turnbull in respect of the need for Mrs Bowerman to go to hospital for assessment and, if necessary, treatment.

Knowledge by Mr Turnbull and Ms Fox of the circumstances of Mrs Bowerman's fall

24. The only information concerning Mrs Bowerman's fall received by Mr Turnbull and Ms Fox before their attendance at her house was a brief message on their pager sent at 8.12pm. The pager information was correctly interpreted by them as follows: that the case was in the priority 2 category (meaning travel without lights and sirens but leave immediately), that Mrs Bowerman was elderly, had facial injuries in a fall and that it was possibly a "dangerous injury". Although additional information concerning the incident had been given in the previous 000 call, it was standard practice that the attending paramedic and VAO received only the pager message prior to their attendance. Therefore, Mr Turnbull did not receive information that Mrs Bowerman's fall was likely to have been onto concrete, as she had been heard to say in the background of the 000 call by Mr Rawnsley. In the phone call recording, Mrs Bowerman can be heard saying that she was collecting wood when she turned around, lost her balance and fell from standing height.

25. Upon the paramedic's and VAO's arrival at 8.22pm, Mrs Rawnsley explained to Ms Fox and Mr Turnbull that Mrs Bowerman sustained a fall and was concerned that she may be injured. In Ms Fox's affidavit for the coronial investigation, she stated that neither Mrs Bowerman nor Mrs Rawnsley told them that Mrs Bowerman been on the ground after falling for about an hour before seeking help.

26. It is plain on the evidence that Mrs Bowerman fell on the concrete pathway at the ground level of her house. It is very likely that she hit her head on the concrete as she fell, but in any

event I am satisfied that she fell from a standing position with her head making contact with the ground. The manner of her fall was particularly apparent after seeing the photograph of the property and the evidence from her neighbours as to where they located her.

27. I am satisfied, taking into account particularly the original affidavits of Ms Fox and Mr Turnbull, together with those of the attending neighbours, that neither Mr Turnbull nor Ms Fox was aware that the fall occurred in this manner nor the length of time she had been on the ground. Mrs Bowerman spoke rationally and lucidly to them and told them that the fall occurred at her door when bringing in firewood. Mr Turnbull said that Mrs Bowerman maintained that she had stumbled and fell into the door jamb causing an injury to her cheek below the eye. He said that, during the time he was with her, he asked her on several occasions for the details of the fall. I accept that he did so. Ms Fox gave credible evidence that Mrs Bowerman appeared quite reluctant to provide full details of her fall. The paramedic and VAO were both not advised by Mrs Bowerman or any other person that she had been on the ground for almost an hour before she was helped by her neighbours into the house.

28. Mr Wright, counsel for Mr Turnbull, submitted that Mrs Bowerman purposely provided a less serious, and incorrect, account of her fall to the paramedic and VAO because of her reluctance to go to hospital. This may be the most plausible explanation for Mrs Bowerman not providing an accurate account or saying how long she had been lying outside. She certainly was lucid and alert at that stage and this hypothesis would explain her account to them. It is possible, but less likely, that she may have become confused, although it is very clear from the photograph tendered in evidence that the door of the house, where she said she fell, was not at all nearby the concrete path. The door is, in fact, at the top of an elevated exterior concrete ramp leading to inside the house. It is also more likely that Mrs Bowerman gave correct details whilst Mr Rawnsley was on the phone to the 000 operator, when she indicated that she fell on to concrete. At that stage she had just been found, had not had time to recover and would likely be motivated to give accurate details. Further, Mr Rawnsley was fully aware of the location in which she was found.

29. The fact that the paramedic and VAO were provided with an account of the fall that indicated it was potentially a less serious matter than what actually occurred, is not necessarily a very significant matter in deciding whether such a patient should be transported to hospital. The evidence is that minor head trauma in elderly persons on warfarin, even if initially asymptomatic, can lead to significant brain injury. However, as will be discussed, the fact that Mrs Bowerman provided a reasonably benign account of her fall together with a lack of apparent effects from it at that time, led to a less forceful approach by Mr Turnbull in conveying the need for immediate hospital assessment.

30. I agree with Mr Wright's submission that, in the circumstances, Mr Turnbull cannot be criticised for not conducting a more rigorous "investigation" of how Mrs Bowerman fell, for example, by questioning the neighbours or further pressing Mrs Bowerman. As an adult with capacity who was able to give clear and consistent details of the incident, Mr Turnbull was not required to make enquiries elsewhere.

Treatment by Mr Turnbull

31. Mr Turnbull was employed by Ambulance Tasmania for approximately 42 years before resigning in 2018. He became a qualified paramedic in 1983 and, since 1986, worked as an intensive care paramedic. Whilst this inquest did not focus specifically upon Mr Turnbull's competence as a paramedic, the evidence indicates that he was highly experienced, well-regarded and was a person of integrity. It is notable that he held a position as a helicopter paramedic (as sole medical officer) for 25 years. He also held management qualifications and positions. He had extensive experience in trauma attendances, including many head injuries and falls. In particular, he gave evidence that his last eight years as Branch Station Officer in Nubeena saw him frequently attend falls incidents, particularly due to the elderly local population.

32. There is no issue in this inquest that Mr Turnbull conducted a thorough physical and neurological examination of Mrs Bowerman. He initially obtained her account of the fall, ascertained that she had not lost consciousness and was able to provide a clear recall of the event. He described examining her physically and noted a 1centimetre bruise to her right cheek underneath her eye area. He saw no other physical injuries and he, with Ms Fox, continued to take her observations, including an ECG, all of which were within the normal range. Mrs Bowerman was not vague, nauseous or confused. She was able to sit upright, walk around and did not display any unsteadiness in doing so. Mr Turnbull questioned Mrs Bowerman thoroughly in respect of her medical history and she gave a history of high blood pressure and irregular heartbeat, but did not mention having suffered a stroke. She told Mr Turnbull that she was taking warfarin, digoxin and metoprolol. As Mr Turnbull and Ms Fox waited with her, monitoring her signs on a regular basis, they chatted to her and continued to find her alert and lucid, with no signs of neurological deterioration. I am further satisfied, as discussed above, that during discussions with Mrs Bowerman, Mr Turnbull returned on two occasions to question her about the events leading to her fall and she provided the same explanation.

33. In summary, Mr Turnbull conducted an unhurried and thorough examination of Mrs Bowerman including obtaining relevant details as to her medical history. I note that Ms Fox, as a VAO, was in a support role. She did not make treatment or transport decisions but

assisted Mr Turnbull at his direction. As a VAO, her qualification was limited to basic first aid. She stated that she had no knowledge about how a head injury may develop, and did not have extensive training as to internal bleeding. She stated that after the attendance on Mrs Bowerman on the first occasion, Mr Turnbull explained to her the additional risk of bleeding when patients are medicated with warfarin, a matter of which she was not previously aware.

Discussion with Mrs Bowerman regarding advisability of transport to hospital

34. Mr Turnbull, during the time he was with Mrs Bowerman, had discussions with her suggesting that she be taken to hospital for assessment. In his original affidavit sworn in May 2018, Mr Turnbull said that after the initial assessment of Mrs Bowerman he explained the options to her, which were that *"we could do nothing or we could do the lot and take her to hospital due to her fall and being on warfarin".* Mr Turnbull said that Mrs Bowerman indicated she did not want to go to hospital.

35. In the same affidavit, Mr Turnbull stated:

> "*I explained to her due to her facial injury and the fact she was on Warfain* (sic) *I wanted to transport her to the hospital for precautionary. She metioned* (sic) *to me she had called her doctor, Dr Peters who stated to place a cold compress on her bruise. I persisted again and told her I was not happy to leave her here on her own. The deceased stated she had rung her daugher* (sic) *and she was coming from Kingston so she would not be alone.*"

36. Ms Fox corroborated the above evidence in her affidavit, stating that Mr Turnbull suggested to Mrs Bowerman that she attend the Department of Emergency Medicine for review as she was on warfarin. Both Ms Fox and Mr Turnbull stated that she said that she did not wish to go to hospital and wait for a long time and that her daughter would be arriving shortly to take care of her.

37. In oral testimony, both Mr Turnbull and Ms Fox said that Mrs Bowerman's demeanour changed at the suggestion that she be transported to hospital. Ms Fox said that she became firm and Mr Turnbull indicated that she became very feisty at the suggestion. Mr Turnbull said in evidence that he did not go so far as to say that there was a risk of death if she did not go. He said that he did not use stronger or more forceful language than telling Mrs Bowerman that it would be "prudent" to go to hospital. Mrs Bowerman maintained that she was "fine" and I accept that she firmly expressed a wish to remain at home and wait for her daughter rather than be transported to hospital. This is consistent with the sentiment expressed by Mrs Bowerman to her neighbours a little earlier in the evening. I accept Mr Turnbull's evidence that, in the period of time he was with Mrs Bowerman, he suggested on at least two

occasions that she consider going to hospital for assessment. I am satisfied that, to each suggestion, she expressed a firm desire not to go to hospital.

38. Ultimately, Mr Turnbull told Mrs Bowerman that he was not happy to leave her alone, although accepted that she did not wish to go to hospital. He therefore telephoned Mrs O'Halloran for the purpose of confirming that she would be shortly attending her mother's house. As discussed above, Mrs Bowerman was by herself at home for a period of about 20 minutes after the paramedic and VAO had left before her daughter arrived.

Discussion between Mr Turnbull and Mrs O'Halloran

39. There were some differences between the evidence of Mr Turnbull and Mrs O'Halloran about what was said in the telephone call between them whilst Mr Turnbull was still at Mrs Bowerman's house. It is important, if possible, to resolve these differences. This is because what was conveyed by Mr Turnbull to Mrs O'Halloran may well have impacted upon Mrs O'Halloran's knowledge of the potential seriousness of her mother's injury and the attempts she may have made to persuade her mother to be taken to hospital whilst she was still asymptomatic so as to maximise her chances of recovery.

40. In her initial affidavit for the Coronial investigation sworn in November 2017, Mrs O'Halloran said that she had been called by her brother at 8.05pm to advise her that their mother had had a fall and would be attended by paramedics. Mr Turnbull then called her at 8.35pm as she was getting in the car to go to her mother's house with the intention of staying the night. She said in her affidavit:

> "*The gentleman on the phone, Lyall* (sic) *introduced himself and said they checked Mum all over she was walking and talking and seemed okay. He informed me my mum had sustained a black eye and the advice of putting some ice on it. I was taken back* (sic) *and asked if they had checked her blood pressure as she suffers from high blood pressure. They said everything seemed fine with Mum, they were leaving her there and leaving now. I told them I was on my way…*"

41. In his affidavit, Mr Turnbull said in respect of the same conversation:

> "*I rang the deceased* (sic) *daughter and introduced myself as Lyle from Tasmanian Ambulance and I was with her mum the deceased. I outlined I had conducted our assessments with her mum and she appeared to be responding normally. I explained to the deceased's daughter I was not happy to leave her alone and wanted to confirm she was attending to her mother.*
>
> *I explained the deterioration signs for her to look out for and to give us a call straight away so we could re-attend.*"

42. In his letter to the Coronial Division in October 2019 concerning the issues at inquest, Mr Turnbull expanded on his affidavit, stating that he recalled saying to Mrs O'Halloran that Mrs Bowerman had a small abrasion/bruise underneath her right eye on her cheekbone. He said that her mother was quite alert and would *"most likely be fine"*. He said that he instructed Mrs O'Halloran to look out for signs of vagueness, nausea, confusion and vomiting and to call Ambulance Tasmania back if they developed. A similar account was provided by him in response to the Ambulance Tasmania clinical review. He categorically denied that he told Mrs O'Halloran that her mother had a "black eye", although he indicated that she had ice on the bruised area as advised by Dr Peters.

43. It is difficult to resolve the question of whether Mr Turnbull told Mrs O'Halloran that her mother had a "black eye". On balance, it is unlikely that Mr Turnbull used that phrase. In the electronic Patient Care Report completed by him immediately after the attendance, he described the bruise as being an "abrasion/graze" on the right cheek bone. The nature of the injury was confirmed by him in the second Patient Care Report as being a "small bruise on right lower orbit". It may well have been that Mrs O'Halloran took Mr Turnbull to mean that the injury was a black eye. However, all of the evidence indicates that the nature of the small bruising was not what Mr Turnbull characterised as a "black eye". The autopsy report by Dr Lawrence indicates a large bruise but I am satisfied that this was not the case on the evening of the ambulance attendance. I also note that Mrs O'Halloran, upon arrival at her mother's house, did not make comment on any significant area of bruising that might constitute a "black eye". I am satisfied that the bruise and/or abrasion, in fact, appeared as a small area on the right cheek bone or lower orbit. Although descriptions naturally vary, the evidence of persons seeing the injured area is consistent in this regard. In the unlikely event that Mr Turnbull had described it colloquially to Mrs O'Halloran as a "black eye", this fact would not have changed the course of events that followed.

44. In both the written accounts of Mr Turnbull, there is no mention of a discussion regarding transportation of Mrs Bowerman to hospital, however, it is clear from Mrs O'Halloran's accounts and the oral evidence of Ms Fox and Mr Turnbull that Mr Turnbull indicated in the conversation that Mrs Bowerman would not be transported to hospital. The context of that discussion is less clear. Mr Turnbull gave evidence at inquest that he told Mrs O'Halloran that it would be prudent for Mrs Bowerman to go to hospital. Whilst he certainly gave that indication to Mrs Bowerman whilst at her home, I do not think that Mr Turnbull clearly told Mrs O'Halloran that it was important that her mother be transported to hospital and the reasons for his view. It also does not seem that Mr Turnbull told Mrs O'Halloran in strong terms that hospital transport was strongly recommended or that her mother declined the

same on more than one occasion. Ms Fox did not hear the conversation between Mr Turnbull and Mrs O'Halloran due to being in a different room.

45. It is, understandably, a difficult task for the parties to the conversation to provide accurate recall. Despite some differences in the accounts between them, I am satisfied that Mr Turnbull conveyed to Mrs O'Halloran, by his statements, that Mrs Bowerman was safe to be at home whilst she was accompanied by Mrs O'Halloran, except in the event that Mrs Bowerman showed any of the stated signs of deterioration. Knowing of her attitude to hospital transport, he chose not to agitate the issue again with Mrs O'Halloran when he became aware that she would stay the night with Mrs Bowerman. I accept the evidence of Mr Turnbull that he was conscious of Mrs Bowerman's increased risk of bleeding due to the warfarin and he had such a risk in mind in his discussion with Mrs O'Halloran. He said, however, that he did not, in the conversation, refer to Mrs Bowerman taking warfarin and the increased risk of serious injury due to bleeding.

Would Mrs Bowerman have refused transport to hospital regardless of the advice given to her?

46. The question arises, in light of the factual matters above, whether Mrs Bowerman might have been convinced to accept transport by ambulance to hospital for a full assessment of her head injury. It will be clear, from the below discussion regarding the expert medical evidence, that the best chance of successfully treating the injury was for immediate transport to occur. By the time she had exhibited symptoms of deterioration some four hours after falling, there was significantly reduced time in which to try and halt the bleeding to the brain.

47. Craig Bowerman gave evidence that his mother held opinions but he did not consider that she was a "feisty" person, as Mr Turnbull stated. He said that she had accepted hospitalisation on the advice of her general practitioner earlier in the year and had spent several days in hospital being assessed. He believed that if she had been given advice about the risk of death, she would have been able to be convinced. Mrs O'Halloran also believed that her mother would have agreed to go to hospital if the serious risks were emphasised to her.

48. An associated issue was whether Mrs O'Halloran could have persuaded her mother to be transported by ambulance whilst Mr Turnbull and Ms Fox was still at her home. If Mr Turnbull had said that it was crucial that Mrs Bowerman was taken to hospital, Mrs O'Halloran would likely have had a discussion with her mother in an attempt to have her transported to hospital by ambulance. She said that she would have ensured that her mother went to hospital, rather than watching a football match with her at home.

49. Findings on such a hypothetical situation as this are difficult to make. Although Mrs Bowerman may have remained firm in refusing transport to hospital, it is more likely that, had

it been emphasised as an urgent imperative, she would have accepted transport. She may or may not have done so without Mrs O'Halloran having to exercise further persuasion.

Expert Medical Opinion

50. Two medical specialists provided evidence in respect of the important question of whether earlier transport of Mrs Bowerman to hospital, and therefore earlier assessment and treatment of her injury, would have or could have prevented her death. Those experts are Dr Anthony Bell, former physician and intensive care specialist, working as the coronial medical consultant, and Dr Con Georgakas, emergency physician and Director Medical Services, Ambulance Tasmania. Both are very well qualified to provide expert evidence and it is unnecessary to distinguish between their qualifications in this case given their ultimate conclusions. Both provided helpful written and oral evidence.

51. Dr Bell stated in his report that Mrs Bowerman suffered a "minor traumatic brain injury" as determined by the course following the trauma. That is, she had a "lucid period" where she appeared normal and there were no clinical neurological signs to guide the clinician regarding the injury. However, in these specific cases, where the patient is taking anticoagulant medication, an assessment in hospital and a CT scan of the brain is required.

52. Dr Bell explained that approximately 12%-38% of patients have a transient "lucid interval" after the acute injury that is followed by a progressive neurologic decline to coma. He said that observational studies suggest that surgery within two to four hours after the onset of neurologic deterioration in patients with subdural haematoma is associated with a lower mortality than delayed surgery. If surgery is performed within two to four hours of deterioration, the mortality rate is between 30%-47%, compared to an 80%-90% mortality rate when intervention is delayed beyond two to four hours.

53. Dr Bell concluded that, in Mrs Bowerman's case, immediate hospital transport was required so that her outcome could be improved and any surgical intervention could have taken place at the earliest stage. He concluded in his report that the delay led to a significantly worse outcome for Mrs Bowerman. In oral evidence, he appropriately modified his position to say that earlier intervention for Mrs Bowerman may have led to a better outcome but he could not say whether this would have altered Mrs Bowerman's medical course.

54. Dr Bell gave evidence that the ideal treatment for Mrs Bowerman would be as follows: immediate transport to hospital whilst she was still in the lucid period (meaning that bleeding had not become widespread); followed by a CT scan to determine the extent of the injury and indicated treatment medication to reverse the effects of warfarin; and finally, any necessary surgery such as a craniectomy.

55. Dr Georgakas, somewhat contrary to Dr Bell's report, stated in his affidavit;

> "*In my opinion, whilst earlier neurosurgical assessment and the reversal of the effects of warfarin would have been possible if Mrs Bowerman was already in hospital, the outcome is not likely to have been different had she been transported to hospital following AT's first attendance on her that evening…*
>
> *…In my experience as an emergency physician, and in the context of a patient with a normal conscious state and a small subdural haematoma, neurosurgeons will often observe the patient with a view to undertaking surgery if there is significant deterioration. There would also be a plan to reverse the anticoagulation effect of warfarin prior to any surgery.*
>
> *If Mrs Bowerman had been in hospital at the time of her deterioration, there* ***may*** [author's emphasis] *have been an earlier opportunity to consider urgent neurosurgery, however, the outcomes may have been no different due to the rapidity of decline in the context of warfarin anticoagulation…*"

56. In his oral evidence at inquest, Dr Georgakas confirmed that early intervention for Mrs Bowerman would have improved her chances of effective treatment but there nevertheless remained a significant chance that such intervention could not have changed her outcome. He accepted the statistics provided by Dr Bell from relevant studies. Dr Bell similarly acknowledged in evidence that he could not say whether Mrs Bowerman's subdural haematoma was one that would have responded to treatment or surgery even in the event of early intervention.

57. I can safely conclude on the basis of both experts, that earlier transport would have at least enabled early investigations and assessment and set up Mrs Bowerman for any treatment (if that was even possible) within the window period of two to four hours from neurological deterioration. There are many contingencies in this matter. However, by not being transported to hospital, Mrs Bowerman lost a possible opportunity for successful treatment. I can make no more definite finding than this concerning whether her death could have been prevented.

Conclusion and Comments

Mr Turnbull's Advice and Treatment

58. In summary, I find that Mr Turnbull, with the support of VAO Ms Fox, provided diligent care and treatment to Mrs Bowerman on both occasions of their attendance at her home. He was a capable and experienced paramedic who, in general terms, gave consistent accounts of his

treatment of and interactions with Mrs Bowerman, and his discussion with Mrs O'Halloran. I prefer Mr Turnbull's earlier accounts over aspects of his oral evidence. Understandably, aspects of his oral evidence, given over three years after the event, tended to convey that he had been more insistent upon hospital transport to both Mrs Bowerman and Mrs O'Halloran than the actuality. However, he did not embellish to the point where his various accounts were in direct conflict. He did not try at any stage to say that he asserted to Mrs Bowerman more strongly than that it would be "prudent" to convey her to hospital. Similarly, he did not give evidence that he strongly asserted to Mrs O'Halloran the need for her mother to go to hospital, although he certainly implied in his conversation with her that he had given her the option of such transport.

59. I find that Mr Turnbull, despite his long experience as an intensive care paramedic, did not fully appreciate the possible consequences to Mrs Bowerman of her minor head trauma, despite him being generally aware of an increased risk of bleeding/brain haemorrhage as a result of the effect of the anticoagulant medication. Mr Turnbull gave Mrs Bowerman an option of "doing nothing" in response to her fall – this being another indicator of his lack of appreciation of the risk. Mr Turnbull's comment to the operator on his way to Mrs Bowerman's home on the second occasion that *"she was fine earlier"* also indicates to a degree that he did not expect such a decline. Finally, his diagnosis of a stroke reinforces this conclusion.

60. It is very clear that he was conscious of such risk but did not believe it would eventuate given the minor nature of the trauma (incorrectly recounted by Mrs Bowerman) and the fact of her alert and lucid state accompanied by normal vital signs and observations. Additionally, Mr Turnbull's recognition that the situation required hospital transport was somewhat confused by Mrs Bowerman firmly declining the suggestion of hospital transport on two or three occasions.

61. Mr Turnbull's confidence that Mrs Bowerman would not suffer further symptoms from her head injury is reflected in his notes in the VACIS electronic Patient Care Report (PCR) in noting Mrs Bowerman's normal signs and observations, the fact that her daughter would look after her that evening, and that transport was not required (noted as "TNR").

62. In his letter to the Coronial Division, Mr Turnbull accepted that, in hindsight, he did not appreciate the risks to Mrs Bowerman and therefore was not as forceful as he could have been in explaining to Mrs Bowerman the need for immediate hospital review. He stated frankly in the letter:

> "*Having now been made aware of the risks of patients on warfarin after trauma after this case, I accept that I should have more actively conveyed the urgency of transport for further assessment*

to Mrs Bowerman. I admit that I didn't fully appreciate the chances of this patient suffering a bleed were high, based on the history she told me and her presentation which indicated no loss of consciousness, or other neurological signs or change to her vital signs."

63. Having considered all of the evidence, I agree with Mr Turnbull's own assessment that, in the circumstances of Mrs Bowerman's attendance, he should have more actively conveyed both to Mrs Bowerman and Mrs O'Halloran the urgency of transport for further assessment. As discussed below, the applicable policy required this approach. For all of the reasons given above, I find that, even if he had done so and Mrs Bowerman had been taken to hospital, there was a high chance that the outcome, sadly, would have been no different.

Systems and Procedural Issues

64. Mr Turnbull's lack of appreciation of the increased risk of a brain haemorrhage to Mrs Bowerman cannot, upon the evidence, be viewed wholly or even substantially as a personal failing on his part. I am satisfied, based particularly upon the evidence provided by Dr Georgakas, Mr Turnbull himself and the detailed Ambulance Tasmania Root Cause Analysis (RCA) report, that the issue can largely be attributed to inadequacies by Ambulance Tasmania in paramedic training and implementation of guidelines and procedures. I make a number of comments concerning this issue.

65. Firstly, various guidelines existed at the time of Mr Turnbull's attendance upon Mrs Bowerman. Relevantly, those guidelines required a paramedic to follow certain procedures in the event that a patient either refused hospital transport when the patient required it (*Refusal of Treatment/Transport Policy*) or, alternatively, to follow different procedures where the paramedic did not consider that the patient required transporting to hospital *(Transport Not Required (TNR) policy)*. Those guidelines continue to apply, although have been updated.

66. Both sets of guidelines require paramedics to document details of their attendance on the PCR, including whether the attendance fell into the Transport Not Required (TNR) category or the Transport Refused category.

67. Approximately 20 minutes after Mr Turnbull's first attendance upon Mrs Bowerman, he recorded on the PCR that the attendance upon Mrs Bowerman was in the Transport Not Required (TNR) category. In evidence at inquest, Mr Turnbull accepted that this was a case where, in hindsight, transport *was* required in light of the risks to Mrs Bowerman and that the Transport Refused policy was the applicable guideline.

68. However, it is clear that Mr Turnbull came to a different conclusion at the time in light of his assessment of Mrs Bowerman and the availability of support by Mrs O'Halloran. His documentation on the PCR is correct for the TNR policy. Mr Turnbull said that he was not particularly familiar with the policies and further, he had never received any formal training nor was aware of any clinical practice guidelines during his time with Ambulance Tasmania regarding the mandatory transport of elderly patients on warfarin who have sustained trauma.

69. Dr Georgakas stated that Ambulance Tasmania did not have a policy for the guidance of paramedics addressing the combination of falls and anticoagulants at the time of Mrs Bowerman's death in 2017. He stated, however, that Mr Turnbull had most recently been provided with training by way of a Continuous Professional Development Program in 2016 and 2017 covering topics relevant to the attendance upon Mrs Bowerman. These included a session on the TNR policy, including exceptions to such policy for cases where transport was required. He stated that the education sessions emphasised that, in cases of clinical doubt, the paramedic should transport immediately to hospital. Dr Georgakas gave evidence that paramedics should be well aware of the fundamental principle that, in cases of doubt, transport to hospital is required. In the case of Mrs Bowerman, he said that her unwillingness to be transported to hospital made the situation difficult for Mr Turnbull. I accept this is the case.

70. With due respect to Dr Georgakas, I do not agree that Mr Turnbull followed the correct policy. He ought to have identified the situation as being a case where transport *was* required, despite the apparently minor nature of the head injury, the unwillingness of Mrs Bowerman to go to hospital and the availability of support from her daughter. Having identified the case as such, he should have definitively indicated this fact to Mrs Bowerman. He should have then initiated a VIRCA assessment as per the requirements of the Transport Refused policy. Such an assessment is designed to ensure that the patient's refusal of treatment/transport is voluntary and not influenced by any other person; that the patient is informed of the risks or possible consequences of the decision to reject ambulance transport; that the decision to refuse transport is related to the treatment that has been recommended; that the patient had capacity with which to refuse consent; and that advice is provided to the patient regarding options for safety or further avenues of assistance if the patient elected to stay home against advice.

71. Finally, if the patient still decides to refuse transport, the policy requires the recording of the advice given, the VIRCA assessment and the patient's decision to be clearly documented in the PCR. I note that a patient with capacity who is presented with professional advice regarding the need for hospital transport and the reasons why, is fully entitled to decline such advice and remain at home. Such a patient cannot be treated or transported against their will.

72. In this case, it is clear that Mrs Bowerman had capacity to make her own decisions regarding medical treatment and transport. It is also clear that, having taken warfarin for many years, she was aware of the increased risk of bleeding. In substance, the policy nevertheless required Mr Turnbull to say to Mrs Bowerman that she needed to be transported immediately to hospital due to a significant risk that the head trauma she suffered could shortly cause a serious or fatal brain haemorrhage. If she still refused transport, then Mr Turnbull should have documented his assessment of her capacity, his discussion with her concerning the risks of refusing transport, and the alternative measures he had put in place. He should have described the attendance as "transport refused". I acknowledge that Mr Turnbull's documentation of the incident did not affect the subsequent attendance, however, it is evidence of his confusion of the concepts.

73. Dr Georgakas gave evidence that there exists, in fact, general confusion amongst paramedics between the terms "TNR" and "transport refused". The Root Cause Analysis document stated that the term "TNR" has been in use for some years in Ambulance Tasmania and, over time, the meaning has become culturally distorted and used to describe situations where both the paramedic determines treatment and transport is not required as well as where the patient refuses treatment and transport. For this reason, the term TNR has now been replaced with the term "Patient Not Transported" and the applicable procedure has been given the same name.

74. Upon the evidence, the training provided to Mr Turnbull was not sufficient to allow him to adopt the optimal approach to a potentially serious situation in circumstances where the various factors involved caused difficulty and confusion. There had been no training provided by Ambulance Tasmania specifically to reinforce the need to transport to hospital anticoagulated patients who have suffered apparently minor head trauma. In particular, there is no evidence that Mr Turnbull received adequate training that elderly persons are particularly at risk of haemorrhage in such circumstances, or that a patient who is lucid and alert following minor head trauma may nevertheless subsequently develop serious bleeding.

75. It was not until 23 October 2019, over two years after Mrs Bowerman's death, that Ambulance Tasmania issued a Patient Safety Update to all clinical staff advising, in summary, that patients suffering falls with head strike who are taking anticoagulant medication are at high risk of developing intracranial haemorrhages and should not be left at home. At that stage, Ambulance Tasmania was aware that a number of patients in this category had not been transported to hospital.

76. My comments regarding lack of training by Ambulance Tasmania are reinforced by the contents of the detailed and helpful RCA report, which was created as a result of three cases in 2017 and 2018 (including that of Mrs Bowerman), which involved attendances by paramedics concerning minor head trauma in the setting of anticoagulation where there were adverse patient outcomes. The report was not finalised until 18 November 2020, three months before the commencement of the inquest. The authors of the report identified that the contributing factors in the adverse outcomes were as follows:

    a) The seriousness of anticoagulation in the patient suffering minor head trauma may have been underappreciated in one of the reviewed cases and not identified in another;

    b) A lack of formal guidance providing direction regarding clinical care and transportation in the setting of minor head injury; and

    c) Lack of a State Operations Centre call back process to identify post-attendance patient deterioration in applicable non-transported patients.

77. The recommendations formulated in the RCA report that the authors determined would address the above factors were as follows:

    a) The development of formal guidance addressing clinical care and transportation of patients with minor head trauma;

    b) The review of paramedic education in the area of neuro-assessment and mechanism of injury assessment and the consideration of developing in-field tools to guide practice;

    c) To scope the development of an early post-attendance call back process for relevant patients who fit into the Patient Not Transported or Refused Treatment/Transport groups; and

    d) To release a Patient Safety Update regarding anticoagulation in head injuries. As noted above, this was completed.

78. The RCA team also made several recommendations which they considered unrelated to root causes. Relevantly, one such recommendation is for development and implementation of formal procedures addressing difficulties surrounding the Patient Not Transported and Refusal of Treatment/Transport concepts and procedures. I particularly endorse this recommendation.

79. I also particularly endorse the RCA team's recommendation to review the format and scope of clinical reviews conducted by Ambulance Tasmania Regional Training Units. In the case of Mr Turnbull's attendance upon Mrs Bowerman, a Clinical Review document was produced by the Southern Regional Training Unit. Dr Georgakas stated that the review "*contained various factual errors, assumptions, unsubstantiated conclusions and unreasonable criticisms of Officer Turnbull*". The Clinical Review, for the reasons detailed in his affidavit, has not assisted me in my functions and I have given it little weight. It also caused Mr Turnbull unnecessary distress. Despite the necessity in this finding to closely consider his actions, he was a long-serving paramedic who I am satisfied dealt with Mrs Bowerman in a manner consistent with his training and experience.

Formal Findings Required by Section 28(1) of the *Coroners Act* 1995:

a) The identity of the deceased is Valerie Joy Bowerman;
b) Mrs Bowerman died in the circumstances set out in this finding;
c) The cause of death was acute subdural haematoma; and
d) Mrs Bowerman died on 12 September 2017 at the Royal Hobart Hospital, Hobart in Tasmania.

Recommendations

80. I **recommend** that Ambulance Tasmania implement the recommendations contained in the RCA report dated 18 November 2020 within the completion dates set out in the report.

Acknowledgements

81. In this inquest, Mrs Bowerman's family have been considerably assisted by Mr Graham Davis, Witness Assistance Support Officer, during what was a most difficult time for them. I extend my appreciation to him for his efforts.

82. I also thank the three counsel appearing in this inquest for their assistance in its efficient conduct and for their helpful closing submissions.

83. Finally, I convey my sincere condolences to the family and loved ones of Mrs Bowerman.

Dated: 6 May 2021 in the State of Tasmania

Olivia McTaggart
Coroner

Explanatory Notation

On 6 May 2021 the Chief Coroner, Olivia McTaggart, delegate of the Chief Magistrate, directed that the investigation into the death of Mrs Valerie Joy Bowerman be re-opened and the findings be re-examined on the grounds that the original findings made by me contained an error in referring to Ms Madelin Fox as a volunteer paramedic rather than, correctly, a volunteer ambulance officer. This finding therefore replaces the finding dated 28 April 2021.