IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

Court Reference: **COR 2015 2797**

FINDING INTO DEATH WITHOUT INQUEST

Form 38 Rule 60(2)
Section 67 of the Coroners Act 2008

Findings of:	**MR PHILLIP BYRNE, CORONER**
Deceased:	**MICHELLE LOUISE ROSEVEAR**
Date of birth:	**10 NOVEMBER 1973**
Date of death:	**7 JUNE 2015**
Cause of death:	**I (a) LEFT MIDDLE CEREBRAL ARTERY TERRITORY ISCHAEMIC STROKE**
Place of death:	**MONASH MEDICAL CENTRE, 246 CLAYTON ROAD, CLAYTON, VICTORIA 3168**

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

I, PHILLIP BYRNE, Coroner having investigated the death of MICHELLE LOUISE ROSEVEAR without holding an inquest:
find that the identity of the deceased was MICHELLE LOUISE ROSEVEAR
born on 10 November 1973
and the death occurred on 7 June 2015
at Monash Medical Centre, 246 Clayton Road, Clayton, Victoria 3168

from:

1 (a) LEFT MIDDLE CEREBRAL ARTERY TERRITORY ISCHAEMIC STROKE

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

Background

1. Ms Michelle Louise Rosevear was aged 41 years old at the time of her death, who, according to the Statement of Identification provided by her mother, Mrs Karen Fowler, resided at 55 Surrey Road, East Croydon. The Victoria Police Form 83 Report of Death states Ms Rosevear resided at 26 Adelaide Street, Mornington. I do not propose to seek to clarify that contradiction as in the period leading up to her death, Ms Rosevear and her children stayed at the premises of a friend, Ms Louise Pawsey. Ms Rosevear was a Registered Nurse by occupation.
2. Ms Rosevear was married to Mr Andrew Rosevear; the couple although separated, were on good terms and saw and spoke with each other regularly.

EVENTS OF 28 MAY 2015

3. On the night of 27 May 2015, Ms Rosevear and her children stayed at the residence of a friend, Mrs Louise Pawsey. Ms Rosevear left Ms Pawsey's address to go to work at about 8:30a.m.

4. Shortly prior to 3:00p.m on 28 May 2015 Mr Rosevear, going to check his mailbox, located his wife slumped by his car in the driveway at 4 Noah Close, Mornington. Mr Rosevear, in his statement to investigating police, said his wife "appeared unconscious", but was moving her leg and arm and her eyes "appeared dazed". Mr Rosevear made a call to the 000 emergency number which resulted in the timely attendance of Ambulance Victoria paramedics who summoned the mobile intensive care ambulance (MICA). After some initial assessment of the patient by the attending advanced life support paramedics, the care of Ms Rosevear was handed over to the MICA paramedic.

5. Ms Rosevear was conveyed by ambulance to the Emergency Department of Frankston Hospital where MICA ambulance paramedic, Mr Neil Burden, handed over care of Ms Rosevear to triage nurse, Ms Marta Majdanska. Ms Rosevear was triaged as a Category 2 patient by Ms Majdanska. Ms Majdanska concluded Ms Rosevear's Glasgow Coma Scale score was 9, her eyes were opening to voice but she was non-verbal and unable to obey commands. Ms Majdanska also noted Ms Rosevear was "*weak all over and moving all four limbs equally*" and was "*rolling from side to side*".

6. Emergency Registrar, Dr Gary Yang, saw Ms Rosevear shortly before 4:30p.m. Among other things, Dr Yang undertook a screening neurological examination. I include in this finding what I consider are pertinent excerpts from Dr Yang's statement provided to the Court in response to my request, he stated:

> *"Following my assessment my impression was that patient had an altered conscious state of an unknown case. A possible cause was an overdose resulting in an anticholinergic syndrome. My plan was for observations to be carried out including cardiac monitoring, for drug levels to be taken and a bladder scan to be performed. I also considered whether a CT of the brain should be performed given the Glasgow Coma Scale Scores.*
>
> *In between attending to other patients in the emergency department, I continued to regularly visually observe the patient for the purpose of assessing her Glasgow Coma Scale Scores. At various times I observed her sitting up in the bed and making what appeared to be purposeful movements I did not observe any one-sided affect consistent with stroke.*
>
> *At some stage I believe I discussed with Dr Leon Goh, Consultant whether a CT of the brain should be conducted now or if we wait. Dr Goh indicated that we could wait and continue to observe the patient. I am unable to recall the exact time of my conversation with Dr Goh*".

7. At that time, neither Nurse Majdanska nor Dr Yang had a collateral history for Ms Rosevear. Significant information was subsequently provided when Ms Pawsey attended Frankston Hospital.

8. In her statement, Ms Pawsey stated that shortly after arrival at the hospital, the nursing notes suggest 5:44p.m, she advised treating clinicians that Ms Rosevear had attended an optometrist at about lunch time and further advised a nurse that before leaving for work that morning, Ms Rosevear had complained of weakness down her right side. Ms Pawsey also claimed that Ms Rosevear commented that she thought she may have had a stroke.

9. In his statement, Dr Herman Chiu, Emergency Physician said that prior to becoming aware of these matters, the likely diagnosis was "*possible overdose*" of the prescription medications located in Ms Rosevear's handbag. The initial management plan was to monitor Ms Rosevear's conscious state and cardiovascular status with a view to undertaking a Computed Tomography (CT) scan of the brain "*if the drowsiness persisted*".

10. In light of the information conveyed by Ms Pawsey, including the information about the visit to the optometrist earlier in the afternoon, together with the continued altered conscious state, a CT scan of the brain was ordered by Dr Yang at 7:15p.m. The scan was performed at 8:21p.m. and at 9:06p.m. the radiologist reported the scan demonstrated middle cerebral artery infarction (stroke).

11. Dr Ernest Butler, neurologist, examined the scan. I include in this finding an excerpt from Dr Butler's statement as to further medical management; he stated:

> *"I looked at the scans at the time and it showed a large left middle cerebral artery infarction. Because of these extensive changes seen on the first CT scan, and also because the time of onset of her stroke could not be determined, I considered that she was not a candidate for thrombolysis treatment for her stroke. Thrombolysis is only effective if the treating neurologist is aware of the time of onset of the stroke, and the treatment is given within the first four and half hours*".

12. Subsequently, Ms Rosevear was admitted to the stroke unit at the hospital.

13. In light of Dr Butler's concerns Ms Rosevear was transferred to the Intensive Care Unit (ICU) at Frankston. Dr Butler conferred with Dr Simon Bower, a fellow consultant neurologist at Monash Medical Centre about the prospect of transferring Ms Rosevear to Monash in case she needed urgent neurosurgery.

14. Following further deterioration later in the evening, Ms Rosevear was intubated and placed on a ventilator. Following further deterioration, Ms Rosevear was urgently transferred to

Monash Medical Centre in the early hours of 30 May 2015 where, without delay, an extensive left frontotemporal craniectomy was performed by Clinical Associate Professor Robert Danks. Ms Rosevear was then transferred to the ICU at the Monash Medical Centre. Post-surgery, a further CT scan demonstrated further evolution of the ischaemic stroke and increased cerebral oedema.

15. After further discussions with Ms Rosevear's family, a decision was taken that there be no further surgical intervention. It was concluded Ms Rosevear's condition was unsalvageable and on 4 June 2015 she was transferred to Monash Medical Centre's McCulloch House for palliation. Ms Rosevear passed away on 7 June 2015.

POST-MORTEM EXAMINATION AND REPORT

16. Ms Rosevear's death was appropriately reported to the Coroner. Having considered the circumstances, having conferred with a forensic pathologist, and being aware Ms Rosevear's mother, Ms Karen Fowler, had raised serious concerns about the medical management of her daughter at Frankston Hospital, the Coroner who had carriage of the matter, directed an autopsy. An autopsy was subsequently performed at VIFM by Forensic Pathologist Dr Gregory Young.

17. Following full autopsy, Forensic Pathologist Dr Young provided a fulsome autopsy report advising the cause of Ms Rosevear's death was *I(a) Left middle cerebral artery territory ischaemic stroke.*

Further investigation

18. In light of the concerns about medical management raised by the family, I requested a coronial brief. I provided the police investigator with a copy of Ms Fowler's letter of concerns and requested he/she obtain statements, particularly from clinicians at Frankston Hospital involved in the medical management of Ms Rosevear.

19. Having examined the Coronial Brief and having formed some tentative views about the initial medical assessment of Ms Rosevear at the Emergency Department at Frankston Hospital, I conferred with clinicians of the Health & Medical Investigation Team (HMIT) in the Coroners Prevention Unit (CPU)[1] and sought several additional statements.

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[1] A specialist service for coroners created to strengthen their prevention role and provide them with expert assistance. Hereafter referred to as 'CPU'. The role of the CPU is to assist coroners investigating deaths, particularly deaths which occur in a healthcare setting. The CPU is staffed by healthcare professionals, including practising physicians and nurses, who are independent of the health professionals and institutions under consideration. The CPU professionals draw on their medical, nursing and research experience to evaluate the clinical management and care provided in particular cases by reviewing the brief of evidence, medical records, the autopsy report and any particular concerns which have been raised.

20. To progress the matter, in August 2016 I asked my Registrar to list the matter for a Mention/Directions Hearing. On 3 October 2016, I conducted a Mention/Directions Hearing. Ms Laura Irving, my Legal Officer appeared to assist, Mrs Trish Riddell of Counsel appeared on behalf of Peninsula Health (Frankston Hospital), Mr Tom Ballantyne of Maurice Blackburn appeared on behalf of Mr Andrew Rosevear, Ms Paula Pulitano of Slater & Gordon appeared on behalf of Mrs Karen Fowler and Mr Colin Grant was granted leave to appear for Ambulance Victoria.

21. At the hearing, I advised the parties that my focus from the outset had been on the initial management of Ms Rosevear in the Emergency Department at Frankston, particularly whether a CT scan should have been undertaken earlier to seek to determine the cause of Ms Rosevear's altered conscious state. It appeared from the information I had at that time that it was presumed to be due to an overdose of medication.

22. Ms Pulitano for Ms Fowler advised that her client also had concerns about the post identification of the stroke medical management of Ms Rosevear. Mr Ballantyne indicated his client's primary concern was with the initial case management, although he reserved the option of reconsidering the post stroke identification management.

23. Rather boldly, I enquired of Ms Riddell as to whether I could anticipate what I called a "concession" in relation to the initial medical management of Ms Rosevear. I was advised she had no instructions to make such a concession. I then invited Ms Riddell to go back to her client and seek an instruction, one way or another.

24. During the Mention/Directions Hearing, it became increasingly likely that the matter could only be resolved by use of the forensic judicial process, formal inquest, as the areas of contention were expanded by the further concerns raised by Ms Pulitano on behalf of her client.

25. I add that neither I, nor the parties, took issue with post-surgery medical management of Ms Rosevear at Monash Medical Centre.

26. It also became clear that I would need to commission independent expert opinions from both an emergency physician and a neurologist. The State Coroner, at my request, authorised seeking expert opinions.

27. Subsequently, comprehensive expert opinions were provided by:

    a) Emergency Physician – Dr David Eddey; and

    b) Neurologist – Associate Professor Peter Hand

28. I made copies of the expert opinions of Dr Eddey and Associate Professor Hand available to the interested parties. To seek to determine the further course of the matter, I listed the case for a second Mention/Directions Hearing on 18 April 2017. At that hearing, the interested parties were represented by the same practitioners with, on this occasion, my Legal Officer, Ms Rebecca Johnston-Ryan, assisting.

29. I anticipated this hearing would be interesting because there was some difference of opinion between my own experts, Drs Eddey and Associate Professor Hand, as to the initial management, Dr Eddey opining it was on several bases sub-optimal, and Associate Professor Hand taking issue with some of Dr Eddey's opinions. In relation to the medical management after the stroke was identified by CT scan, Associate Professor Hand opined management was reasonable and appropriate, expressing the firm view that even if a stroke had been identified shortly after admission, Ms Rosevear would not have been a candidate for thrombolysis. A similar view had been expressed by Associate Professor Butler.

30. In light of the differences of opinion by the independent experts engaged by the Court, I enquired of the representatives of the parties as to whether they intended to obtain their own expert opinions to challenge/counter mine. Both Mr Ballantyne and Ms Pulitano indicated that they did not, at that time, anticipate seeking countering expert opinions. I can understand why Mr Ballantyne would not seek to challenge Dr Eddey's report; it was after all supportive of his client's position. I was however, somewhat surprised that Ms Pulitano would not seek to counter Associate Professor Hand's expert opinion as it did not support Ms Fowler's contention that post-stroke identification management was deficient.

31. Somewhat to my surprise, Ms Riddell also indicated her client did not, at that time, propose to commission an expert opinion into the initial management of Ms Rosevear, but would rely on the opinion of Associate Professor Hand in relation to both management pre and post stroke identification. I suggested to Ms Riddell that to seek to persuade me that Dr Eddey's opinion in relation to initial management was wrong, and I should prefer Associate Professor Hand's opinion as to the initial management, carried with it some risk, primarily because on the face that issue would be better addressed by an emergency physician, rather than a neurologist. Ms Riddell reserved the right to seek a countering opinion to that of Dr Eddey.

32. At the conclusion of that Mention/Directions Hearing, I indicated the unresolved issues could only be determined by taking the matter to inquest. At the hearing, I settled a list of witnesses and advised I proposed to list the matter for a four (4) day hearing, 20 June 2017 to 23 June 2017, anticipating hearing from eleven (11) witnesses with the prospect that the

expert witnesses, however many there may end up being, would likely engage in a "hot-tub" and give concurrent evidence.

33. In any event, at the 11th hour, Ms Riddell's instructors, Lander & Rogers, advised Peninsula Health were prepared to concede that it would have been appropriate, in the circumstances of Ms Rosevear's altered conscious state for undetermined reasons, to have performed a CT scan earlier. I include in this finding, the precise concession made on behalf of Peninsula Health, and the bases upon which the concession was made:

> *"We confirm that Peninsula Health has reviewed the inquest brief and medical records in relation to Ms Rosevear, as well as the expert reports provided to the Coroner by Dr David Eddey and Associate Professor Peter Hand.*
>
> *On behalf of Peninsula Health we make the following concessions:*
>
> *(a) Peninsula Health accepts that Ms Rosevear did not take an overdose, but rather suffered a stroke;*
>
> *(b) Peninsula Health accepts that given Ms Rosevear's ongoing presentation and the state of uncertainty with respect to her diagnosis, a CT scan should have been ordered and performed earlier than it was."*

34. An issue of contention had been what information Mr Rosevear conveyed to the ambulance paramedics who attended at Noah Close, and what information those paramedics conveyed to nurses and/or doctors at the Emergency Department at Frankston Hospital. That information may have impacted on the initial assessment of the cause of Ms Rosevear's altered conscious state.

35. I had proposed to call as witnesses two paramedics (the third was incommunicado, in Central Australia), Mr Rosevear, clinicians, including the triage nurse at the Emergency Department to seek to determine precisely what information was conveyed, particularly whether anyone suggested Ms Rosevear's condition was likely due to a stroke. However, when Ms Riddell's client conceded a CT scan should have been undertaken earlier, that proposed evidence lost its significance.

36. On the basis of the concession, I had my Legal Officer, Ms Johnston-Ryan, advise the parties I proposed, unless persuaded otherwise, to "pull" the matter from the list, cancel the planned inquest and finalise the matter "on the papers" without inquest. No objection to this proposal was taken. I took this decision to cancel the proposed inquest hearings because

from my perspective, the failure to undertake a CT scan upon admission was the critical factor in the course of management that followed, and was the principal issue of contention.

37. Having removed the matter from the list, the parties where invited, if they so desired, to lodge written submissions within 21 days.

THE ROLE OF THE CORONER – RELEVANT LAW

38. I now turn to examine the evidence and make the findings required by section 67 of the *Coroners Act 2008*. I am required to make findings as to following matters:

    (a) the identity of the deceased; and

    (b) the cause of death; and

    (c) the circumstances in which the death occurred.

39. The first two findings are non-contentious, the third, the circumstances surrounding the death is where contention lays.

40. In undertaking this task, I consider it appropriate to refer to aspects of the law which dictate my approach. In my view, the landmark judgment in respect to the basic role of the Coroner is the judgment of Justice Callaway in Keown v Khan. His Honour adopting a statement contained in the Brodrick Committee (UK) Report, said:

> *"In future the function of an inquest should be simply to seek out and record as many of the facts concerning the death as public interest required, without deducing from those facts any determination or blame."*[2]

Again quoting the Brodrick Committee Report, His Honour noted:

> *"In many cases, perhaps the majority, the facts themselves will demonstrate quite clearly whether anyone bears any responsibility for the death; there is a difference between a form of proceeding which affords to others the opportunity to judge an issue and one which appears to judge the issue itself."*[3]

So while not laying or appropriating blame a Coroner should endeavour to establish the CAUSE or CAUSES, of a death; the distinction is fine but real. As Callaway J.A. described it in Keown v Khan:

> *"In determining whether an act or omission is a cause or merely one of the background circumstances, that is to say a non-casual condition, it will sometimes be necessary to consider whether the act departed from a norm or*

[2] (1999) 1 VR 69, 75.
[3] (1999) 1 VR 69, 75-76.

standard or the omission was in breach of a recognised duty, but that is the only sense in which para (e) mandates an inquiry to culpability, Adopting the principal recommendation of Norris Report, Parliament expressly prohibited any statement that a person is or 'may be guilty of an offence. The reasons for that prohibition apply; with even greater force, to a finding of moral responsibility or some other form of blame."[4]

41. Further authority from this approach is contained in the following judgments. Lord Jane CJ held in R v South London Coroner; ex-parte Thompson:

> *It should not be forgotten that an inquest is fact finding exercise and not a method of apportioning blame.*[5]

42. Hardie Boys J in Louw v McLean[6] stated:

> *In order to ascertain or explain how death occurred, in the wider sense of events that were the real cause, the implicit attribution of blame is unavoidable."*(my emphasis)

43. So while not apportioning fault, blame, culpability, I am required to determine whether any act or omission departed from a standard, or was in breach of a recognised duty, and if so, whether it could be concluded that the deficiency in management was a causal or contributing factor in Ms Rosevear's death.

CAUSATION

44. Causation is a fundamental issue. In E and MH March v Stramare[7] Chief Justice Mason observed:

> *"What was the cause of a particular occurrence is a question of fact which must be determined by applying common sense to the facts of each particular case."*[8]

45. In Chief Commissioner of Police v Hallenstein[9] Justice Hedigan stated that the fundamentals of causation in the context of negligence are applicable to consideration of causation in the context of coronial matters. In my view, for an act or omission to be

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[4] (1999) 1 VR 69, 76.
[5] (1982) 126 SJ 625.
[6] (1998) High Court of New Zealand (Unreported 17 January 1988).
[7] (1991) 171 CLR 506.
[8] (1991) 171 CLR 506, 17.
[9] [1996] 2 VR 1.

a causal factor in a death the connection must be logical, proximate and understandable, not strained, artificial or illogical.

STANDARD OF PROOF

46. The classic judicial statement concerning the standard of proof in civil cases including coronial matters is Briginshaw vs Briginshaw[10] where Dixon J said:

> "...*reasonable satisfaction is not a state of mind that is attained or established independently of the nature and consequence of the fact or facts to be proved. 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 issue has been proved to the reasonable satisfaction of the tribunal. In such matters 'reasonable satisfaction' should not be produced by inexact proof, indefinite testimony, or indirect inferences.*"

47. The applicable standard of proof in coronial matters where the performance of someone acting in a professional capacity is under scrutiny has been the subject of judicial consideration. To make an adverse finding against an entity in that capacity a "comfortable degree of satisfaction" must be reached.[11]

THE EVIDENCE

48. I remind myself that I must, as best as one can, exclude the not inconsiderable benefit of hindsight. With hindsight, as Dr Butler said in his statement, the conclusion that the CT scan should have been undertaken earlier, is, irresistible. In assessing medical management, I am required to, in effect, put myself in the shoes of those treating Ms Rosevear with the information they had, or should have had, and on that basis assess the adequacy of their performance.

49. In a matter such as this I am of necessity reliant to a significant extent on the evidence of experts.

50. I have assessed the medical management of Ms Rosevear in two (2) distinct phases; the management pre-identification of a stroke, and then the management post identification of the stroke.

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[10] [1938] HCA 34.
[11] Anderson v Blashki (1993) 2 VR 89; Health and Community Services v Gurvich (1995) 2 VR 69.

51. When I requested an expert opinion from an emergency physician, I posed three (3) specific questions to which Dr Eddey responded in his report; questions which I consider critical to the determination of the matter. The specific questions I posed were:

    a) Was it reasonable to make an assumption that Ms Rosevear's presentation was due to an overdose of prescription medication?

    b) Whether the CT scan should have been ordered earlier or was it reasonable to merely monitor Ms Rosevear?

    c) Whether you consider Ms Rosevear should have been considered for thrombolysis?

52. In relation to the first of those phases, I rely on the evidence of Emergency Physician, Dr David Eddey. His statement is comprehensive. Whilst in my finding I do not propose to seek to summarise/encapsulate all the issues he addressed, lest something be lost in translation, I propose however to refer to the critical opinions he provided.

53. At page 20 of his report, Dr Eddey listed the matters in his view that were NOT adequately investigated in the Emergency Department that could have led to a diagnosis other than overdose. Dr Eddey acknowledged he cannot explain some of the inconsistent findings of treating clinicians.

54. At page 24 of his report, Dr Eddey summarises the bases upon which he concluded that medical management at the first initial phase was sub-optimal. For completeness, I include the relevant excerpt in full; he wrote:

> *"In summary, whilst in the course of assessing Ms Rosevear staff had reason to suspect an overdose (ie based upon Ms Rosevear's conscious state, dilated pupils and past history), there were a number of factors that were not considered that may have changed their approach and avoided a delay in diagnosis. These factors were:*
>
> - *the number of 'missing tablets' of quetiapine and escitalopram would not be expected to have a significant toxic effect*
> - *no timely collateral history appears to have been obtained, although it is not known if this would have been possible*
> - *apart from dilated pupils and apparent confusion, there were no other signs of an anticholinergic syndrome or of a serotonin syndrome*
> - *there were no ECG signs of quetiapine or escitalopram toxicity*

- *the initial neurological assessment was incomplete and ongoing GCS assessment may have missed signs of stroke*
- *A CT brain looking for other causes of altered conscious state was not going to be performed unless the working, but uncertain, diagnosis of overdose proved to be incorrect.*

In light of this, the initial uncertainty of diagnosis and the risk of a serious intracranial condition in a semiconscious patient, an alternative cause for Ms Rosevear's condition should have been actively sought from the time of her presentation."

55. I accept Dr Eddey's opinions in relation to these matters and conclude that medical management was sub-optimal in that a CT scan should have been ordered and performed earlier than it was. I accept that unfortunately there were several factors, such as Ms Rosevear's previous attendances at the Frankston Hospital Emergency Department on 27 March 2015 with suicide ideations, and on 7 May 2015 after a syncopal episode, at which time treating clinicians became aware Ms Rosevear was on anti-depressant medication, the visit to the optometrist where Tropicamide dilating drops were administered, together with an inability to obtain a collateral history in a timely manner, that conspired to present an obscure picture, resulting in a misdiagnosis of the cause of Ms Rosevear's altered conscious state.

56. I turn to what I have described as the second phase of treatment; the medical management after the stroke was identified by CT scan.

57. In considering this issue, I have placed reliance on the expert opinion of Consultant Neurologist, Associate Professor Peter Hand, the independent expert engaged by the Court.

58. Leaving aside his opinion in relation to the initial assessment in the Emergency Department; in a supplementary report of 30 May 2017, Associate Professor Hand, deferred to the expertise of Dr Eddey in relation to the adequacy of the initial first phase assessment. Associate Professor Hand commented that it this was an unfortunate and unusual case of a 41 year old woman having a massive stroke opining that the 'mode of presentation was unusual'.

59. The crux of Associate Professor Hand's expert opinion goes to the issues of whether thrombolysis would have been appropriate after the stroke was identified, and even if

identified much earlier, whether thrombolysis should have been pursued. I include in this finding several pertinent excerpts from Associate Professor Hand's statement, he wrote:

> *"The changes seen on CT scan were extensive, and based on the CT scan alone, thrombolysis could not be given. Thrombolysis is specifically contraindicated where there is extensive early ischaemic change...*
>
> *Had the diagnosis of stroke been made earlier, even as soon as the patient at the emergency department, intravenous thrombolysis would still have been contraindicated. This is because an exact time of onset for symptoms could not be established. Although the patient was found confused at approximately 3.15pm, there was no way of knowing when the symptoms truly began."*

60. Associate Professor Hand stated that intravenous thrombolysis is a risky treatment, with potentially fatal consequences if administered beyond the time window. In essence, Associate Professor Hand opined that Ms Rosevear was <u>not a candidate for thrombolysis</u> as she was outside the window for that treatment.

61. Associate Professor Hand also raised the issue of the prospect of a surgical procedure, Endovascular Clot Retrieval (ECR) being pursued in this case. Associate Professor Hand opined:

> *"...Unfortunately, ECR is also contraindicated where there is no clear time of onset. Mrs Rosevear was thus not eligible to receive intravenous thrombolysis or ECR."*

62. At the conclusion of his report, Associate Professor Hand addressed the issues of the medical management of Ms Rosevear after the decision not to thrombolyse was taken; he opined:

> *"The patient was appropriately admitted to the Frankston Hospital Stroke Unit.*
>
> *When reviewed the following morning by the neurologist, further investigations were appropriately performed, and when results were available, the seriousness of the situation was recognised by the hospital medical staff.*
>
> *High level discussions were had between A/Professor Butler and Monash Medical Centre. There was agreement to transfer the patient to Monash, but beds were unavailable that afternoon.*

In the interim the patient was observed closely in the intensive care unit. This was appropriate. The records indicate that the patient remained stable until 5.15am on 30/5/16.

After the subsequent deterioration, rapid actions were undertaken appropriately, and the patient went into hemicraniectomy at 9.40am on 30/5/16, approximately 48 hours after she was last known to be normal. Unfortunately, the severity of the stroke was such that it was simply too late."

63. The expert opinions of Associate Professor Hand as to these issues were not challenged by those who contented thrombolysis should have been pursued. On that basis, I accept the evidence of Associate Professor Hand as to the prospects of these options being pursued.

64. I accept the unchallenged expert evidence of Associate Professor Hand that even if a CT scan had been performed shortly after admission to the Emergency Department, and a stroke had been identified, thrombolysis was contraindicated.

65. It necessarily follows that although the failure to undertake the scan should be viewed as a regrettable deficiency in medical management, it cannot be said to be a causal factor in Ms Rosevear's death; adopting the "Callaway dichotomy" in Keown v Khan, it should be viewed as a "background circumstance".

CONCLUSION

66. I have read with interest the recent submission on behalf of Peninsula Health. The thrust of the argument put in that in light of aspects of Ms Rosevear's presentation, being atypical of stroke, it was not unreasonable for those managing Ms Rosevear to conclude her altered conscious state was due to overdose of prescription medications. In paragraphs 17 to 23 of the submission reliance is placed upon various comments made by Associate Professor Hand in his reports.

67. In submitting that the differential diagnosis of overdose was not unreasonable, reference is made to Dr Eddey conceding that aspects of the presentation may have left clinicians to suspect overdose. However, the various other investigations Dr Eddey opined should have been undertaken to clarify the actual cause of the altered conscious state are conveniently not referred to at all, let alone in detail. The thrust of my findings on the issue of the adequacy of the initial assessment is that investigations were not sufficiently thorough to confirm overdose, or, perhaps more importantly to exclude the prospect of stroke or other alternate cause of abnormal conscious state.

68. In summary, noting there were some differences of opinion, in broad terms, in relation to the medical management of Ms Rosevear in the first phase, I rely on and accept the expert evidence of Dr Eddey, the emergency physician. Conversely, in relation to the medical management of the second phase, after it was established Ms Rosevear had suffered a stroke, I accept the evidence of Associate Professor Hand, the neurologist. Each has their area of special expertise.

69. I conclude that no further investigation is warranted.

FINDING

70. I formally find Michelle Louise Rosevear died at the Monash Medical Centre, Clayton on 7 June 2015 due to left middle cerebral artery territory ischaemic stroke suffered on 28 May 2015.

COMMENT

71. Pursuant to section 67(3) of the *Coroners Act* 2008, I make the following comments connected with the death.

72. In their letter of 14 June 2017, confirming the concessions made on behalf of Peninsula Health, Lander & Rogers advised that following an intensive review, Peninsula Health revised several of its protocols and policies. I am advised:

> *"It has reviewed and amended the Acute Ischaemic Stroke protocol as follows:*
>
> *(i) On 17 February 2016, a change was made to expedite the notification to the stroke team and CT radiographer, to facilitate the ability to implement thrombolysis within the therapeutic window; and*
>
> *(ii) On 24 October 2016, changes were made to the guideline entitled 'Assessment of Acute Ischaemic Stroke (AIS) within the First 4.5 hours (therapeutic window) from the onset of symptoms for Thrombolysis (Alteplase) and Intra-arterial Clot Retrieval' to reflect the 4.5 hours window of opportunity to thrombolysis and inclusion of guidelines for consideration of intra-arterial clot retrieval.*
>
> *An 'Approach to Management of clients with known or unknown overdose' was implemented on 3 July 2015. This was reviewed on 7 November 2016. It*

emphasizes the importance of gathering a collateral history from friends, family members or other health professionals during the assessment phase.

Peninsula Health continues to review and revise its protocols and policies to facilitate improved tome to thrombolysis."

73. On behalf of Peninsula Health, Lander & Rogers suggested two possible recommendations; they are precisely on point in relation to Ms Rosevear's untimely death. I am prepared to adopt the second suggested recommendation, which I believe encompasses both. I do so primarily because if followed in circumstances similar to Ms Rosevear's presentation to the Emergency Department at the Frankston Hospital on 28 May 2015, a death may well be prevented.

74. The Court acknowledges the family's generosity in consenting to tissue donation.

RECOMMENDATION

75. Pursuant to section 72(2) of the *Coroners Act* 2008, I make the following recommendation connected with the death.

76. In the event that an adequate collateral history cannot be obtained, where a clear cause for the altered conscious state cannot be determined, and stroke cannot be excluded, then consideration should be given for an urgent CT scan to be conducted by Peninsula Health medical clinicians.

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

Ms Fiona Karmouche, Lander & Rogers, on behalf of Peninsula Health;

Mr Tom Ballantyne, Maurice Blackburn, on behalf of Mr Andrew Rosevear, Senior Next of Kin;

Ms Paula Pulitano, Slater & Gordon, on behalf of Ms Karen Fowler;

Mr Colin Grant, Ambulance Victoria; and

Senior Constable Dean Kelly, Coroner's Investigator, Victoria Police.

78. Pursuant to section 73(1A) of the Act, I order that this Finding be published on the internet.

Signature:

PHILLIP BYRNE
CORONER

Date: 13 July 2017