IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

COR 2019 007024

FINDING INTO DEATH WITHOUT INQUEST

Form 38 Rule 63(2)

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

Findings of:	AUDREY JAMIESON, Coroner
Deceased:	Michele Valentino
Date of birth:	11 August 1938
Date of death:	24 December 2019
Cause of death:	1(a) Head injury in a fall
Place of death:	St Vincent's Hospital, 41 Victoria Parade, Fitzroy, Victoria, 3065
Keywords:	Fall; hospital; medical; head injury; radiology

INTRODUCTION

1. On 24 December 2019, Michele Valentino was 81 years old when he died at St Vincent's Hospital four days after having fallen, sustaining a head strike. At the time of his death, Mr Valentino lived in Reservoir with his wife, Pia, and daughter, Loredana. The couple had two other children, Anna and Paul.

2. Mr Valentino's medical history included type 2 diabetes and ischaemic heart disease. His prescribed medications included aspirin, insulin, Jardiamet, simvastatin, fenofibrate, perindopril, duloxetine, esomeprazole and atenolol.

THE CORONIAL INVESTIGATION

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

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

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

6. This finding draws on the totality of the coronial investigation into the death of Michele Valentino including evidence contained in the coronial brief. Whilst I have reviewed all the material, I will only refer to that which is directly relevant to my findings or necessary for narrative clarity. In the coronial jurisdiction, facts must be established on the balance of probabilities.[1]

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

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

Circumstances in which the death occurred

7. In the days prior to 20 December 2019 Mr Valentino experienced confusion and was resisting taking his insulin, which Loredana reported was out of character for him.[2]

8. At around 5:40am on 20 December 2019, Loredana heard a loud 'thud' and found Mr Valentino on the ground having fallen. There was blood underneath his head, though he was still conscious. Loredana called emergency services and requested an ambulance.[3]

9. Ambulance Victoria paramedics arrived and transported Mr Valentino to the Emergency Department (**ED**) at the Northern Hospital. ED clinicians determined the cause of the fall to be delirium, secondary to pneumonia.

10. At 8:49am a computed tomography (**CT**) brain and cervical spine scan was conducted. The radiologist's report concluded:[4]

    No acute intracranial findings. Generalised cerebral involutional change with small vessel ischaemic disease. Serpiginous linear density within the right lateral ventricle noted as described above. This may be vascular in nature; CT circle of Willis angiogram/venogram may be of value to further assess/Neurologist review. No cervical spine fractures or dislocation.

11. Mr Valentino's pneumonia was treated with antibiotics ceftriaxone and azithromycin.

12. At 3:45pm a CT angiogram of the brain was conducted, with the radiologist's report stating:[5]

    Acute haemorrhage in the right lateral ventricle. Normal appearing CT angiogram of the neck vessels and normal appearing CT cerebral angiogram. Note is made on the captured images in the upper chest of a moderately large right pleural effusion.

13. Mr Valentino's treating team conferred with the neurology team, and Registrar Dr Hye Jin Kwon documented the following in Mr Valentino's progress notes at 7:37pm.[6]

[2] Court File (**CF**), Statement of Loredana Valentini, dated 6 March 2020.
[3] Ibid.
[4] CF, Medical records of Northern Health, the Northern Hospital.
[5] Ibid.
[6] Ibid.

called neuro oncall (Dr. Gayde [sic][7]*)*

-> had seen the CTA earlier with Neurology consultant (Dr. Crompton)

-> unlikely to be acute bleed given non Con CTB has not had any bleed also very confined in one space, likely ? seeing extravasation of blood into ventricle (? due to presence of choroid plexus papilloma, usually benign condition)

-> if concerned about bleed

to WH aspirin

to monitor BP to aim for <140 systolic

to repeat CTB (non -contrast) in the AM to see if there is any acute bleed seen on CTB neuro will come and review in the morning with the consultant

14. At 11:50pm Mr Valentino was found in a decreased conscious state with a Glasgow Coma Scale score of 8/15.[8] A MET call was made, and an emergent CT brain scan was performed with the report concluding there was a *large intraventricular acute haemorrhage with early hydrocephalus.*

15. Clinicians obtained an opinion from the neurosurgical team at St Vincent's Hospital who opined that while his prognosis was very poor, given his level of functioning prior to his fall, neurosurgical intervention was warranted.

16. Mr Valentino was intubated and transferred to St Vincent's Hospital, arriving at 5:20am on 21 December 2019. He was immediately taken to the operating theatre where an intraventricular drain was inserted with no complications.

17. The intraventricular drain blocked a few hours later. Mr Valentino was returned to theatre where the drain was replaced.

18. In the early hours of 22 December 2019, the second drain blocked and was unable to be flushed by the neurosurgical team. Another CT brain scan was performed which showed worsening haemorrhage and obstructive hydrocephalus.

[7] The neurologist's name is Dr Gayed.

[8] The Glasgow Coma Scale (GCS) is a neurological scoring system used to assess conscious level. The GCS is comprised of three categories; best eye response, best vocal response and best motor response. The GCS is scored out of 15, with a score of 15 indicating a normal level of consciousness.

19. A family meeting was convened, and the decision was made to transfer Mr Valentino's care to comfort measures. Mr Valentino was extubated on 22 December and transferred to the palliative care ward on 23 December, where he sadly died at 4am on 24 December 2019.[9]

Identity of the deceased

20. On 24 December 2019, Michele Valentino, born 11 August 1938, was visually identified by his daughter, Anna Valentini, who completed a Statement of Identification.

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

Medical cause of death

22. Senior Forensic Pathologist Dr Michael Phillip Burke from the Victorian Institute of Forensic Medicine (**VIFM**) conducted an external examination on the body of Michele Valentino on 27 December 2019. Dr Burke reviewed the Victoria Police Report of Death (Form 83), post mortem CT scan and E-Medical Deposition Form and provided a written report of his findings dated 20 January 2020.

23. The post mortem CT scan showed left intra-cerebral haemorrhage and intra-ventricular haemorrhage. Dr Burke noted that the examination was otherwise unremarkable.

24. Toxicological analysis of ante-mortem blood samples identified the presence of the following:[10]

    i. Morphine ~ 0.02 mg/L
    ii. Midazolam ~ 0.08 mg/L
    iii. Alfentanil ~ 6 ng/mL
    iv. Fentanyl ~ 2 ng/mL
    v. Duloxetine ~ 0.05 mg/L
    vi. Laudanosine ~ 0.2 mg/L
    vii. Lignocaine

[9] CF, E-Medical Deposition Form.
[10] CF, Toxicology Report of Lillian Roberts, Forensic Toxicologist, dated 19 March 2020.

25. Dr Burke opined that many of these drugs would have been administered by clinicians treating Mr Valentino in hospital.

26. Dr Burke provided an opinion that the medical cause of death was 1 (a) HEAD INJURY IN A FALL.

FAMILY CONCERNS

27. In a statement provided to the Court, Loredana reported her concerns regarding her father's care at the Northern Hospital. Anna stated that she 'felt the hospital staff didn't treat [her] father the way he should have been treated', with her main concern being that nurses did not clean the wound on the back of his head and there was still dried blood visible.[11]

CORONERS PREVENTION UNIT REVIEW

28. Having reviewed the medical examiner's report of Dr Burke and the concerns submitted by Loredana, I referred the matter to the Coroners Prevention Unit (**CPU**) for review.[12] I asked that the CPU review the care and management of Mr Valentino at the Northern Hospital.

29. As part of their review, the CPU requested and received a statement from Susan Hollowood, Acting Director of Quality and Service Improvement at Northern Health. Ms Hollowood requested that any further questions be directed to Richard Laufer, Chief Legal Officer at Northern Health, and a statement was subsequently provided by Mr Laufer.

Response to family concerns

30. In response to the concerns raised by Loredana, the CPU definitively stated that the fact that nurses did not clean the dried blood from the back of Mr Valentino's head would not have contributed to his death. This is because the bleeding that led to his death was internal, and a separate injury to the external wound.

[11] Statement of Loredana Valentini, dated 6 March 2020.

[12] The Coroners Prevention Unit (CPU) was established in 2008 to strengthen the prevention role of the coroner. The unit assists the Coroner with research in matters related to public health and safety and in relation to the formulation of prevention recommendations. The CPU also reviews medical care and treatment in cases referred by the coroner. The CPU is comprised of health professionals with training in a range of areas including medicine, nursing, public health and mental health.

Review of care

31. The CT angiogram of Mr Valentino's brain showed a significant worsening of his intraventricular haemorrhage (**IVH**)[13] compared with the CT scan taken at 8:49am. In his statement to the Court, Mr Laufer noted that Northern Health agreed with this, though did not agree that the CT angiogram demonstrated early hydrocephalus.[14]

32. In her statement to the Court, Ms Hollowood advised that Northern Health was not aware of a 'potential adverse event' involving Mr Valentino until receiving material from the Court, presumably as his death occurred at St Vincent's Hospital. Mr Valentino's case was not referred to Safer Care Victoria as a sentinel event, nor was it subject to internal review. However, since reviewing the material provided by the Court, Northern Health commenced a review of Mr Valentino's admission and subsequent transfer to St Vincent's Hospital.[15]

33. Mr Laufer provided details of the internal review, noting that Mr Valentino's case was reviewed by way of a Structured Clinical Incident Review Template (**SCIRT**).[16] The key finding of the SCIRT was that the CT angiogram was incorrectly interpreted by the neurology consultant and the worsening IVH was not identified.

    CT angiogram was incorrectly interpreted by the neurology consultant.
    Location of bleed (intraventricular only, without parenchymal bleeding) and non-contrast CT not being repeated meant that imaging evolution was not appreciated.

34. 'Staff factors' were identified as the contributing factor, with Mr Laufer also noting the influence of Mr Valentino's clinical history on the assessment.[17]

    Clinical history of confusion 3 days prior to fall with no neurological deterioration also played a role in this assessment and interpretation. Initial non-contrast CT did not show any lesion that may have caused this confusion, therefore was believed to be incidental.

35. Mr Laufer advised that measures had already been implemented with a view to preventing like situations. The neurologist involved in Mr Valentino's case and wider neurology team

[13] IVH is a bleeding into the brain's ventricular system, where the cerebrospinal fluid is produced and circulates through towards the subarachnoid space.
[14] St Vincent's Hospital's interpretation of the imaging differed from that of Northern Health in that St Vincent's were of the view that the CT angiogram demonstrated early hydrocephalus.
[15] Statement of Susan Hollowood, dated 9 August 2021.
[16] The review panel included the Divisional Director of Medicine, the Head of Neurology, the Divisional Director – Operations (Ag) – Medicine and Cancer Services, and the Quality Coordinator for Medicine.
[17] Statement of Richard Laufer, dated 22 November 2021.

educated themselves about the rare entity of isolated IVH in adults, in particular the imaging appearances of the same.[18]

36. Mr Laufer also addressed the medical management provided by Northern Health, submitting that clinicians acted reasonably and appropriately. Once Mr Valentino clinically deteriorated, clinicians immediately sent imaging to St Vincent's Hospital, by which time the MET call had already been activated.

37. Mr Laufer further submitted that it is difficult to attribute the degree of harm caused by the delayed recognition of an IVH. He noted that neurosurgical transfer would have been extremely unlikely following the 8:49am CT scan and in any case, clinicians acted appropriately to minimise deterioration in intracerebral haemorrhage, including cessation of anti-thrombotic drugs and management of hypertension. Mr Laufer conceded that it is possible that neurosurgical transfer may have occurred following the 3:45pm CT angiogram had the worsening IVH been identified, however, *in many cases neurosurgical transfer is not offered unless patients are deteriorating clinically, in which case the transfer timing would not have been different.*[19]

38. Whilst it is certainly of concern that that Mr Valentino's worsening IVH was not identified, potentially leading to a missed opportunity to provide the best possible care, the CPU considered what Mr Valentino's prognosis may have been even if the IVH had been identified earlier.

39. The CPU advised that treatment of IVH falls into two categories: treating any underlying cause (if possible) or treating the main consequence, which is obstructive hydrocephalus. According to the CPU, most IVHs do not progress to obstructive hydrocephalus and its treatment (placing an extra ventricular drain (**EVH**)) is not indicated as a preventative measure – there is no evidence to suggest that pre-emptive insertion is beneficial. Moreover, there is a high rate of shunt blockage and shunt infection, of up to 27%.[20]

40. The CPU concluded that given both the nature of Mr Valentino's bleeding and his post-operative course (ongoing bleeding and recurrent shunt blockages), it is not possible to say

[18] Ibid.
[19] Ibid.
[20] Kirmani AR, Sarmast AH, Bhat AR. Role of external ventricular drainage in the management of intraventricular hemorrhage; its complications and management. Surg Neurol Int 23-Dec-2015;6:188. Available from: https://surgicalneurologyint.com/surgicalint-articles/role-of-external-ventricular-drainage-in-the-management-of-intraventricular-hemorrhage-its-complications-and-management/

that an earlier referral or transfer to a neurosurgical service when the IVH was detected would have resulted in a different outcome.

Communication of CT findings

41. The CPU further identified a potential missed opportunity with regard to the communication of the radiologist's findings on Mr Valentino's 3:45pm CT angiogram.

42. Northern Health does not have its own radiology department. At the time of Mr Valentino's death, radiology imaging services were provided by a contracted service, HealthCare Imaging Services, now trading as Lumus Imaging.[21]

43. Ms Hollowood advised that Northern Health has a procedure for the escalation of unexpected radiological findings, *Procedure: Radiology – Escalation of Unexpected Abnormal Results*, which provides as follows:[22]

    i. That evidence of active bleeding on a CT scan or significant intracranial haemorrhage are conditions that require escalation and urgent treatment (within 30 minutes); and

    ii. Intracranial pathology with significant mass effect (especially posterior fossa pathology) require escalation.

44. Mr Laufer confirmed that the contract between Northern Health and HealthCare Imaging Services required HealthCare Imaging Services to comply with Northern Health's polices and manuals as amended from time to time. At the time of Mr Valentino's death, this included *Procedure: Radiology – Escalation of Unexpected Abnormal Results.*

45. I note also that The Royal Australian and New Zealand College of Radiologists (RANZCR) *Standards of Practice for Clinical Radiology* provides minimum standards for the provision of safe radiology services. Section 5.5.2 Communication of Imaging Findings and Reports provides an indicator that:

    The practice has a protocol for urgent and significant unexpected findings that ensures [...] the reporting radiologist uses all reasonable endeavours to communicate directly with the referrer or an appropriate representative who will be providing clinical follow up.[23]

[21] Statement of Richard Laufer, dated 22 November 2021.
[22] Statement of Susan Hollowood, dated 9 August 2021.
[23] https://www.ranzcr.com/search/standards-of-practice-for-clinical-radiology

46. Ms Hollowood noted that having reviewed medical records, there were no documented conversations between the reporting radiologist and Northern Health clinicians.[24] It appears therefore that the reporting radiologist was non-compliant with both Northern Health policy, and RANZCR standards. Had the reporting radiologist telephoned through their finding of worsening IVH to Mr Valentino's treating clinicians immediately, he may have been placed on a neurosurgical pathway earlier.

47. I note that the CPU identified that curiously there did not appear to be a representative of HealthCare Imaging Services present at the SCIRT review, despite assurances from Mr Laufer that there were contractual obligations in place requiring HealthCare Imaging Services to *participate in the quality assurance and risk management programs of Northern Health, including incident reports, patient care review, utilisation reviews and development of clinical indicators and any other like programs.* It could be assumed that an incident as serious as Mr Valentino's, particularly involving an apparent breach of Northern Health procedures, would have necessitated HealthCare Imaging Services' involvement in the SCIRT review.

48. Mr Laufer conceded that Northern Health had no system in place to measure the actual number of reports of critical radiology findings from radiology to patients' treating teams and it follows that therefore they were unable to measure compliance with their own procedure. However, he advised that a division of Northern Health titled 'Diagnostic Services and Outpatients' had been created following Mr Valentino's death. The division is responsible for the management of in-house and contracted diagnostic services as well as Northern Health's outpatient department, including reviews stemming from critical incidents.[25] I acknowledge this restorative and preventative measure.

COMMENTS

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

1. I recently investigated the death of Mr Jeffrey Marsden[26] who died in January 2019, and Mr Reginald Benham[27] who died on 25 August 2019. Both investigations identified that the radiologist reviewing the CT scans failed to phone through their significant findings to the referring doctor.

[24] Statement of Susan Hollowood, dated 9 August 2021.
[25] Statement of Richard Laufer, dated 22 November 2021.
[26] COR 2019 000142.
[27] COR 2019 004552.

2. It is of great concern to me that I have investigated three deaths in a twelve-month period whose shared circumstances involve a radiologist failing to follow both internal policy and RANZCR standards. I note that none of these instances were necessarily causal to the deaths. However, in line with my prevention role[28] it would be remiss of me not to draw attention to these failings, whether they were coincidental or indicative of a wider pattern of non-adherence to accepted standards.

3. In my *Finding into death without inquest*[29] in the matter of Mr Marsden I made the following recommendation:

   i. With the aim of preventing like deaths and promoting public health and safety, I recommend that the Royal Australian and New Zealand College of Radiologists consider using the death of Jeffrey Marsden as a case study in educational campaigns or materials highlighting the importance of communicating urgent and significant unexpected radiological findings directly to the referrer, in keeping with their Standards of Practice for Clinical Radiology.

4. I made a similar recommendation in my *Finding into death without inquest*[30] in the matter of Mr Benham:

   i. With the aim of preventing like deaths and promoting public health and safety, I recommend that the Royal Australian and New Zealand College of Radiologists consider using the death of Reginald Benham as a case study in educational campaigns or materials highlighting the importance of communicating urgent and significant unexpected radiological findings directly to the referrer, in keeping with their Standards of Practice for Clinical Radiology.

5. I again reiterate those recommendations.

6. As I noted in my Finding into death without inquest in the matter of Mr Benham, humans are not infallible, and that extends to those working within our healthcare system. A safe system is one that is designed to accommodate for the predictable fact that people are not infallible and human error can and will occur. A safe system is one where even if an error is made –

[28] The prevention role of the Coroner is articulated in the Preamble and Purposes of The Act.
[29] https://www.coronerscourt.vic.gov.au/inquests-findings/findings?combine=jeffrey+marsden
[30] https://www.coronerscourt.vic.gov.au/inquests-findings/findings?combine=reginald+benham

whether it is a doctor not interpreting a CT scan as expertly as a radiologist or not realising a finding's significance – there is a process that prevents those errors resulting in patient harm.

7. It is frustrating to note that robust and well written processes appear to be in place, however, there seems to be continued non-compliance by individuals. I implore both Lumus Imaging and RANZCR to carefully examine the rigorousness of the means they have to ensure that radiologists are acting in accordance with internal procedures, policies and RANZCR's Standards of Practice.

8. I acknowledge the restorative and preventative measures implemented by Northern Health to adequately manage and oversee in-house and contracted diagnostic services.

9. Finally, I note the importance of robust communication between healthcare services involved in the care of the same patient. It is of concern to me that Northern Health were apparently not advised of Mr Valentino's death until advised by the Court. By St Vincent's Hospital failing to advise Northern Health of Mr Valentino's death, their ability to conduct a thorough review, scrutinise their own systems of work and implement appropriate restorative and preventative measures in a timely manner was hampered.

RECOMMENDATIONS

Pursuant to section 72(2) of the Act, I make the following recommendations:

(i) With the aim of preventing like deaths and promoting public health and safety, I recommend that the Australian and New Zealand College of Radiologists considers using the death of Michele Valentino as a case study in educational campaigns or materials highlighting the importance of communicating urgent and significant unexpected radiological findings directly to the referrer, in keeping with their Standards of Practice for Clinical Radiology.

(ii) With the aim of preventing like deaths and promoting public health and safety, I recommend that Lumus Imaging reiterate to all employed or contracted radiologists the importance of communicating urgent and significant unexpected radiological findings directly to the referrer, by way of educational campaigns or otherwise.

FINDINGS AND CONCLUSION

1. The standard of proof for coronial findings of fact is the civil standard of proof on the balance of probabilities, with the *Briginshaw* gloss or explications.[31] Adverse findings or comments against individuals in their professional capacity, or against institutions, are not to be made with the benefit of hindsight but only on the basis of what was known or should reasonably have been known or done at the time, and only where the evidence supports a finding that they departed materially from the standards of their profession and, in so doing, caused or contributed to the death under investigation.

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

    a. the identity of the deceased was Michele Valentino, born 11 August 1938;

    b. the death occurred on 24 December 2019 at St Vincent's Hospital, 41 Victoria Parade, Fitzroy, Victoria, 3065;

    c. I accept and adopt the medical cause of death as ascribed by Dr Michael Burke and I find that Michele Valentino died from a head injury sustained in a fall;

3. Having regard to the nature of Michele Valentino's injury and his post-operative course, I am unable to find whether earlier neurological intervention would have changed Mr Valentino's clinical course and as such, I am unable to find with any certainty whether his death was preventable in the circumstances.

4. AND, although I cannot find with any certainty that his death was preventable, I find that the error in interpreting the CT angiogram and the lack of communication between the radiology service and Michele Valentino's treating clinicians led to an opportunity lost to provide Michele Valentino with the most appropriate medical care and treatment.

5. AND FURTHER, I find that the medical care and treatment provided to Michele Valentino at St Vincent's Hospital was reasonable and appropriate in the circumstances.

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

[31] *Briginshaw v Briginshaw* (1938) 60 CLR 336 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…'.

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

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

Pia Valentino, Senior Next of Kin

Northern Health

St Vincent's Hospital Melbourne

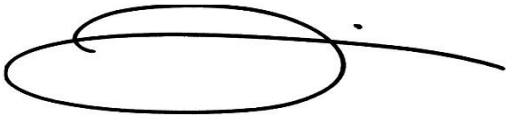
Safer Care Victoria

The Royal Australian and New Zealand College of Radiologists

Lumus Imaging

Senior Constable Shannon Bending, Coroner's Investigator

Signature:



AUDREY JAMIESON

CORONER

Date: 1 August 2023

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