IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

Court Reference: COR 2009 5822

FINDING INTO DEATH WITH INQUEST

Form 37 Rule 60(1)
Section 67 of the Coroners Act 2008 (Vic)

Inquest into the Death of: JEFFREY JOHN HARTWIG

Delivered On:	7 December 2015
Delivered At:	Coroners Court of Victoria 65 Kavanagh Street Southbank, VIC 3006
Hearing Dates:	19 January 2015, 24 September 2015 and 7 December 2015
Findings of:	JOHN OLLE, CORONER
Appearances:	Ms Deborah Foy of counsel for Monash Health[1]
Coroner's Solicitor:	Kate Hamilton

[1] Previously known as 'Southern Health at the time of Mr Hartwig's death. In May 2013 'Southern Health' changed its name to 'Monash Health'.

I, JOHN OLLE, Coroner having investigated the death of JEFFREY JOHN HARTWIG

AND having held an inquest in relation to this death on 19 January 2015, 24 September 2015 and 7 December 2015

at Melbourne

find that the identity of the deceased was JEFFREY JOHN HARTWIG

born on 22 March 1966

and the death occurred on 15 December 2009

at Monash Medical Centre Clayton, 246 Clayton Rd, Clayton VIC 3168

from:

I (a) PNEUMONIA

in the following circumstances:

1. Jeffrey John Hartwig was born on 22 March 1966 and was 43 years old at the time of his death. He is survived by his son Luke and sister Lynda, with whom he maintained close and loving relationships. He has been described as an excellent father who was very caring.[2]
2. A coronial brief was provided by Victoria Police to this Court. It has wholly addressed the circumstances surrounding Mr Hartwig's death.

BACKGROUND AND CIRCUMSTANCES

3. At inquest, a summary was read into evidence by Coroner's Solicitor, Kate Hamilton. I am satisfied that the summary accurately reflects the evidence.
4. Mr Hartwig was, immediately before death, a person placed in custody or care as a patient in an approved mental health service. Consequently, this matter is a mandatory inquest.[3]
5. Mr Hartwig had a longstanding history of chronic schizophrenia and opiate dependence.[4] These illnesses resulted in regular admissions to Monash Medical Centre Adult Psychiatry Inpatient Unit ('MMC APIU') in Clayton. Mr Hartwig's sister Lynda Gunn stated that these admissions were beneficial to Mr Hartwig and that, 'he came out a better person than he was

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[2] Statement of Lynda Gunn, dated 28 March 2011.

[3] See *Coroners Act 2008* (Vic) s 52(2)(b); *Coroners Act 2008* (Vic) s 3(i), definition of 'person placed in custody of care'.

[4] Report of Drs Natalie Stowe and Julian Hughes, Southern Health, prepared 15 December 2009.

when admitted' and was 'treated and returned to regular medication to balance his state of mind'.[5]

6. Mr Hartwig was admitted to MMC APIU on 11 November 2009 as an involuntary patient by the CATT team and police, in the context of a likely relapse of schizophrenia. His usual depot medication, modecate, was continued throughout his admission. He also received two courses of zuclopenthixol acetate throughout his admission[6] and was started on zuclopenthixol hydrochloride, diazepam and quetiapine. Due to concerns regarding Mr Hartwig's opiate dependence and questionable pain issues, his usual dose of MS-contin was reduced to 30mg three times daily. Part of the treatment plan was to commence methadone and cease the morphine. Dr Carlose completed a notification of drug dependant person and obtained a license to prescribe methadone to Mr Hartwig. On 8 December, the Addiction Medicine Team ('the team') assessed and ceased Mr Hartwig's morphine and replaced it with methadone 40mg/day, commencing 9 December. He was also started on sodium valproate. It was reported by Dr's Natalie Stowe and Julian Hughes that during the last week of his admission, it became difficult to balance Mr Hughes' sedation level as he appeared oversedated at times and at other times very irritable and threatening.[7]

7. On 7 December, Mr Hartwig's dose of sodium valproate was increased. On 8 December, Mr Hartwig's involuntary status was upheld by the Mental Health Review Board and, due to his slow response to treatment, his file was reviewed to ascertain past treatment regimes and response. His maximum dose of diazepam was increased to 30mg/day. On 9 December, the Addiction Medicine Team discussed the suspicion that Mr Hartwig was abusing drugs on the ward, given his irritability and withdrawal of large sums of money. Restrictions were placed on his withdrawal of money and his Quetiapine dose was also increased. On 10 December 2009, Mr Hartwig's benzodiazepines were temporarily ceased, due to concern over the potential cumulative effects on respiration. He was examined by a doctor and no abnormalities were detected on examination. He had a temperature of 37.3 and was noted to be 'looking unwell'. His pupils were of normal size and he complained of a mild cough and a headache. Blood tests, a urine drug screen and mid-stream urine screen were ordered.[8] Dr Carlose noted in Mr Hartwig's medical record, 'need to ensure not developing an infection'. At 4.55pm, Mr Hartwig's temperature was 37.9 and at 8.55pm Mr Hartwig was noted to be

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[5] Statement of Lynda Gunn, above n 1.

[6] Each of three 100mg intramuscular injections.

[7] Report of Drs Natalie Stowe and Julian Hughes, above n 3.

[8] Ibid.

'sedated +++, falling asleep on the phone, drowsy ++, clammy and had small pupils' with a further note 'to be closely monitored for over sedation'. His urine screen, collected at 6.15pm on 10 December, returned a positive opiate result.

8. On 11 December at 3.10am, nurse Crichton noted 'gait unsteady, needs review by medical team? Chest infection? Need for antibiotics?' and he was observed at 15 minutely intervals due to his level of disorganisation, incoherence and sedation. From midnight, the Nursing Care Levels Forms, completed every 15 minutes, record Mr Hartwig being awake between 4.00am-5.05am and 6.30am-8.17am, and asleep at all other times until concerns were raised by a co-patient at 12.20pm. From 11.30am registered psychiatric nurse Melissa Glasgow observed Mr Hartwig asleep in a chair in his room with a respiratory rate of approximately 16-18 bpm, with his skin slightly pale in colour. There were no indications of undue respiratory effort or snoring, and these observations remained the same during visual observation rounds at 11.33am, 11.46am, 12.01pm and 12.16pm. The respiratory recordings and visual observations were taken from the doorway of Mr Hartwig's room so as to not startle or disturb his rest. At approximately 12.20pm a patient reported to nurse Glasgow that Mr Hartwig did not look well and that he was unable to wake him. While walking to Mr Hartwig's room nurse Glasgow was approached by the ward Patient Service Assistant who informed that she was also unable to wake Mr Hartwig and that he appeared bluish grey in colour. Nurse Glasgow found Mr Hartwig slumped, unresponsive, pale and dusky in colour, with no evident respiratory effort and reddish vomit down the front of his shirt. His carotid arterial pulse was faint and she could not locate a femoral pulse. A Code Blue was called, Mr Hartwig was placed on the floor, his mouth was suctioned to clear his airway and Cardio Pulmonary Resuscitation was commenced at 12.30pm. He was then transferred to the Intensive Care Unit (ICU).[9]

9. Upon admission to ICU Mr Hartwig was hypotensive, requiring adrenaline and noradrenaline infusions. He was in atrial fibrillation and an amiodarone infusion was commenced. Examination revealed he was unresponsive to stimuli. A CT scan demonstrated changes consistent with anoxic brain injury, with no focal infarcts or haemorrhage. After 24 hours Mr Hartwig's inotropic support was weaned off and he reverted from atrial fibrillation to sinus rhythm. He remained unresponsive to painful stimuli and his family were informed of the likely very poor prospect of any neurological recovery. On 14 December there had been no improvement to Mr Hartwig's neurological state. A family meeting was held and

[9] Statement of Melissa Glasgow, Division 1 Registered Psychiatric Nurse at Monash Medical Centre, dated 16 February 2011.

palliative measures were implemented. Intensive Care treatment was withdrawn at 9.10am on 15 December and Mr Hartwig passed away shortly afterwards.[10]

10. Mr Hartwig's room was searched by nursing staff and police. Spoons with burn-marks were located with white powder in them.[11] No other drug paraphernalia, including needles, were located.[12]

11. At my request, the Coroners Prevention Unit reviewed the medical care and management of Mr Hartwig. [13] I have used this information to assist my finding.

Monitoring of Mr Hartwig's physical health

12. The physical reviews, monitoring and medical care was of a high standard during Mr Hartwig's month-long admission to MMC AIPU. Mr Hartwig had a temperature on 10 December 2009 which resulted in a physical examination, including listening to the air entry in his lungs, which was recorded as normal. However, Dr Carlose requested pathology and monitoring: 'Need to ensure not developing infection'. Mr Hartwig again had an increased temperature that afternoon and evening. The pathology results dated 11 December 2009 showed indicators of an infection, however it cannot be determined if the specimens were taken prior to or after his collapse on 11 December 2009. Regardless, the changes in his pathology did not occur quickly and support the nursing staff and Dr Carlose's view of Mr Hartwig possibly developing an infection as early as 10 December 2009.

Illicit Substances in Psychiatric Units

13. There were concerns during Mr Hartwig's admission that he was giving his prescribed MS-contin to co-patients, due to patient reports and staff witnessing this conduct. Consequently, Mr Hartwig's MS-contin was thereafter administered in an isolated area so as to minimise the possibility of this occurring.[14] There was also concern that Mr Hartwig had been given MS-contin by a visitor the day prior to his collapse, which he shared with the co-patient, adding to staff suspicions that Mr Hartwig was using illicit substances.[15] Mr Hartwig also returned a positive urine screen on 10 December that detected the presence of an opiate.

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[10] Statement of Dr Caroline Killick, Consultant, Intensive Care Unit at Monash Medical Centre, dated 2 December 2010.

[11] Report of Drs Natalie Stowe and Julian Hughes, above n 3.

[12] Statement of Sergeant Nick Murray, dated 24 February 2011, 2.

[13] A specialist service for coroners created to strengthen their prevention role and provide them with expert assistance. Hereafter referred to as 'CPU'.

[14] Report of Drs Natalie Stowe and Julian Hughes, above n 3.

[15] Statement of Dr Priya Carlose, Psychiatry Intern at Monash Medical Centre, dated 2 December 2010

However, I acknowledge that toxicological analysis of body fluids taken on 7, 10 and 11 December 2009 did not detect morphine or codeine.

14. Most jurisdictions in Australia have issues with illicit substance access in bed-based units. There is no single effective approach. Some services have implemented lockers outside of inpatient units and visitors, who hold the key, are required to leave their belongings before entering the unit. The impact of this on reducing access to illicit substances is unknown; however, it is reasonable to assume this assists nursing staff in reducing methods of introduction of substances into the unit. Other services have reviewed policies and procedures and increased the organisational support and guidance for staff to manage access, detection and disposal.

15. For Victorian public mental health inpatient units, the Department of Health's 2001 Chief Psychiatrist Guideline – Illicit Substance Use in Acute Inpatient Mental Health Services, outlines the following indicators for services:

- The service has written guidelines on the management of illicit substances in inpatient units to assist staff in day to day practice.
- Each patient's illicit substance use is appropriately assessed and considered in the clinical management of the patient, and in discharge planning and recommendations.
- The clinical record shows evidence of patient and, where appropriate, family involvement in decisions and discussions regarding the management of the patient's substance use whilst in the unit.
- Services develop documentation standards for practices relating to searches of patients and/or their belongings with particular attention to risk assessment, consent, scope and reason for the search, persons conducting the search, and for the disposal of any illicit substances confiscated.
- Relevant legislation, educational material, and information regarding available drug treatment services and the processes of referral are readily available to clinicians in the inpatient unit.
- Educational information for patients and carers about substance use, and available services are prominently displayed in the unit.
- The service has protocols with relevant drug treatment services to promote effective collaboration and timely patient access to specialist services.
- The service has a clear policy of liaison with the local area police.

16. The Monash Health Mental Health Program has undertaken reviews, development and implementation of procedures and documents to reduce issues related to illicit substances in acute mental health units.[16] The documents cover general and specific issues that relate to patients, staff and visitors in the acute inpatient psychiatry ward setting and are associated with risk; particularly substance use, trafficking drugs and alcohol treatment and searches. The documents and their guidelines assist to reduce risks associated with illicit and non-illicit substance use and access to acute inpatient psychiatry wards.[17] Monash Health has reviewed their procedures to comply with the Victorian Department of Health "Criteria for searches to maintain safety in an inpatient unit – for patients, visitors and staff' Chief Psychiatrist guidelines.

17. The Mental Health program procedures 'Illicit/non-illicit substances – mental health program procedure' (October 2009) and 'Searching a patient/consumer – mental health program procedure' (September 2009) are currently under review and revision. The revised versions will incorporate Chief Psychiatrist guidelines as well as Monash Health procedures.

Polypharmacy and culminate effects of psychoactive medications

18. The amounts and types of medication prescribed and administered in the MMC AIPU were within guidelines and practice points.[18]

19. Mr. Hartwig was given a combination of psychoactive prescription medications at doses that comply with clinical and practice guidelines. Literature makes note of adverse sedation events being frequently associated with the administration of three or more drugs.[19] The introduction of Methadone is itself suggestive of the need for close monitoring of sedation level. The Australian Medicines Handbook 2013 lists respiratory depression as an adverse effect. In addition, it states:

> The most serious adverse effect of opioid; this is best judged by the degree of sedation; respiratory rate reduction is a late and unreliable indicator. Sedation is best scored by using a sedation score, an example of which is given… Sedation score: 0 – wide awake, 1 – easy to

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[16] See Statement of David Huppert, Acting Medical Director of South Health Mental Health program , dated 15 September 2011.

[17] Ibid.

[18] Australian Medicines Handbook, http://amh.hcn.com.au.ezproxy-m.deakin.edu.au/, MIMS.https://www-mimsonline-com-au.ezproxy-f.deakin.edu.au/Search/FullPI.aspx?ModuleName=Product Info&searchKeyword=, Therapeutic Guidelines, Psychotropic Medications - eTG Psychotropic Medications accessed at: https://library.deakin.edu.au/

[19] Cote, Karl and Notterman et al, 2000, Adverse sedation events in paediatrics: analysis of medications used for sedation. Paediatrics, 106, pp.633,644.

rouse, 2 – easy to rouse, but cannot stay awake, 3 – difficult to rouse. Aim to keep sedation score <2; a score of 2 represents respiratory depression.[20]

Monitoring and assessment of sedation

20. It is not unreasonable for the nursing staff to want Mr Hartwig to sleep because he was irritable, angry and at times abusive to staff. Mr Hartwig had been commenced on Methadone three days prior to his death. The initial tolerance to the sedating effects of Methadone can take between four to six weeks to settle. In addition, Mr. Hartwig had his Quetiapine dose increased and had a Fluphenazine depot injection on 7 December 2009, which reaches effectiveness in 1 to 3 days. Both the nursing and medical staff noted his increased sedation over the previous three days and had reviewed and ceased the benzodiazepines because of their concern. In addition, the identification of possible physical illness, specifically a possible infection by Dr Carlose on 10 December 2009 and chest infection as identified by nurse Crichton on 11 December 2009 required close observations in assessing Mr. Hartwig's level of sedation.

21. The Adult Vital Observations form (MRK00), an observation form recording temperature, heart rate, respirations, blood pressure and degree of alertness, was commenced on admission and completed daily until 13 November 2009 when Mr. Hartwig's observations were considered normal. Another MRK00 form was commenced on 20 November 2009 and ceased on 23 November 2009 by Dr Carlose. A further MRK00 was commenced at 1700hrs on 10 December 2009 with Mr. Hartwig's temperature at 37.9^{oc} [elevated], BP 138/72, heart rate of 114/min [elevated]; respirations 16/min and oxygen saturation of 92-96%. This is the last record of a formal assessment of his sedation level. There are no other entries on this form, or a record of the requirement for frequency for ongoing observations or identification of who initiated the chart. I acknowledge that at 3.10am on 11 December, medical notes record that Mr Hartwig was receiving 15-minutely observations due to his disorganisation and sedation, and that it was noted that his speech remained 'mumbled and mostly incoherent'. I also acknowledge that retrospective medical notes record that a multidisciplinary meeting was held on the morning of 11 December, in which concern was expressed regarding Mr Hartwig persistently appearing over-sedated despite stopping all benzodiazepines, and that staff withheld/delayed administration of his morning medication due to concerns that he may have been abusing opiates or other substances.

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[20] Australian Medicines Handbook 2013. Online. Accessed on 18 February 2013 at: http://amh.hcn.com.au.ezproxy-m.deakin.edu.au/

22. Associate Professor Jakqui Barnfield, Director of Nursing for the Monash Health Mental Health Program provided the following information in relation to Monash Health's policies and training for nurse education, specific to the monitoring and assessment of a patient's level of sedation:

- All nurses are required to undertake Basic Life Support training and assessment on a yearly basis. This comprises of an online component and a subsequent practical element.
- Nursing visual observations are conducted in line with the identified person's level of risk. The level of risk is determined from the completion of a risk assessment conducted by nurses each shift. All Nurses within the Mental Health Program are trained in the appropriate method of conducting visual observations. This training identifies how nursing visual observations are conducted and includes the requirement to observe without hindrance (not through curtains or standing away so that the person is not clearly observable) the rise and fall of a person's chest indicating normal breathing.
- Monash Health Nurses work to a local framework that guides nursing practice — this is referred to as the Foundations of Care. One element of this framework refers to 'sleep' and raises the importance of recognising and responding to sleep hygiene. This means that it is no longer acceptable to have people sleeping all day, with no nursing interventions, as this will disrupt their usual night-time sleeping patterns that may need to be modified and promoted.
- An additional training package is under development that is exploring the use of breath sounds as audio clips. This will allow for the education and recognition of abnormal breathing as indicated by someone in respiratory distress.

23. Although the monitoring and assessment of Mr Hartwig's level of sedation was according to policy and procedure, I commend the policy and training improvements made by Monash Health.

POST-MORTEM EXAMINATION AND REPORT

24. A post-mortem examination and report was undertaken by Dr Shelley Robertson, Senior Forensic Pathologist at the Victorian Institute of Forensic Medicine.

25. Dr Robertson reported that toxicological analysis showed the presence of methadone (0.1mg/L), quetiapine (0.07mg/L), fluphenazine (2ng/mL), benzodiazepines and valproic acid metabolites. She reported that it is possible that the combination of these drugs produced central nervous system depression, leading to the development of pneumonia. Mr Hartwig's underlying psychiatric condition, paranoid schizophrenia, may also have produced alterations in mental state, contributing to death.

26. Dr Michael Burke, Senior Forensic Pathologist at the Victorian Institute of Forensic Medicine, provided a supplementary report stating that Mr Snowden's[21] letter to the Coroners Court and the attached photocopy of Mr Hartwig's Monash Health drug chart indicates that Mr Hartwig received the therapeutic medications diazepam, seroquel, clopixol, sodium valproate, methadone, modecate and MS-Contin.

27. No other significant natural disease was identified.

28. Dr Robertson determined that the cause of death is: I(a) Pneumonia, and that contributing factors include: II Combined toxic effects of drugs, paranoid schizophrenia.

29. Dr David Ranson, Deputy Director and Senior Forensic Pathologist at the Victorian Institute of Forensic Medicine, provided a further supplementary report in relation to whether the contributing factor 'combined toxic effects of drugs', as ascribed by Dr Robertson, was possibly or probably a factor contributing to the cause of death, and whether aspiration pneumonia could be considered as the cause or death, or a contributing factor. I have used this supplementary report to assist my finding.

FINDING

30. Having considered all of the evidence before me, I find that no further investigation is required.

31. I find that there is no evidence to suggest the involvement of any other person in this death.

32. I find that the medical management and care provided by Monash Health was reasonable and appropriate in the circumstances, having regard to the complexities involved. I acknowledge that monitoring and assessment of a patient's level of sedation is complex and that the nursing observations were undertaken in accordance within the policies in place at Monash Health at the time. I also acknowledge and commend the policy and training improvements made by Monash Health.

33. I find that Jeffrey John Hartwig died on 15 December 2009 and that the cause of his death is I(a) Pneumonia. Having considered all of the evidence before me, including Dr Ranson's supplementary report, I am unable to accept the contributing factors, as ascribed by Dr Robertson.

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[21] Legal counsel at Monash Health.

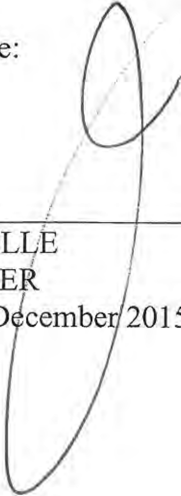
I direct that a copy of this finding be provided to the following:

The family of Jeffrey John Hartwig;

Investigating Member, Victoria Police; and

Interested parties

Signature:



JOHN OLLE
CORONER
Date: 7 December 2015