IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

Court Reference: COR 2020 007109

FINDING INTO DEATH WITHOUT INQUEST

Form 38 Rule 63(2)
*Section 67 of the **Coroners Act 2008***

Findings of:	Coroner Paresa Antoniadis Spanos
Deceased:	HD[1]
Date of birth:	1933
Date of death:	28 December 2020
Cause of death:	1(a) Complications following a medication administration error in a woman with multiple medical comorbidities
Place of death:	Royal Freemasons, 64 Somerville Street, Flora Hill, Victoria
Key words:	Medication error, transition from paper based to electronic systems

[1] This Finding has been de-identified to replace the names of the deceased and their family members with psuedonyms to protect their identity and to redact identifying information.

INTRODUCTION

1. On 28 December 2020, HD was 87 years old when she died at her aged care facility following a medication administration error. At the time, HD lived at Royal Freemasons aged care facility in Flora Hill (**the ACF**).

2. HD's medical history included ischaemic heart disease, cognitive impairment, anxiety and depression, hearing loss, cataracts and poor vision, hypertension, subarachnoid haemorrhage, gout., and chronic pain. Her usual medications were allopurinol[2] 100mg daily, aspirin[3] 100mg daily, Nexium®[4] 40mg daily, paracetamol[5] 1g mane, amlodipine[6] 5mg nocte, and mirtazapine[7] 15mg nocte.

THE CORONIAL INVESTIGATION

3. HD'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 HD's death. Whilst I have reviewed all the material, I will only refer to that which is directly relevant to my findings or

[2] Medication to treat gout.
[3] Medication to prevent cardiac events.
[4] Medication to reduce stomach acid.
[5] Painkiller for arthritis.
[6] Medication to treat blood pressure and heart disease.
[7] Medication to treat anxiety and depression.

necessary for narrative clarity. In the coronial jurisdiction, facts must be established on the balance of probabilities.[8]

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

Identity of the deceased

7. On 31 December 2020, HD was visually identified by her son who signed a formal Statement of Identification to this effect.

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

Medical cause of death

9. Forensic Pathologist, Dr Melanie Archer, from the Victorian Institute of Forensic Medicine (**VIFM**), conducted an inspection on 1 January 2021 and provided a written report of her findings dated 2 February 2021. Dr Archer provided a supplementary reported dated 16 April 2021 following receipt of post-mortem toxicology results.

10. Routine toxicological analysis of post-mortem samples detected hydroxychloroquine,[9] mirtazapine,[10] and paracetamol[11] but no alcohol or other commonly encountered drugs or poisons.

11. Dr Archer commented that there was detection of hydroxychloroquine, which is a drug used to treat rheumatoid arthritis and lupus erythematosus, as well as malaria and other infectious diseases. This was not found in the list provided of HD's current medications but was not at toxic levels. HD also had the antidepressant mirtazapine, and paracetamol in blood, mostly in keeping with therapeutic use. There was no pregabalin nor amlodipine. Dr Archer noted that the post-mortem blood sample was taken well after the medication administration error was discovered, and any erroneously administered medications are likely to have been metabolised by this time.

[8] 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.
[9] Hydroxychloroquine is used for the treatment of malaria and other infectious diseases, lupus erythematosus, and rheumatoid arthritis.
[10] Mirtazapine is indicated for the treatment of depression.
[11] Paracetamol is an analgesic drug.

12. Dr Archer provided an opinion that the medical cause of death was *"1(a) Complications following a medication administration error in a woman with multiple medical comorbidities"*.

13. I accept Dr Archer's opinion.

Circumstances in which the death occurred

14. On 17 December 2021, the ACF changed from paper-based medication charts to electronic medication charts using a new pharmacy provider (Priceline Pharmacy Bendigo Market Place) and dispensing system (MedSig by Webster Care®).

15. On or about 21 December 2020, HD was observed to have become drowsy.

16. On 24 December 2020, staff observed HD to be extremely tired and pale.

17. On 25 December 2020, HD was described as being more alert in the presence of her family.

18. At 9.00pm on the 25 December 2020, an enrolled nurse reported to the Registered Nurse (**RN**) on duty that she had concerns that HD had been administered medications from her new dispensing pack that were not previously prescribed for her. It was subsequently noted that HD's medication pack contained the following medications that were not on her previous medication charts:

    (a) risedronate[12] 35mg weekly;

    (b) Coloxyl and Senna[13] one to two in the morning;

    (c) pregabalin[14] 25mg twice per day;

    (d) thyroxine[15] 75 mg[16] daily;

    (e) hydrochloroquine[17] 200mg two tablets in the morning;

    (f) Ovestin Vaginal Cream[18] 0.1% twice per week; and

[12] Medication to treat osteoporosis.
[13] Medication to treat constipation.
[14] Medication for nerve related pain or for epilepsy.
[15] Medication to treat thyroid deficiency.
[16] Presumed micrograms.
[17] Medication used to treat immune disorders and other conditions.
[18] Topical cream for vaginal changes and to prevent urine infections.

(g) an increased dose of mirtazapine (30mg instead of 15mg at night).

19. Upon being informed of the error, the RN conducted a set of vital signs,[19] sent an email to the general practitioner requesting advice and recommended regular observations. The RN advised that medications were to be withheld until a medical review was undertaken.

20. On 26 December 2021, the RN on duty sought support from the Residential In Reach Service[20] for further medical advice and care, sought clarification of the correct medication with the dispensing pharmacy, and attempted to contact the general practitioner. HD's family were notified of the 'medication incident'.

21. Unfortunately, HD continued to deteriorate with increased drowsiness and poor oral intake and palliative measures were instituted until her death on 28 December 2020.

FURTHER INVESTIGATION INTO THE MEDICATION ERROR

22. In order to determine how this medication error occurred, I obtained statements from the ACF, the pharmacy involved, and HD's general practitioner.

23. The Coroners Prevention Unit[21] assisted by drafting statement questions and provided advice regarding the impact of medications administered in error.

Royal Freemasons, Flora Hill

24. I received two responses from Annette Ross, then Executive Director Quality, Safety and Innovation at Royal Freemasons, one dated 13 September 2021 and a subsequent undated statement. These responses lacked important details and required multiple requests (including repeated requests for the same document(s)) in order to elicit the information relevant to the coronial investigation of HD's death.

25. In response to a third request for information to assist my investigation, I received a helpful and comprehensive statement from Sharyn McIlwain, who had taken over from Ms Ross in May 2022.

[19] Vital signs were within normal range.
[20] A service where public hospitals provide medical and nursing support to aged care facilities to avoid emergency department attendances.
[21] The Coroners Prevention Unit is staffed by healthcare professionals, including practising physicians and nurses. Importantly, these healthcare professionals are independent of the health professionals and institutions under consideration. They draw on their medical, nursing, and research experience to evaluate the clinical management and care provided in particular cases by reviewing the medical records, and any particular concerns which have been raised.

26. Ms McIlwain explained that since HD's death, there had been a number of personnel changes which had unfortunately led to a loss of corporate knowledge within the organisation. However, she provided me with copies of relevant policies and procedures in place, documents regarding the medication error review, and information about the improvements that had taken place since HD's death.

Explanation of how the error occurred

27. Ms Ross outlined the lapses that led to the medication error as follows:

    (a) as part of the transition process, the new pharmacy was provided with paper-based medication charts for all residents;

    (b) the pharmacy used these charts to enter the medications onto the electronic system. During this step, the pharmacy appeared to have loaded the charts for HD and another similarly named resident into the electronic system under HD's name;

    (c) the pharmacy then printed the new medication order charts. ACF staff did not check the new charts from the pharmacy against the paper-based charts;

    (d) the new charts were provided to each resident's general practitioner for review. HD's general practitioner signed off on the new chart without identifying the error in the chart;

    (e) medications were dispensed from the pharmacy according to the new chart into webster blister packs; and

    (f) ACF staff used these blister packs to administer medication to the residents. Staff did not identify the medication error until 25 December 2020.

Incident report

28. Ms Ross was asked to provide a copy of the incident report completed in response to the incident and the actions that were taken in response.

29. A copy of the apparent 'incident report' was provided. This was in the form of an editable excel worksheet, which I note is not in a recognised format that is commonly seen in facilities who use incident management software to log and track incidents.

30. In terms of actions taken at the ACF, Ms Ross stated, *"Education to be provided in regard to checking medication charts prior to putting these into circulation"*. She also noted that additional chart and dose and administration aid checks had been implemented.

31. Ms Ross was also asked to provide details of any communications with the pharmacy and HD's doctor. She responded that no written communication was produced as it was entirely verbal.

32. Ms McIlwain subsequently explained that she had been advised that the former Care Manager had conducted interviews with the staff involved in administering the medication but had been unable to verify this. She did however identify some evidence that the incident was discussed at internal staff meetings and amongst members of the management team. Ms McIlwain also confirmed the recommendation about education to which Ms Ross referred.

33. Ms McIlwain conceded that the record keeping relating to conversations (with the pharmacy and general practitioner) and investigations about the incident was inadequate but that improvements have since been made in the way such incidents were managed of incidents.

34. Royal Freemasons has since updated its incident reporting policy, which sets out clear pathways for reporting incidents in accordance with their risk rating. This policy also emphasises record keeping as a critical step for incident management. Legislative changes also mean that incidents are reported in line with the Aged Care Quality and Safety Commission's Serious Incident Response Scheme.

Internal review

35. In her first statement, Ms Ross also referred to an internal review at the conclusion of which findings and outcomes were *"discussed through the organisation clinical governance forums".* She also noted that following the incident, a more thorough review process was implemented to ensure a cross check of charts was completed. The review process is also now in place for any medication chart updates.

36. I requested a complete copy of the internal review document, including the findings and recommendations made, information regarding the implementation of the recommendations made, and copies of correspondence or notes recording communication of the error with the pharmacy, the doctor, and the deceased's family.

37. Ms McIlwain explained that she could only identify one further document regarding the internal review, which was one page and undated. In addition, the author of the document was unclear and the document only briefly summarised the incident. She explained that no formal Root Cause Analysis (**RCA**) of the incident was completed, which was contrary to Royal Freemasons' policy at the time and apologised for this failure.

38. However, Ms McIlwain advised that a critical review of medication errors, including this incident, was subsequently undertaken by the Quality, Safety and Innovation Team. The review examined medication errors within residential care and Royal Freemasons for the period of 12 months from June 2020 to May 2021. The review was conducted using the Department of Health's Guiding Principles for Medication Management in Residential Aged Care Facilities (2012) and aimed to identify gaps within the Royal Freemasons' medication systems. It specifically examined data on the number of errors and the types of those errors. A briefing note regarding the medication error in this case was presented. An update on the medication audit was presented on 30 August 2021, which listed several planned improvements being undertaken across the ACF, including education about incident reporting.

Improvements made regarding medication management

39. Mc McIlwain explained that the following improvements were implemented following HD's death:

    (a) a medication chart audit was undertaken at the ACF between January and April 2021 to ensure all medication charts at the home were correct;

    (b) medication audits are completed at regular intervals;

    (c) a further audit process is completed with pharmacy staff who attend the site every four months to audit medication management. All medication charts are audited for compliance prior to printing new charts;

    (d) staff check new medication packs against current drug charts;

    (e) staff were reminded of the need to check all charts prior to administration of medication to identify any errors for correction;

    (f) staff completed further training on medication administration;

(g) Medication Advisory Committee meetings commenced at Flora Hill in April 2021. These meetings are held with pharmacy staff and a consultant clinician and provide an opportunity for the Pharmacy and the facility to meet and discuss current best practice for medication administration and to discuss incidents; and

(h) medication management procedures were updated.

Review by the Aged Care Quality and Safety Commission

40. Ms McIlwain explained that the Aged Care Quality and Safety Commission had conducted an 'assessment contact' in March 2021, during which the medication error incident was examined.

41. The Commission subsequently found, based on this and other incidents, that there were deficits across a range of areas including risk management and medication management. Action was subsequently taken regarding staff training regarding medication management, medication audits, and analysis of incidents, including escalation.

42. In its June 2022 audit, the Commission provided a positive assessment regarding medication management systems and risk management framework, which included a documented risk management framework supported by policies and procedures documented to manage risk. The incident management system in place meant that risks were appropriately reported, escalated, and reviewed by management. This meant that risks in relation to medication incidents and errors should be reduced.

43. Ms McIlwain concluded that with significant changes in place and the body of work undertaken that underpin these changes, the Royal Freemasons Executive and Board are confident that the processes that are now in place are now adequate and monitored.

Dr Henry Fady, general practitioner

44. HD's general practitioner, Dr Henry Fady at White Hills Medical Practice, provided a statement dated 25 July 2022.

45. By way of background, Dr Fady explained that on 17 December 2020, the ACF dropped off medication charts for 10 patients which required review and authorisation by the following day. Printouts of the current drug charts were also provided. The new drug charts were pre-filled with medications, their doses, and frequency by the pharmacy.

46. Dr Fady explained that he was fully booked with patients that day and he had not allocated time to review the drug charts as he had not been given any prior warning that a review was required. In between consultations, he reviewed the medications with reference to the printout of the current drug charts provided. He explained that due to a shortage of time, he *"depended"* on the printouts of the current charts. He subsequently signed the forms and dropped them off at the ACF.

47. Although the ACF sent an email to Dr Fady on the evening of 25 December 2020, the first time he was notified of the incident was by the Residential In Reach Service on 27 December 2020 on his after hours phone number. He noted that the ACF had not contacted him via phone for advice, which was the usual protocol. HD had since deteriorated with lethargy, chest noises, and fever. He was requested to review her, but he was away on holidays and could not attend in person. His impression was that HD had likely developed aspiration pneumonia or sepsis secondary to the sedation and required assessment. He recommended that she be transferred to hospital.

48. When Dr Fady returned to work, he was asked to complete a death certificate for HD. He reviewed the 25 December email, and it was at this time that he realised the medication error was due to the incorrect medication chart. He thus reported HD's death as a reportable death.

49. In his statement, Dr Fady expressed his devastation about the circumstances leading to HD's death, which has a profound effect on him. He expressed an unreserved apology.

50. He noted that the practice has since implemented a procedure so that medical practitioners do not complete a drug chart without checking the resident's actual chart (not just a printout) and reviewing the practice's software notes. Dr Fady also advised that he has since transferred all of his nursing home patients to other practitioners.

Priceline Pharmacy, Bendigo Market Place

51. By way of email dated 11 October 2022, I received a statement from Priceline Pharmacy although the author of the statement is unnamed.

52. The statement outlined that Priceline Pharmacy was approached to take over medication supply for the ACF. This involved changing the ACF's medication chart system to MedSig, operating through Webstercare software.

53. As all of the residents were new to Priceline Pharmacy, each resident needed their medication profile duplicated from their current medication profiles into a new digitally recorded profile managed on the MedSig software. At the time, all profiles were physically hand-written up in standard long term drug charts. These handwritten long term drug charts were the references provided to pharmacy.

54. An external group, Quality Pharmacy, facilitated the transition. Quality Pharmacy imported all patient data and profiles across to MedSig using the current long term drug charts. After this stage, Priceline Pharmacy printed off the drug chart newly transferred the digital records (MedSig) and provided them back to the ACF for the patients' doctors to sign off on – verifying/confirming accuracy and suitability with prescribing.

55. After the patients' general practitioners signed off on these charts, they were sent back to Priceline Pharmacy. Once received, these charts become an official National Residential Medication Chart (**NRMC**). NRMCs enable pharmacy to dispense and supply listed medication directly without the need of a traditional prescription.

56. Priceline Pharmacy stated the transition process was *"rushed",* hence significant assistance was required from Quality Pharmacy, who were facilitating the transition. Quality Pharmacy were involved with both Priceline Pharmacy and the ACF during this transition and offered training and assisted with software integration between the ACF and the pharmacy's software.

57. Priceline Pharmacy explained the medication error occurred during the transition from paper to electronic records. Quality Pharmacy aided Priceline Pharmacy with data entry of all the current ACF residents. The error was a duplication of profiles, in that a similarly named patient's profile was also added to HD's profile, which caused an increase in dosage.

58. Priceline Pharmacy noted they were not directly involved in this data entry and were reliant on Quality Pharmacy's help given the time constraints with the transition. Once the data entry was complete, Priceline Pharmacy printed the drug chart and sent this back to the ACF for review. The general practitioner was then required to review this chart and sign off thus confirming suitability for medication supply. This was signed off by HD's doctor and returned to Priceline Pharmacy. When this was returned to Priceline Pharmacy, all relevant medications were dispensed as per the new drug charts. As HD (and all other residents within the ACF) were new to Priceline Pharmacy, they did not have any previous dispensing history or medication history on their dispensing software. Hence, Priceline Pharmacy relied on the new charts that were signed and returned.

59. The ACF notified Priceline Pharmacy about the incident via email and followed up receipt of the email via telephone. Having received notice, Priceline Pharmacy followed internal protocols to rectify error by adjusting medication profiles on MedSig (preventing further errors in medication administration) and provided newly packed and corrected medication to the ACF. Priceline Pharmacy requested the original paper charts from the ACF (that were used for reference during data entry initially) and recognised the error (of additional medication charted for HD).

60. Following the incident, staff were notified and trained to be more critical of medication profiles especially when they are new to the facility. All staff are now aware and expected to review initial/original charts (and not just new written profiles from general practitioners). Staff are also aware never to assume and to be proactive in contacting relevant persons if needed to settle discrepancies and queries (such as calling the ACF to query unidentifiable hand writing, or calling general practitioners to query unusual dosages). The pharmacy has also requested the ACF to supply all corresponding paperwork and charts for an individual with any change – allowing staff to review and revise the full and complete medication chart/orders.

61. Priceline Pharmacy noted that there were multiple stages of failure across multiple parties and conceded that too much reliance was place on one other that allowed this incident to occur and not be identified sooner.

Conclusion

62. The wrong medications (risedronate, thyroxine, pregabalin, hydroxychloroquine) and the wrong dose of mirtazapine were administered to HD for one week from 17 to 25 December 2020.

63. The medication administration error appeared to have occurred with a 'Swiss cheese'[22] of multiple failures at a time of heightened risk due to change in practice.

64. It appears that the staff at Quality Pharmacy (assisting Priceline Pharmacy Bendigo Marketplace) incorrectly transcribed the medications from paper to the electronic medication chart. The general practitioner who signed off the electronic medication chart did not observe

[22] The 'Swiss cheese' model of accident causation is a model used in risk analysis and risk management, including aviation safety, engineering, healthcare, emergency service organisations, and as the principle behind layered security, as used in computer security and defense in depth.

the wrong medications were charted and signed off on the chart. And ACF staff relied on the pre-packed medication and did not check against the old paper medication chart.

65. The Coroners Prevention Unit advised it is likely that HD's drowsiness that was observed prior to the discovery of the medication error was caused by the medications that were administered in error. Given HD's pre-existing frailty and age, it is likely that this contributed to her rapid decline and subsequent death.

66. Once the discovery of the medication error was made on Christmas Day,[23] immediate steps were taken by the staff members to cease the medications, seek medical advice, and to notify family members. Difficulty in contacting the general practitioner over the holiday break was documented and the involvement of the Residential In Reach team was appropriate.

67. Steps to examine the opportunities for prevention appear to have been taken by the ACF whilst noting the extraordinary circumstance that occurred on the day of transition to a new system of prescribing and in the context of successful transitions in other facilities. I am satisfied, following review by the Aged Care Quality and Safety Commission, that risk of medication error has been significantly reduced and checks have been implemented so that any future error should be identified in a timely manner.

FINDINGS AND CONCLUSION

68. Pursuant to section 67(1) of the Act I make the following findings:

    (a) the identity of the deceased was HD, born in 1933;

    (b) the death occurred on 28 December 2020 at Royal Freemasons, 64 Somerville Street, Flora Hill, Victoria;

    (c) the cause of HD's death was complications following a medication administration error in a woman with multiple medical comorbidities; and

    (d) the death occurred in the circumstances described above.

[23] Availability of general practitioners limited on public holidays

COMMENTS

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

69. Incorrect administration of medications in residential aged care facilities is a known risk within the sector where improvements in safety have led to the development of electronic medication charts such as instituted by Royal Freemasons and supported by the Australian Commission on Safety and Quality in Health Care.[24] Unfortunately, in this case, the transition itself led to a serious medication error in a system designed to improve safety.

70. Transition from paper based to electronic systems is a time of heightened risk with previous coronial reports as implementation often requires complex hybrid systems or reliance on vigilance to avoid human error.[25]

71. Both Priceline Pharmacy and Dr Fady noted that the transition to the new system appeared rushed. The governance systems around the introduction of electronic medication charts should be planned in advance and should include appropriate staff education, mapping the sequential tasks of the pharmacist, the medical practitioner, and the staff administering the medication. The introduction of new technology should not be conducted during or proximate to a known public holiday period due to lack of staffing and resources.

72. Wherever possible, medication transcribing tasks should be performed in the clinical setting by more than one person, and not at a remote pharmacy with a single person. Moreover, there should be further reconciliation of the new electronic medication charts within the first 24 hours after the electronic 'go-live'.

73. In addition, medical practitioners should be aware of their overarching responsibility in signing electronic medication charts and should not rely on pharmacy staff to 'pre-fill' orders.

74. In this case, I have not identified any recommendations other than the need for vigilance regarding medications. In addition to directing that this finding be published on the Court's website, I will distribute my finding to relevant organisations and bodies to raise awareness of the heightened risk of error that occurs when electronic medication systems are introduced and remind doctors and pharmacists to exercise extra caution during the transition process.

---

[24] Australian Commission on Safety and Quality in Health Care, Electronic National Residential Medication Chart, https://www.safetyandquality.gov.au/our-work/medication-safety/electronic-medication-charts/electronic-national-residential-medication-chart.

[25] See for example the *Finding into Death Without Inquest regarding Irene Florence Curran*, dated 6 July 2020, available at: https://coronerscourt.vic.gov.au/sites/default/files/2020-07/IreneFlorenceCurran_565518.pdf.

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

Pursuant to section 73(1A) 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:

Senior next of kin
Royal Freemasons Flora Hill (care of Russell Kennedy lawyers)
Priceline Pharmacy Bendigo Market Place
Dr Henry Fady, White Hills Medical Practice
Quality Pharmacy
Royal College of General Practitioners
Pharmacy Guild
Society for Hospital Pharmacist
Aged Care Quality and Safety Commission
Constable Jessica Carr, Victoria Police, reporting member

Signature:

Coroner Paresa Antoniadis Spanos

Date: 23 February 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.