IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

Court Reference: COR 2022 000530

FINDING INTO DEATH WITHOUT INQUEST

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

Findings of:	Deputy State Coroner Paresa Antoniadis Spanos
Deceased:	HS
Date of birth:	3 January 1974
Date of death:	26 January 2022
Cause of death:	1(a) Unascertained
Place of death:	11 Stainer Street, Kew, Victoria
Key words:	*In care, unascertained, olanzapine, medication management protocols*

INTRODUCTION

1. On 26 January 2022, HS was 48 years old when she passed away unexpectedly. At the time, Ms HM lived in an assisted living facility managed by Scope (Aust) Ltd (**Scope**).

2. Ms HM was born with cerebral palsy,[1] visual and hearing impairment, right hemiplegia,[2] and intellectual disability[3] in the setting of congenital toxoplasmosis.[4] She resided with her parents and three siblings until the age of five years when she moved into supported care. Over the following years, Ms HM resided in several care homes, moving to 11 Stainer Street, Kew (**Stainer Street**), in 2015.

3. Ms HM required 24-hour support for most activities of daily living, with one-to-one support required for personal hygiene, community activities, and meals.[5] She was a National Disability Insurance Scheme (**NDIS**) participant from August 2015.

4. Ms HM's NDIS Participant Plan dated 31 March 2021, noted that enjoyed she listening to music, attending music therapy sessions, swimming, and spending time with her family. Ms HM's siblings visited her several times a year.

5. According to her general practitioner, Dr Stephen Bennie at East Kew Clinic, Ms HM's medical history also included anxiety, constipation, gastro oesophageal reflux, hypothyroidism, and bullous pemphigoid.[6] She also had a history of deranged sodium levels[7] and pressure sores. Due to swallowing issues, Ms HM was on a modified meal plan that included softened foods.

6. Ms HM had a history of behavioural disturbances, including loud vocalisations and self-injurious behaviours (biting herself, sucking on her skin, and kicking objects). Due to the risk of harm to herself through self-injurious behaviours, Ms HM was managed by a

[1] Cerebral palsy describes a group of neurological disorders that appear in infancy or early childhood and permanently affect body movement and muscle coordination. This is caused by damage to or abnormalities inside the developing brain that disrupt the brain's ability to control movement and maintain posture and balance. Damage can occur before, during, or shortly after birth.
[2] Total paralysis of the arm, leg, and trunk on the same side of the body.
[3] Intellectual disability is neurodevelopmental condition characterised by significant limitations in both intellectual functioning and adaptive behaviour (conceptual, social and practical skills that are learned and performed by people in their everyday lives). These difficulties originate before the age of 22.
[4] Toxoplasmosis is caused by infection with the parasite *toxoplasma gondii.* Primary infection in a pregnant woman can cause severe and disabling disease in the developing foetus.
[5] Ms HM received a 2-3:1 ratio of care during the day and active night support while a resident of Scope.
[6] Chronic autoimmune disorder causing large, tense, fluid-filled blisters and intense itching.
[7] Records variably state that Ms HM experienced too high and too low sodium levels. It is unclear from records which account is correct.

psychiatrist, general practitioner, and behaviour support practitioner, and prescribed restrictive medications including:

(a) oxazepam 15mg three times daily;

(b) risperidone 0.75mg in the morning and at lunch and 0.5mg at night;

(c) sodium valproate 500mg in the morning; and

(d) citalopram 30mg in the morning.

7. Ms HM was also prescribed thyroxine and diazepam.

THE CORONIAL INVESTIGATION

8. Ms HM's death was reported to the Coroner as it fell within the definition of a reportable death in the *Coroners Act 2008* (**the Act**). Generally, reportable deaths include deaths that are unexpected, unnatural or violent, or result from accident or injury. However, if a person satisfies the definition of a person placed in care immediately before death, the death is reportable even if it appears to have been from natural causes.[8]

9. 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.

10. 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.

11. The Victoria Police assigned an officer to be the Coronial Investigator for the investigation of Ms HM's death. The Coronial Investigator conducted inquiries on my behalf, including taking statements from witnesses – such as family, the forensic pathologist, treating clinicians and investigating officers – and submitted a coronial brief of evidence.

[8] See the definition of "reportable death" in section 4 of the *Coroners Act 2008* (**the Act**), especially section 4(2)(c) and the definition of "person placed in custody or care" in section 3 of the Act.

12. This finding draws on the totality of the coronial investigation into Ms HM's death, 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.[9]

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

Identity of the deceased

13. On 26 January 2022, Ms HM, born 3 January 1974, was visually identified by her support worker, Oriola Orekoya, who signed a formal Statement of Identification to this effect.

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

Medical cause of death

15. Senior Forensic Pathologist, Dr Michael Burke, from the Victorian Institute of Forensic Medicine (**VIFM**), conducted an examination on 1 February 2022 and provided a written report of his findings dated 28 June 2022.

16. The post-mortem CT (computed tomography) scan showed extensive cystic brain changes (remote) and enhanced lung markings with possible 'crazy paving pattern'.

17. The post-mortem examination revealed acute pulmonary oedema and intra alveolar haemorrhage. There was no evidence of any heart disease which would have led to sudden and unexpected death. There was pulmonary oedema and foci of intra alveolar haemorrhage. There was no evidence of acute aspiration as a cause of sudden and unexpected death.

18. There was no evidence of any injury which would have contributed to or led to death.

[9] 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.

19. Routine toxicological analysis of post-mortem samples detected oxazepam,[10] citalopram,[11] valproic acid,[12] hydroxyrisperidone,[13] olanzapine,[14] and benzhexol.[15]

20. Dr Burke opined that in the absence of an anatomical or toxicological evidence for a cause of sudden and unexpected death, Ms HM most probably died as a consequence of a sudden cardiac arrhythmia (heart attack). He explained that individuals with no morphological cause of death detected at autopsy may have underlying 'channelopathies', leading to unexpected cardiac arrythmia.

21. Dr Burke provided an opinion that the medical cause of death was *"1(a) Unascertained"*. However, he noted that there was no evidence to suggest that the death was due to anything other than natural causes.

22. I accept Dr Burke's opinion.

Circumstances in which the death occurred

Recent medical history

23. In the months preceding her death, Ms HM's health was relatively stable.

24. In November and December 2021, Ms HM attended her general practitioner for bullous pemphigoid, which was treated with low dose of prednisolone.

25. Ms HM was admitted to St Vincent's Hospital in early December 2021 for unexplained tremors, but investigations were unremarkable.

26. On 13 January 2022, Ms HM attended her general practitioner for treatment of bilateral conjunctivitis and was prescribed Chlorsig eye drops.

27. On 25 January 2022, she received her third dose of the COVID-19 vaccine.

[10] Oxazepam is indicated for anxiety. It may also be used in the management of alcohol withdrawal symptoms.
[11] Citalopram is indicated for major depression and panic disorders. Escitalopram is indicated for the treatment of major depression, social anxiety disorders, panic disorder, generalised anxiety disorder, and obsessive-compulsive disorder.
[12] Valproic acid is indicated for epilepsy, and as an adjunct in mania and schizophrenia where other therapy is inadequate.
[13] Risperidone is an antipsychotic drug effective against the positive and negative symptoms of schizophrenia.
[14] Olanzapine is an antipsychotic drug with a similar structure to clozapine.
[15] Benzhexol is indicated for Parkinson's disease and drug-induced extrapyramidal disorders, except tardive dyskinesia.

Day of death

28. Throughout the day of 26 January 2022, there were no indications that Ms HM was unwell. At about 6.30pm, Ms HM's incontinence aid was changed. At 8.00pm, she was observed sleeping in bed, leaning on her right hand.

29. At about 8.30pm that evening, a support worker entered Ms HM's room to administer medications and found Ms HM unresponsive lying face down in her bed. She was warm to the touch but not breathing. The support worker contacted emergency services and began administering cardiopulmonary resuscitation as instructed.

30. Ambulance Victoria paramedics arrived at 8.54pm but were unable to revive her. Ms HM's death was verified at 9.04pm.

FAMILY CONCERNS

31. In February 2022, Ms HM's sister, GS wrote to the Court outlining the concerns she had about her sister's care. In summary, these included that:

    (a) Ms HM was hospitalised in September 2018 due to being hydrated with thickened syrup water rather than water. This was investigated by the Disability Services Commission;

    (b) She had fears that staff had again failed in their duty of care;

    (c) Ms HM's day placement was cancelled due to the COVID-19 pandemic which meant she spent months in her bed or a wheelchair. But Ms GM noted that her sister was able walk, stand, and move about on the floor; and

    (d) Ms HM's death should not have happened.

32. In August 2022, Ms GM provided a statement to Victoria Police for the purpose of this coronial investigation. She noted that her sister appeared to exercise more independence in her previous home. Ms HM could previously use the toilet, walk with assistance, and drink warm drinks by herself. Once she moved to Stainer Street, Ms HM began using incontinence aids and a wheelchair and no longer eating or drinking independently with assistance.

33. Ms GM also stated that her sister's health declined following the hospital admission in 2018.

FURTHER INVESTIGATIONS

34. While I note Ms GM holds concerns about the care Ms HM received in the years preceding her sister's death, the role of the coroner is limited and I can only examine matters that are significantly proximate and causative, or contributory, to a death.

35. I also note that the Disability Services Commissioner conducted an investigation in 2019 to 2020 about the disability services Ms HM and other residents received at Stainer Street.[16] Section 7 of the Act requires me to avoid unnecessary duplication of inquiries and investigations.

36. While I asked the Coroners Prevention Unit[17] (**CPU**) to review some aspects of Ms GM's concerns, my investigation necessarily focused on the circumstances proximate to Ms HM's death and the factors that contributed or may have contributed to her death.

Coroners Prevention Unit review

37. The CPU reviewed Ms HM's records and provided the following advice about the care and support Ms HM received from Scope.

Toileting

38. An occupational therapy report dated 7 October 2019 indicated that Ms HM was incontinent of bladder and bowel and required incontinence aids at all times.

39. Her resident mobility plans dated 13 August 2019 and 13 September 2020 additionally indicated that Ms HM was to use the commode chair to toilet three times daily and her incontinence aid was to be changed four times per day.

40. Anxiety management and behaviour support plans in place at the time of Ms HM's passing further indicated that a soiled incontinence aid was distressing for her, and that this should therefore be changed regularly.

[16] This resulted in a Notice to Take Action to the Department of Health and Human Services (**DHHS**). As Stainer Street was transferred to Scope from DHHS in July 2019, Scope and DHHS were required to work together to address specified actions. Scope has confirmed that it has now completed all required actions listed in the Notice to Take Action – Action Plan.

[17] 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.

41. The CPU noted that progress notes were not exhaustive regarding this matter but did document changes of incontinence aid and the use of a commode. Statements from Scope also confirmed that they supported Ms HM's use of the commode upon waking, after her daily activities at 4.00pm, after dinner and before bed.

42. The CPU advised that from the available evidence, it appeared staff appropriately managed Ms HM's toileting and changed her incontinence aid regularly.

Mobility

43. Ms HM's 2019 and 2020 mobility plans indicated that she did not walk and utilised a wheelchair for mobility and a hoist for transfers. Her 2021 Manual Handling Risk Assessment also indicated that Ms HM was unable to maintain her balance, stand unsupported (with or without aids), unable to walk, and had a history of unexpected falls.

44. Ms HM's most recent lifestyle plans[18] completed on 16 March 2020 and 17 February 2021 indicated that one of her goals was to improve her mobility through exercises (utilising occupational therapy and physiotherapy strategies), time out of her wheelchair, weekly massages, and fortnightly swims. Ms HM's 2020 and 2021 NDIS plans indicated similar goals.

45. Ms HM's lifestyle plans additionally specified that she was to start a standing program to strengthen her legs when approved by her physiotherapist, and that staff were also to explore using a standing hoist.

46. The available records contained two reports of Ms HM's mobility completed by healthcare professionals. A comprehensive assessment was undertaken by Occupational Therapist Pooja Kannamballi on 7 October 2019. This assessment noted that Ms HM was able to weight bear on her toes when taking steps and complete a step transfer with the assistance of two staff members. However, it was identified that not all staff members had the confidence and capacity to assist Ms HM in mobilising without the use of aids. It was recommended that Ms HM receive ongoing physiotherapy funding to facilitate review of her ongoing mobility and transfer needs and provide staff training and education. It was further recommended that she receive 2:1 care in the evenings to maintain her existing

[18] Detailed documents listing Ms HM's personal qualities, likes and dislikes, care preferences, weekly activities, lifestyle-related goals and aspirations, etc.

mobility with the support of trained staff and occupational therapy funding for assessment of Ms HM's postural needs.

47. On 28 November 2019, Ms HM was reviewed by Physiotherapist Bianca Charles. Ms Charles noted that Ms HM likely had significant muscle tightness, thoracic kyphosis, and mild scoliosis. It was recommended that staff who were unfamiliar with Ms HM utilise hoist transfers to reduce risk to staff safety and improve Ms HM's positioning in her wheelchair. Pivot transfers were allowed for staff who were comfortable with this manoeuvre. It was further recommended that alternative transfer devices reducing manual handling and promoting weight bearing were trialled, along with floor-based exercises to engage Ms HM in active stretching.

48. Ms HM received further physiotherapy and occupational therapy review on several occasions between 2019 to 2021 regarding activities of daily living and mobility aids (hoist and wheelchair). However, the CPU noted that it did not appear that these reviews included the development of mobility exercises, a standing program, trial of alternative transfer devices, pivot transfer training, or formulation of an active stretching plan as previously recommended. Ms HM was nursed on a 2-3:1 ratio of care in line with the occupational therapist's recommendation.

49. Regarding the other identified avenues for improving mobility, Ms HM's timetable noted fortnightly massages and swimming prior to COVID-19 restrictions. The CPU also noted that it was also clear from progress notes that Ms HM regularly spent time out of her wheelchair in her beanbag. Scope confirmed that Ms HM had returned to massages at the time of her passing, however it was unclear whether she re-engaged in swimming as part of this return. The CPU noted that engagement in swimming and massage was likely significantly impacted by COVID-19 restrictions during 2020 and 2021.

50. The CPU advised that in summary, the available records from 2019 onward indicated that Ms HM had limited mobility, requiring use of a wheelchair and hoist transfer. It appeared that staff utilised these supports appropriately to safely support Ms HM, in line with allied health advice. Goals were formulated and some steps taken to improve Ms HM's mobility (i.e. time out of her wheelchair, massages, swimming, care ratio), with limitations imposed by the COVID-19 pandemic. However, it did not appear that she was supported to further develop her mobility through mobility exercises, a standing program, pivot transfer training or active stretching plan, or trial alternative transfer devices in line with her mobility plans and allied health advice.

51. Scope explained that the care and supports provided by Scope staff to assist with Ms HM's mobility were in accordance with the directions and recommendations of her treating practitioners, including occupational therapists and physiotherapists. While improved mobility was identified as a goal in Ms HM's NDIS Plans, the mobility strategies employed by staff were ultimately determined by Ms HM's allied health team on the basis of her physical abilities.

52. The CPU also noted that assessments by support staff and Dr Bennie completed in 2019, 2020, and 2021 indicated that Ms HM was not viewed to have experienced any functional decline or changes in her mobility over this period. It is unclear how Ms HM's level of mobility from 2019 to 2021 compared to her mobility at her previous facility. The CPU also noted that it is difficult to confidently distinguish between gradual deterioration that is naturally expected over time and that caused by possible poor quality of care.

Eating and drinking

53. Records indicate that Ms HM's swallowing was assessed by a speech pathologist approximately yearly. Mealtime management plans and nutrition and swallowing checklists were appropriately developed to educate staff about what kind of food and drink was safe for Ms HM to consume to prevent aspiration or choking and promote adequate food and fluid intake.

54. Ms HM was assessed as having a swallowing disorder and deemed suitable for a smooth pureed diet (2018), then a minced and moist diet (2019 to 2021), and liquids thickened to moderately thick (2018 to 2021).[19] These assessments further specified that Ms HM required full assistance while eating and drinking including specification that she should receive her drinks via a spoon in the 2019 to 2021 plans.

55. The CPU noted that it is common for individuals with disability to experience dysphasia, which may progress in severity with age. As such, qualified assessment and compliance with Ms HM's mealtime management plan represented appropriate care, reducing her risk of harm by choking or aspiration. As Ms HM required full assistance while eating and drinking including delivery of drinks via a spoon, it would not have been appropriate for Ms HM to hold a cup to her mouth to drink.

[19] Refer to the International Dysphagia Diet Standardisation Initiative (IDDSI) Framework for definitions.

Oral health

56. The available records indicated that Ms HM attended three dental appointments over 2020 and 2021, with tooth destruction due to bruxism (teeth grinding) noted on each occasion.

57. Ms HM's dentition appears to have worsened over time, and on 28 June 2021 the Royal Dental Hospital of Melbourne advised that Ms HM required an appointment under general anaesthetic for review and possible extraction of four teeth that had been ground to her gums. Ms HM was placed on a waiting list for this procedure that could take up to two years, and Ms GM was notified of this outcome. Ms GM expressed a preference for her sister to be seen privately at an earlier date.

58. On 13 October 2021, Ms HM was seen by Dr Helen Marchant of Western Special Needs Dentistry who opined that, while Ms HM's teeth were worn down, there was no sign of pain, swelling, or infection, and there was no need for intervention at this time. Dr Marchant advised that care staff should remain vigilant for signs of deterioration including pain, swelling, or difficulty eating or sleeping. A plan was made to re-review Ms HM in six months.

59. The CPU noted that the underlying cause of Ms HM's bruxism is not known and may have been related to her cerebral palsy, anxiety, pain, medication regime, or other factors. However, Ms HM's records indicated that she engaged in tooth grinding when distressed. Her distress was pharmacologically managed by psychiatrist Dr Devi De Alwis and through behaviour support plans developed by behaviour support practitioners. Progress notes indicated that staff used both non-pharmacological strategies specified in Ms HM's behaviour support plan (e.g. time on her beanbag, changing of her incontinence aid, sensory stimulation, interaction with support workers) and psychotropic medication to manage her distress. The CPU noted that there was no other indication in the records that Ms HM experienced pain (such as unusual behaviour disturbance, grimacing, changes in body posture, sleeplessness, changes in appetite, etc).

60. The CPU advised that, in summary, it appeared that Ms HM's dentition and factors contributing to distress-driven bruxism was appropriately managed.

Activities

61. Ms HM's lifestyle plans developed in 2020 and 2021 indicated goals to go on a holiday and have more community access with one-to-one support. It was noted that Ms HM

went on holiday to Phillip Island in 2019. Records also indicated that Ms HM attended a day program provided by Scope and fortnightly swimming in the community prior to the COVID-19 pandemic.

62. Scope confirmed that Ms HM had returned to her day program prior to her passing, though the service continued to be disrupted by COVID-19 restrictions and outbreaks. Ms HM also continued to participate in other activities with her carers such as walks, drives, and visits within the community, within the bounds of COVID-19 restrictions.

63. Based on available records, the CPU considered that it appeared Ms HM attended holidays and outings where possible in the context of COVID-19 restrictions.

Olanzapine use

64. On 24 August 2018, Ms HM was admitted to Box Hill hospital for 13 days due to deranged sodium levels, thought to be due to dehydration caused by olanzapine use. As a result of this incident, Dr Bennie ceased olanzapine and instructed staff that Ms HM was not to be given this drug in the future due to concerns regarding deranged sodium levels.

65. However, Ms HM's post-mortem toxicology report indicated the presence of olanzapine. Ms HM was <u>not prescribed olanzapine at the time of her passing.</u>

66. The CPU explained that olanzapine, as an antipsychotic medication, is commonly used 'off label' for the management of behaviours of concern in individuals with cognitive impairment.

CPU conclusion about Ms HM's care

67. The CPU advised that the general quality of care provided to Ms HM was reasonable and there was no evidence in the available records to suggest that she experienced a deterioration in function between 2019 and 2022.

68. While it appeared that Ms HM was not fully supported through allied health intervention to develop her mobility despite this being a clear target of her lifestyle and NDIS plans and recommended by allied health professionals, Ms HM's mobility was supported in line with her current capacities and cared for in other ways by Scope staff, including time out of her wheelchair, massages, and swimming.

What is olanzapine?

69. Given the identification of a non-prescribed drug in Ms HM's post-mortem toxicological analysis, I obtained an expert report from Dr Olaf Drummer, Forensic Toxicology Consultant Specialist at VIFM, as to whether olanzapine may have contributed to Ms HM's death.

Pharmacological and toxicological aspects of olanzapine

70. Dr Drummer explained that olanzapine is an atypical anti-psychotic used to treat disturbed behaviour in schizophrenia and related psychoses, and for the short-term treatment, alone or in combination with lithium or sodium valproate for acute manic episodes associated with Bipolar I disorder, or preventing occurrence of manic, mixed, or depressive episodes in Bipolar I disorder.

71. Olanzapine is supplied in various formulations from a number of pharmaceutical companies that include: 2.5 to 20 mg tablets or capsules for oral doses of 10 to 20 mg per day, wafers from 5 mg to 20 mg to allow rapid dispersal in a drink for oral consumption, 10 mg dose for intramuscular injection, and injections used for depot muscular injections of 150 to 405 mg given every two to four weeks.

72. The drug is rapidly absorbed orally with peak plasma concentrations occurring within 15 to 45 minutes. Depot injections take much longer to be absorbed and have a sustained absorption that allows injections to be given every two weeks.

73. The drug has a variable terminal elimination half-life which has a mean value of about 33 hours if given orally but can appear longer if a depot injection is given largely due to a slow sustained absorption over several days.

74. Optimal therapeutic treatment tends to give plasma concentrations up to about 0.1 mg/L. However, Dr Drummer noted that olanzapine blood concentrations will be elevated in blood taken post-mortem due to a process of redistribution, in which drug bound at neighbouring tissue sites diffuses into blood.

75. In terms of the effects of olanzapine, Dr Drummer explained that it will depend on the clinical need and presence of other medications, but will generally cause some drowsiness, particularly in the short term.

76. In cases of overdoses, profound central nervous system depression and tachycardia without arrhythmia can occur within two hours after the ingestion. Additional clinical findings can include nausea and vomiting, fever, mutism, agitation, dystonia, and akathisia. In some situations, neuroleptic malignant syndrome can develop characterised by elevated body temperature, obtundation, rigidity, tremor, diaphoresis, fluctuating pupillary diameter, labile tachycardia and hypertension, hypernatraemia, and elevated serum creatine kinase. This is rare and is normally associated with onset of treatment or when recent dose increases have occurred. Its diagnosis is not straightforward and requires the presence of hyperthermia and rigidity and at least two other clinical features including leucocytosis and laboratory evidence of muscle injury, such as elevated creatine kinase levels.

77. Australian Product Information for Sandoz's olanzapine film-coated tablets advises that caution should be exercised when olanzapine is used concomitantly with medicines known to cause electrolyte imbalance or to increase QT interval but does not make mention of electrolyte imbalance in the list of adverse events identified from clinical trials. Other Australian Product Information for generic versions of olanzapine are similar.

78. Dr Drummer's literature review of reports of possible links of the use of olanzapine and electrolyte imbalance, particularly sodium, revealed a number of case reports and a systematic review of the Food and Drug Administration Adverse Event Reporting system database of the USA to understand what associations there were with antipsychotic drugs and hyponatraemia.

Olanzapine and hyponatraemia

79. Dr Drummer explained that hyponatraemia is diagnosed when serum sodium concentrations fall below 135 mM and severe when the serum sodium falls below 120-125 mM.

80. Hyponatraemia can occur when excessive water consumption occurs (more than 6 litres per day) or when there is stimulation of the antidiuretic hormone leading to the syndrome of inappropriate antidiuretic hormone.

81. Symptoms of hyponatraemia initially include headache, irritability, nausea, vomiting, confusion, delirium, and disorientation and can lead to stupor, coma, and seizures as well as plasma osmolarity 150 mOsmol/L, tachycardia, oedema, or ascites.

82. A number of drugs are associated with causing hyponatraemia although the overall prevalence is low and possibly at about one per cent incidence, although this prevalence will vary by drug and age of patient. Drugs associated with hyponatraemia include olanzapine, but also

risperidone, and also serotonin reuptake (e.g. citalopram) and mixed noradrenaline/serotonin reuptake inhibitors. The abovementioned review of the FDA Adverse Event database of about 140,000 reports, found olanzapine to have the greatest number of adverse reports linked to hyponatraemia at two per cent. The authors concluded that through a multivariate regression model hyponatraemia was significantly associated with drugs that show dopamine D3 activity.

83. A meta-analysis of all published studies involving treatment with an antidepressant and hyponatraemia found an incidence of 8.7 percent in over 1 million patients. The serotonin reuptake inhibitor antidepressants showed the highest risk which included citalopram (odds ratio 3.49 for citalopram and escitalopram).

84. It is likely that a combination of serotonin reuptake inhibitor such as citalopram and an atypical antipsychotic drug like olanzapine and risperidone increase the risk of developing hyponatraemia.

Dr Drummer's analysis of Ms HM's post-mortem drug levels

85. Dr Drummer noted that Ms HM's post-mortem concentration of olanzapine was consistent with a low dose of the drug, however the dose and the duration of treatment with this drug cannot be obtained from a single measurement.

86. He also noted that the post-mortem concentration of risperidone was not detected (< 2 ng/mL), whereas the hydroxy-risperidone was (13 ng/mL). The higher hydroxy-risperidone (actually 9-hydroxyrisperidone, otherwise known as paliperidone) is usually higher since it has a longer elimination half-life to risperidone (10 to 25 hours versus four to eight hours in normal metabolisers); concentrations consistent with low dose administration of risperidone.

87. Risperidone (as in Apo-risperidone) and its active metabolite 9-hydroxy-risperidone, or paliperidone are also atypical antipsychotics with actions on similar receptors to olanzapine, particularly D2, D3 and 5HT2A as well other sites of action. As indicated above, these drugs are also linked to hyponatraemia in occasional cases.

88. Vitreous electrolytes obtained from a decedent, particularly for sodium and potassium will not be the same as these levels at the time of the death, due to post-mortem changes. In particular, sodium levels drop and potassium levels rise in the hours after death. It is therefore not possible to accurately estimate the sodium level at the time of death, although given the post-mortem interval was six days, a sodium level could easily decline from normal to 124 mM over six days.

Conclusion

89. Dr Drummer concluded that while the presence of olanzapine was seemingly not prescribed to Ms HM, its possible use by staff is not clear. The dose and duration of use is also not known, although the post-mortem concentration does appear to more than likely reflect a dose consistent with normal therapeutic usage. The effect on Ms HM is also not known but may increase sedation.

90. If hyponatraemia occurred, this would more than likely take many hours to days to develop and likely to show some clinical and behavioural changes in Ms HM.

91. Any notes of changes in behaviour and clinical state in the day(s) prior to Ms HM's death would be critical to understanding whether olanzapine had any role in her death, and in particular whether, in retrospect, there were any symptoms of hyponatraemia or emerging hyponatraemia.

Support provided to Ms HM by Scope and management of her medications

92. To further assist my investigation, I obtained the following statements from Scope about the care and support provided to Ms HM:

    (a) Norman Lote, Senior Manager, North East Region; and

    (b) Debra Benget, Chief Quality Safeguarding and Practice Officer.

Non-pharmacological strategies for the management of Ms HM's behaviours of concern

93. Mr Lote noted that Ms HM's harm-to-self behaviour of concern (**BOC**) involved sucking her hands and fingers, biting her arms and legs, and kicking out her legs to hit a hard obstacle or surface. Ms HM's loud vocalising BOCs were described as screaming or high pitch squealing.

94. Ms HM's Interim Behaviour Support Plan dated 5 February 2021 described the following preventative/environmental strategies to manage these BOCs:

    (a) having Ms HM out of her wheelchair and in her bean bag as much as possible;

    (b) creating a calm and relaxing environment for Ms HM, including the use of music to facilitate relaxation;

(c) staff to frequently engaging in good quality interactions with Ms HM, such as engaging in an activity or having a conversation with her;

(d) ensuring Ms HM had access to her chewable towel and encouraging her to suck and chew it;

(e) ensuring Ms HM had access to a range of sensory items for her to use and play with, including materials with different textures that she is able to touch/squeeze and guided interaction times to assist Ms HM in playing with sensory activities;

(f) encouraging Ms HM to choose items she would like to engage with, such as providing her with a range of sensory items and letter her feel them to see which one she would prefer;

(g) performing regular check-ins with Ms HM to ensure all of her basic needs are met; and

(h) providing Ms HM with her medication daily, as this provided her with the opportunity to feel more calm and relaxed in her environment and assisted her not to feel the need to display self-injurious behaviour as frequently and to trial different sensory outlets that are offered to her.

95. Ms HM's Interim Behavioural Support Plan also detailed the following response strategies for managing her BOCs:

(a) antecedent control – ensuring all supports are aware of triggers and try to avoid these as best as possible by implementing the preventative strategies outlined above; and

(b) redirection – giving Ms HM an alternative item to chew on or play with from her sensory box.

Ms HM's participation in activities and access to allied health services at the time of her death

96. Mr Lote explained that COVID-19 restrictions impacted Ms HM's ability to engage with her usual day programs and allied health services. He noted that Scope made every effort to ensure that residents continued to receive allied health supports and participation in leisure activities, within the constraints of Victoria's evolving COVID-19 restrictions.

97. Prior to the COVID-19 restrictions Ms HM attended a day program from 9.30am to 3.00pm on weekdays. COVID-19 restrictions impacted her attendance to the day centre,[20] and she also was unable to leave the house to access the community for swimming or spend time with family. COVID-19 restrictions also delayed delivery of her new wheelchair by several months.

98. Mr Lote noted that during the periods where Ms HM was unable to attend her day program due to COVID-19 restrictions, staff at Stainer Street supported Ms HM with daily home-based activities in accordance with her Active Support Plan, such as listening to music, stretching on her bean bag, and having animated interactions with her carers. Scope staff took Ms HM on leisure outings with other residents such as day trips to parks, walks, and drives.

99. Mr Lote confirmed that Ms HM was provided with the following allied health supports between November 2020 and January 2022:

    (a) Psychiatrist – 19 November 2020 (telehealth), 19 February 2021 (telehealth), 25 June 2021 (telehealth) and 4 November 2021 (telehealth);

    (b) Occupational Therapist – 2 March 2021 (in person), 2 May 2021 (in person), 15 July 2021 (in person) and 11 October 2021 (in person);

    (c) Physiotherapist – 15 December 2020 (in person) and 15 July 2021 (in person);

    (d) Podiatrist – 7 November 2020 (in person), 20 December 2021 (in person), 30 January 2021 (in person), 8 May 2021 (in person), 20 June 2021 (in person), 5 September 2021 (in person), 23 October 2021 (in person), 5 December 2021 (in person) and 15 January 2022 (in person);

    (e) Massage Therapist – 15 October 2021 (in person);

    (f) Speech Therapist – 1 December 2020 (in person) and 13 December 2021 (in person);

    (g) Behavioural Therapist – 16 December 2020 (in person) and 7 January 2021 (in person);

[20] Ms HM was able to attend her Day Program on multiple occasions during the months preceding her death. The Day Program facility was closed over the Christmas 2021 period. Then, on 10 January 2022, staff at Stainer Street were informed that the Day Program would be closed until further notice due to the current COVID-19 outbreak and volume of cases.

(h) Dentist – 28 June 2021 (in person) and 13 October 2021 (in person); and

(i) Dietician – 21 December 2021 (telehealth).

Decline in functional decline

100. Mr Lote was asked to comment on any functional decline Ms HM exhibited while residing at Stainer Street. He noted that Ms HM attended Dr Bennie for an annual health review as part of the Comprehensive Health Assessment Program and referred to reviews conducted on 20 October 2020 and 3 December 2021, which confirmed that Ms HM had not exhibited any functional decline over time.

101. Ms HM also attended numerous medical and allied health practitioners for regular reviews. Mr Lote highlighted the following:

(a) an *NDIS Plan Review Report: Dietetics* dated 24 December 2020 noted that Ms HM had regained four kilograms and had had significant improvements in her behaviour. The dietician had not recommended any changes; and

(b) Ms HM's psychiatrist had reviewed her several times in 2021 and reported no changes were required to her medications and she was stable.

Was Ms HM was administered olanzapine by Scope staff proximate to her death?

102. Mr Lote stated that Ms HM was not dispensed or administered olanzapine by Scope staff in the period prior to her death.

103. Mr Lote provided a copy of Ms HM's Medication Record, which set out the medications prescribed by Dr Bennie at the time of Ms HM's death (outlined above). Mr Lote explained that Ms HM's medications were supplied by Willsmere Village Pharmacy in a blister pack (also known as a Webster-pak). The last medication delivery date prior to Ms HM's death was 20 January 2022. Olanzapine was not listed as a prescribed medication on Ms HM's medication record nor contained in the pre-packaged blister pack dispensed by Willsmere Village Pharmacy.

104. Mr Lote also referred to Ms HM's Medication Administration Record, which confirmed when Ms HM was administered medications directly from her pre-packed blister pack in January 2022. There was no mention of olanzapine in the Administration Record.

105. Mr Lote noted Scope had not been able to locate any evidence that Ms HM was intentionally administered olanzapine by Scope staff in the three days prior to her death. One other resident at Stainer Street had been prescribed with olanzapine and not all of their medications were dispensed via a Webster-pak. However, both Mr Lote and Ms Benget were unable to say with any certainty how Ms HM may have accessed olanzapine prescribed to another resident. It was additionally noted that the period preceding Ms HM's death, there were no residents who were able to self-administer medication.

Scope's medication procedures

106. At the time of Ms HM's death, Scope's *SIL and STAA Practice Manual* 1st Edition (April 2019) (**Practice Manual**), was in effect with Part 5.6 dealing with medication management. Relevantly, this procedure outlined the following requirements:

(a) tablets and capsules to be packed in a pharmacy sealed blister pack (unless not suitable for blister packing; if not suitable, to be contained in original packaging);

(b) a recent passport size photograph of the customer who takes the medications is attached to each blister pack and other medication containers;

(c) blister and single dose medication packs should be collected weekly where possible, so no more than more seven days requirements are held at the group home at any time;

(d) on receipt of medication, employees must check that all medication has been provided and the medications listed on back of the blister pack and original containers match the medications listed on the medication record;

(e) all medication is to be stored in a locked medicine cupboard, drug trolley, safe or drug transportation box fixed to a particular location;

(f) when administering medication to residents, staff should abide by the '6 Rs' – right medication, right date, right time, right dose, right customer, right route;

(g) staff to ensure the entire dose is taken by the customer as far as possible;

(h) staff are to record the administration of each medication.

107. Ms Benget confirmed that the majority of prescribed medications in tablet form (including olanzapine) are dispensed to residents in Webster-paks. Tablets that may not be dispensed in a Webster-pak include tablets or capsules that can deteriorate if they are repackaged, and so

the pharmacist may decide to retain these medications in their original packaging. Occasionally, short term tablet or capsule medication could also be in original packaging, for example upon discharge from hospital. Medications that require their original containers, such as topical creams, liquids, and other non-tablet forms, are also excluded from Webster-paks and are clearly labelled by the pharmacy with prescription labels.

108. Medication Administration Sheets for each resident record whether medication is administered from its original container or a Webster-pak.

109. Ms Benget explained that medications (in both Webster-paks and original containers) for residents at Stainer Street were stored in a locked, built-in storage cupboard and all staff had access to the cupboard via a key.

110. In accordance with, SIL and STAA Practice Manual, upon delivery to the home, medication received from the pharmacy was checked by staff on duty against each resident's Medication Record. A Weekly Medication Checklist was completed, confirming that medication had been received and/or noting any follow ups required of the pharmacy.

111. The last edition of the SIL and STAA Practice Manual (4th Edition) was retired in July 2024 and replaced with the Home@Scope Medication Procedure (last revised 11 August 2025), which is based on the procedure followed under the previous Practice Manual (therefore procedures which applied in the period proximate to Ms HM's death remain unchanged).

112. According to Ms Benget, Scope is currently trialling a new Medication Management Procedure (**New Procedure**), which is being piloted at 16 Supported Independent Living sites across Victoria from 1 September 2025. The New Procedure aims to:

    (a) update medication resources and processes across Scope;

    (b) update and align Scope's processes with evidence-based principles and current best practice in medication management;

    (c) streamline medication administration, storage and record keeping;

    (d) introduce a refreshed training system, via in-person sessions, online training modules, and videos; and

(e) introduce a new medication chart for Supported Independent Living sites, known as the 'Compact Chart'.

113. The New Procedure covers how medication is received and stored, administered, documented and how medication related incidents are recorded, investigated and followed up. This includes the following changes:

(a) medication storage cupboards are to have one key;

(b) 'Compact Charts' will replace several separate documents for each resident. The Compact Chart includes a client photo for identification purposes and sections for a medication chart, daily medication counting, and a register for medications received or removed (returned to the pharmacy); and

(c) additional controls in the administration of medication to meet the need for safe practice, including a specific requirement for staff to watch the client take their medication.

114. Ms Benget stated that following completion of the pilot phase of the New Procedure, the New Procedure will be evaluated and any learnings implemented, prior to full rollout across Victoria, which is expected to be completed by 30 June 2026.

FINDINGS AND CONCLUSION

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

(a) the identity of the deceased was Ms HM, born 3 January 1974;

(b) the death occurred on 26 January 2022 at 11 Stainer Street, Kew, Victoria;

(c) the cause of Ms HM's death was unascertained despite full post-mortem examination (autopsy) and ancillary investigations;

(d) immediately before death, Ms HM was a *"person placed in custody or care"* as defined in section 4 of the Act; and

(e) For the purposes of section 52(3A) of the Act, Ms HM's death was from natural caused; and

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

116. I convey my sincere condolences to Ms HM's family for their loss.

COMMENTS

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

117. Toxicological analysis of Ms HM's post-mortem samples identified olanzapine – a drug that Ms HM was not prescribed at the time of her death and had previously thought to have caused deranged sodium levels, which had required hospitalisation.

118. It is unclear how Ms HM ingested olanzapine prior to her death, including what dosage and whether she had ingested it on more than one occasion proximate to her death.

119. According to the CPU, olanzapine is commonly used for the management of behaviours of concern in individuals with cognitive impairment.

120. Use of chemical restraints in any form may deny an individual with disability their autonomy and can endanger their safety, health, and wellbeing. For this reason, the use of such medications is restricted and subject to reporting requirements.

121. Data supplied by the NDIS Commission shows that in 2021-2022, chemical restraint was the most frequently used restrictive practice in NDIS settings, accounting for 52 per cent of authorised restrictive practices and 47 per cent of unauthorised restrictive practices. There were 0.7 million notified unauthorised uses of chemical restraint, with antipsychotics the most frequently used medications.[21]

122. The NDIS Code of Conduct for workers and providers[22] notes that chemical restraint is *"now recognised that restrictive practices can represent serious human rights infringements and that routine use has often been harmful and exacerbated the behaviours they were intended to address"* and both providers and workers have a responsibility to reduce and eliminate restrictive practices.

123. The Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability (the Royal Commission) made several recommendations regarding the use of restrictive practices. Recommendation 6.35: Legal frameworks for the authorisation, review

[21] Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability, Final Report, Volume 3, 29 September 2023, page 202, available at: https://disability.royalcommission.gov.au/publications/final-report.
[22] See NDIS Quality and Safeguards Commission, The NDIS Code of Conduct – Guidance for NDIS Workers, April 2024, and The NDIS Code of Conduct – Guidance for NDIS providers, April 2024, are both available at: https://www.ndiscommission.gov.au/rules-and-standards/ndis-code-conduct.

and oversight of restrictive practices[23] called for the establishment of legal frameworks across disability, health, education, and justice sectors to ensure restrictive practices are used only as a last resort, in response to significant risks of harm, and under stringent conditions. These frameworks would mandate independent review, oversight, and proportionality in the use of restrictive practices. Furthermore, the recommendation called for the establishment of a Senior Practitioner (or equivalent authority) to promote the reduction and elimination of use of restrictive practices, oversee compliance, advocate for the rights of affected individuals, and provide education and guidance.

124. However, at the relevant time, Scope had reasonable medication management procedures and policies in place. All solid medications were blister-packed and a photo of the client receiving the medications attached to the pack. On receipt from the pharmacy and before administration, staff were required to check that medications listed on the back of the blister pack matched the medications listed on the medication record. These were all appropriate measures to guard against inadvertent medication errors.

125. Extra safety protocols, such as providing a visual description (e.g. colour, shape) of blister-packed medications is not legally required by the Therapeutic Goods Administration[24] and the Australian Commission on Safety and Quality in Health Care notes possible issues and insufficient evidence regarding this practice.[25]

126. Scope has confirmed that Ms HM's regular medications were blister packed and recorded as administered as usual proximate to her death. Ms HM's medication record indicates that two staff members signed off as administering and checking her blister packed medication in the period preceding her death.

127. There is no record indicating Ms HM received olanzapine proximate to her passing and she was known to be incapable self-administering this medication. Possible hypotheses include inadvertent administration or ingestion or intentional administration in the context of behavioural disturbance which was not sanctioned and therefore not documented. However,

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[23] Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability, Executive Summary, Our vision for an inclusive Australia and Recommendations, September 2023, pages 253-4. Available at https://disability.royalcommission.gov.au/publications/final-report-executive-summary-our-vision-inclusive-australia-and-recommendations.

[24] Therapeutic Goods Order No. 91, Standard for labels of prescription and related medicines, subsection 10(14).

[25] The Australian Commission on Safety and Quality in Health Care, National Standard for Labelling Dispensed Medicines, July 2021, notes that use of visual aids "*may help understanding if they are simple; however, they require training and education for health professionals, and education for consumers on how to use them – there is insufficient evidence to support their routine use*", page 13, available at: https://www.safetyandquality.gov.au/sites/default/files/2021-07/national_standard_for_labelling_dispensed_medicines_july_2021_1.pdf.

Scope has not been able to locate any evidence that Ms HM was intentionally administered olanzapine and could not say with certainty how she accessed this medication. Any known inadvertent administration was required to have been reported.

128. It is also important to stress that it is unclear whether olanzapine caused or contributed to Ms HM's death. Dr Drummer advised that if hyponatraemia had occurred, this would have more than likely taken many hours to days to develop, and Ms HM would have likely demonstrated some clinical and behavioural changes, potentially including headache, irritability, nausea, vomiting, confusion, delirium, and disorientation that can lead to stupor, coma, and seizures. Dr Drummer further noted that the post-mortem concentration of olanzapine appeared to more than likely reflect a dose consistent with normal therapeutic usage, which may merely increase sedation.

129. Records from Scope did not appear to indicate that Ms HM experienced any such symptoms in the days preceding her death. On 25 January 2022, she was noted to have been settled overnight. She had a COVID-19 injection later that day with no adverse effects observed. She otherwise had a good day and *"seemed in good spirits",* she ate and drank well. In the afternoon, she spent time on her beanbag. On 26 January 2022, it was noted Ms HM *"had a wonderful day".* She was assisted with her usual morning routine, in the afternoon she spent time her bean bag listening to music, and she ate and drank well.

130. I acknowledge that Scope is currently trialling a new medication procedure which appears to improve the safety and efficiency.

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:

GM, senior next of kin

Scope (Aust) Ltd (care of MinterEllison)

NDIS Quality and Safeguards Commission

Sergeant Gary Tivendale, Victoria Police, Coronial Investigator

Signature:

Deputy State Coroner Paresa Antoniadis Spanos

Date: 05 February 2026

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.