IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

COR 2019 002936

FINDING INTO DEATH WITHOUT INQUEST

Form 38 Rule 63(2)

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

Findings of:	Coroner Leveasque Peterson
Deceased:	Melissa Cunningham
Date of birth:	8 May 1975
Date of death:	9 June 2019
Cause of death:	1(a) Complications of a lung abscess 2 Down's syndrome, WHO Class III obesity
Place of death:	63 Maidstone Street, Altona, Victoria, 3018

INTRODUCTION

1. Melissa Cunningham was 44 years old at the time of her death.

2. Melissa enjoyed ten pin bowling and had represented Victoria in the disabled indoor bowls tournament held in Tasmania in 2000. She also enjoyed fishing, swimming, going to the movies and was an avid supporter of the Collingwood Football Club.

3. Melissa had been diagnosed with Down's Syndrome at birth. She lived primarily at a residential care facility in Niddrie operated by aged care and disability service provider Annecto. She continued to regularly visit her father, Sydney Cunningham, every third weekend.

4. In 2013, Melissa was diagnosed with sleep apnoea and was provided a Continuous Positive Airway Pressure (**CPAP**) machine to assist during sleeping. Melissa's treatment for sleep apnoea was monitored by Western Health.

5. On 9 June 2019, Melissa died unexpectedly at her father's home in Altona.

THE CORONIAL INVESTIGATION

6. Melissa'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 or result from accident or injury.

7. 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.

8. 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.

9. Victoria Police assigned an officer to be the Coroner's Investigator for the investigation of Melissa's death. The Coroner's 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.

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

11. The standard of proof for coronial findings of fact is the civil standard of proof on the balance of probabilities, with the *Briginshaw* gloss or explications.[2] Adverse findings or comments against individuals in their professional capacity, or against institutions, are not to be made with the benefit of hindsight but only on the basis of what was known or should reasonably have been known or done at the time, and only where the evidence supports a finding that they departed materially from the standards of their profession and, in so doing, caused or contributed to the death under investigation.

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

Circumstances in which the death occurred

12. On the morning of 9 June 2019, Melissa informed Sydney that she was not feeling well. At approximately 10.30am, Sydney left their home to go to the shops. Melissa did not want to go as she was feeling unwell and suffering from a cough and stomach pains.

13. At approximately 11.45am, Sydney returned home and found Melissa doubled over on her bed and not breathing. Sydney immediately initiated cardiopulmonary resuscitation (**CPR**), before running next door to seek assistance from a neighbour who contacted emergency services. Ambulance paramedics attended a short while later and confirmed Melissa was deceased.

---

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

[2] *Briginshaw v Briginshaw* (1938) 60 CLR 336 at 362-363: 'The seriousness of an allegation made, the inherent unlikelihood of an occurrence of a given description, or the gravity of the consequences flowing from a particular finding, are considerations which must affect the answer to the question whether the issues had been proved to the reasonable satisfaction of the tribunal. In such matters "reasonable satisfaction" should not be produced by inexact proofs, indefinite testimony, or indirect inferences…'.

14. Victoria Police attended the scene and immediately commenced a coronial investigation. Sydney informed investigators that Melissa had been having medical issues relating to her respiratory system and was concerned that her respiratory mask had not been cleaned in a while. Investigators observed Melissa's CPAP mask which appeared to be dirty.

Identity of the deceased

15. On 9 June 2019, Melissa Cunningham, born 8 May 1975, was visually identified by her father, Sydney Cunningham.

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

Medical cause of death

17. On 14 June 2019, Forensic Pathologist Dr Melanie Archer from the Victorian Institute of Forensic Medicine (**VIFM**), conducted an autopsy on the body of Melissa Cunningham. Dr Archer also reviewed the Victoria Police Report of Death for the Coroner (Form 83), post-mortem computed tomography (**CT**) scan, preliminary examination report, VIFM contact log, scene photographs, medical records from Lincolnville Medical Centre and Ambulance Victoria records. Dr Archer provided a written report of her findings dated 4 October 2019.

18. The post-mortem examination revealed a right lung lower lobe abscess, right pleural effusion (700 ml), right pleural adhesions and gastric contents aspiration (early bronchopneumonia), WHO Class III obesity with body mass index of 57 kg/m^2 and lymphocytic thyroiditis suggestive of Hashimoto's thyroiditis.

19. There was also green staining of the large bowel mucosa which appeared to be artefactual staining possibly secondary to ingestion of a green coloured food stuff or medication, and was not thought to have contributed to Melissa's death.

20. Toxicological analysis of post-mortem samples identified the presence of fluoxetine and its metabolite norfluoxetine, risperidone and its metabolite hydroxyrisperidone, dextromethorphan and paracetamol, consistent with therapeutic use.

21. Dr Archer considered that the cause of death was complications of an abscess found in the right lung with contributing factors of Down's Syndrome[3] and WHO Class III Obesity[4].

22. Dr Archer explained that lung abscesses form following an initial bacterial infection in the lung, and the area of inflammation eventually becomes walled off. Over time, cavitation can also occur.

23. Dr Archer was unable to conclusively determine the original cause of the abscess but noted that they can originate following a bout of pneumonia, can come from bacteria spread via the blood stream, or can result from aspiration of upper airways secretions or gastric content. Complications of lung abscesses include respiratory insufficiency and formation of pleural effusions (fluid in the chest cavity) as was found in this case. It can also result in sepsis (bacterial infection of the blood stream). Melissa was found to have a significantly elevated C-reactive protein (181 mg/l), indicative of severe lung infection.

24. Dr Archer formulated the medical cause of death as:

    1(a) Complications of a lung abscess

    2 Down's Syndrome, WHO Class III Obesity

25. Dr Archer stated that on the basis of the information available to her, she was of the opinion that Melissa's death was due to natural causes.

26. I accept and adopt Dr Archer's opinion.

REVIEW OF CARE

27. Melissa's father Sydney raised concerns about the level of care being provided to Melissa at Annecto. Sydney considered that Melissa was mismatched in the house with other clients of the facility who had higher level of needs and monitoring requirements that led to Melissa's needs often being ignored or placed behind others. Sydney raised specific concerns that

[3] Down's syndrome has many complications, including some defects of the immune system. Those with Down's syndrome are at increased risk of infections, including lung infections.

[4] WHO Class III obesity is a significant risk factor for a number of serious sequelae, including sudden death. Class III obesity is defined as a body mass index of > 40 kg/m^2. The most significant complications are mainly cardiac and pulmonary, although metabolic derangements (e.g. metabolic syndrome), sleep apnoea and hypertension are also common associations. Cardiopulmonary effects include cardiomyopathy of obesity, pulmonary hypertension and cor pulmonale (often secondary to disordered sleep breathing).

Melissa's CPAP machine was not being cleaned adequately or at all by staff at the residential care facility. He explained that:

> *The [CPAP] machine belonged to Melissa and was utilised both at the care facility and at home. I cleaned the machine whenever Melissa came home because I do not believe the machine was thoroughly cleaned by the staff. I had observed the compartment was always filthy from the use of tap water. I always utilised filtered water in the machine to eliminate this issue. I often observed relief staff working at the care facility that were not familiar with Melissa's needs. I believe this was due to inadequate staffing within the facility.*

Statement from Annecto

28. In light of the concerns raised by Sydney, I requested a statement from Annecto to address questions regarding Melissa's care and the management of her CPAP machine. Ms Leah Anderson, Housing & Support Manager at Annecto, provided a statement in response to this request, along with a copy of Melissa's care plan and Annecto's policies and procedures.

29. Ms Anderson confirmed that Melissa had a CPAP machine which was implemented in 2013 and monitored by Western Health. She noted that Melissa was independent with fastening the machine on each night by herself. Ms Anderson also confirmed that Annecto staff were aware of the CPAP machine and were shown how to use the machine by her father just in case Melissa was unable to do this herself. Ms Anderson indicated that this was the reason why Annecto did not have any procedure on the CPAP machine.

30. Annecto's policy 'ORG P45 – Specific Health Management Policy' outlines that where possible, individuals can monitor their own health condition if their doctor or relevant health professional has provided specific training to the person and assessed and documented that the person has capacity to undertake the procedure. In this instance, the policy notes that strategies to support the person to perform their own health procedure must be detailed in the individuals' specific health management plan.

31. Both Melissa's Behavioural Support Plan and Individual Care Plan make reference to her diagnosis of sleep apnoea and the requirement for her to wear a breathing mask at night. However, no reference is made in either document to instructions provided by Melissa's father about the operation of the CPAP machine, or any directions regarding the need to clean or maintain the CPAP machine. There also did not appear to be any documentation of any assessment conducted by Annecto about Melissa's capacity to operate, clean and maintain the CPAP machine herself.

Statement from Western Health

32. After receiving Ms Anderson's statement, I also requested a statement from Western Health to ascertain whether Melissa had capacity to manage her sleep apnoea, including using, operating and cleaning the CPAP machine, and what information was provided by Western Health to Annecto on the use and operation of the CPAP machine. I was provided with a statement from Dr Anne Southcott, Head of Unit, Respiratory and Sleep Disorders Medicine, at Western Health, addressing these matters.

33. Dr Southcott explained that Melissa was admitted to Footscray Hospital from 17 to 22 November 2013 for a lower respiratory tract infection and hypercapnic respiratory failure. During this admission, Melissa was treated with non-invasive ventilatory support and then commenced on an auto positive airway pressure (**APAP**) 4-20cm H20 therapy for obstructive sleep apnoea. A mask was fitted by a sleep scientist on ward on 18 November 2013 and Melissa was subsequently referred to the Western Health CPAP program.

34. Melissa had her CPAP machine equipment set up by the CPAP provider on ward. Melissa's father was also taught how to apply the CPAP prior to discharge. Dr Southcott explained that the standard practice by the CPAP provider was to provide written advice on the use and operation of the CPAP machine at the time of equipment issue but had no record to confirm this.

35. Melissa was subsequently reviewed on multiple occasions at the Western Health CPAP outpatient clinic. Melissa was accompanied by her father at the majority of these appointments. At these appointments, Melissa's father was instructed in the use of the machine, with the information then relayed to the care facility. Relevantly, it was noted at an appointment on 29 September 2016 attended by Melissa's father that:

> *Asked patient to demonstrate how she puts on the chinstrap and mask, "she did a relatively good job". Weight of hose pulling down, Father to take picture of how should be applied for the residential facility, gave him a cleaning schedule as the mask was not being washed daily and the filter was dusty*. [my emphasis added]

36. Western Health records indicate that Annecto carers attended appointments with Melissa at the CPAP clinic on three occasions between 6 February 2015 and 17 June 2016, and on two occasions the carer attended the appointment alone on 13 October 2017 and 20 April 2018. On 17 June 2016, the CPAP clinic requested in writing to Annecto that overnight staff check Melissa on an hourly basis overnight to make sure that she was wearing the mask and it was

not leaking, and that staff needed to assist Melissa in putting the nasal mask on and then the chinstrap. This appears at odds with Ms Anderson's statement that Melissa was *"independent with fastening the machine on each night by herself"*. Further, at the appointment on 20 April 2018, which Melissa did not attend, the carer was given a cleaning schedule for the CPAP machine. The documents provided to me by Annecto did not include any record of the cleaning schedule, or the earlier instructions provided by Western Health regarding assistance and the need for carers to check the mask on an hourly basis overnight.

37. Whilst there have been a number of iterations of Western Health's cleaning schedule between 2017 and the present time, the substantive advice has not materially changed. The advice includes that:

    a) the mask is to be washed daily with warm soapy water or an unscented wipe;

    b) the mask is to be dismantled into parts on a weekly basis and washed in warm soapy water, rinsed and air dried;

    c) the tubing is to be washed in warm soapy water, rinsed and air dried on a weekly basis;

    d) dust should be brushed off the filters on a fortnightly basis, washed in warm soapy water, rinsed and dried completely;

    e) filters should be replaced every 2-6 months if *"grey"*;

    f) water in the humidifier chamber is to be emptied daily in the morning and air dried and filled nightly with fresh water;

    g) the humidifier chamber is to be washed in warm soapy water, rinsed and air dried on a weekly basis; and

    h) the mask, headgear, tubing, filters and humidifier chamber is to be inspected for damage every 2-6 months. If mould is present within the humidifier is should be washed with vinegar and water, rinsed and air dried.

38. Dr Southcott explained that while Melissa was observed to do a *"reasonable job"* at applying her CPAP mask and chinstrap, due to her intellectual disability, she was not deemed capable of independent use, operation or cleaning of CPAP equipment. Western Health understood that the care facility or family (according to Melissa's location), were to supervise her therapy and maintain her equipment.

Conclusions

39. CPAP Victoria provides CPAP equipment, service and support to patients with obstructive sleep apnoea.[5] They note that the warm and humid environment of the heated tubing in the CPAP machine can result in fungal, mould and yeast growth. Hazardous organisms in the CPAP machine can be blown directly into the user's lungs, leading to airway and lung irritation which may subsequently develop to pneumonitis, bronchitis and pneumonia. The growth of such organisms and risk of developing bacterial viral and fungal infection may be prevented or greatly minimised with proper cleaning.[6] Accordingly, and as detailed in Western Health's cleaning schedule for CPAP machines, it is necessary for machines to be cleaned daily, or after each use, to reduce the risk of developing bacterial, viral and fungal infection.

40. The evidence before me indicates that due to her intellectual disability, Melissa was not deemed capable of independently using, operating or cleaning her CPAP equipment. Western Health appropriately provided written and verbal instructions to both Melissa's father and carers who attended appointments at the Western Health CPAP clinic about the operation of the CPAP machine and provided a cleaning schedule to Melissa's father in 2016 and a carer in 2018. Melissa's father also relayed these instructions to Annecto.

41. Despite this, Annecto did not have any documented procedure for the use of the CPAP machine and no cleaning schedule appears within Melissa's care plan. In addition, there is no evidence that Annecto conducted an assessment of Melissa's capacity to operate, clean and maintain the CPAP machine herself and there was no record in Melissa's health management plan of strategies to support her in using the CPAP machine, contrary to Annecto's policies.

42. In these circumstances, it appears that Melissa's CPAP machine was not being adequately cleaned and maintained contrary to the directives of treating clinicians at Western Health.

FINDINGS AND CONCLUSION

43. I convey my sincere condolences to Melissa's family for their loss. I also acknowledge the distress the prolonged coronial process has caused them.

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

---

[5] See https://cpapvictoria.com.au/.

[6] CPAP Victoria, 'CPAP Mask and the Risk of Infection' (accessed from https://cpapvictoria.com.au/blogs/cpap/cpap-mask-and-the-risk-of-infection, 6 October 2021).

a) the identity of the deceased was Melissa Cunningham, born 8 May 1975;

b) the death occurred on 9 June 2019 at 63 Maidstone Street, Altona, Victoria, 3018, from complications of a lung abscess with contributing factors of Down's Syndrome and WHO Class III obesity; and

c) the death occurred in the circumstances described above.

45. The evidence before me indicates that at the time of her death, Melissa was using a CPAP machine that was not being regularly cleaned as required and directed by her treating clinicians at Western Health.

46. Whilst my investigation has been unable to conclusively determine the original cause of Melissa's lung abscess, likely sources include pneumonia, bacteria spread via the blood stream or aspiration of upper airways secretions or gastric content. As Melissa's CPAP machine was not being cleaned regularly as required, it is possible the lung abscess may have been caused or contributed to by bacteria and/or mould growth in Melissa's CPAP machine.

47. Having considered all of the circumstances, I consider that it is possible that Melissa's death may have been prevented if the CPAP machine had been adequately cleaned in accordance with the cleaning schedule provided by Western Health.

48. In light of this, and having regard to my prevention role, I have made a number of recommendations to Annecto with a view to improving resident safety by enhancing and strengthening their policies and procedures for the monitoring of and assistance provided to residents who utilise CPAP machines to ensure that the CPAP machines are appropriately cleaned and inspected to reduce the risk of developing bacterial, viral and fungal infection.

49. I will also direct that a copy of my Finding be provided to Disability Services Commissioner Treasure Jennings.

RECOMMENDATIONS

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

1. I recommend that Annecto:
    a. develop a policy and procedure for residents with CPAP machines to ensure that carers:

i. conduct an assessment as to whether the resident is able to independently use, operate and/or clean the CPAP machine. Such an assessment should be undertaken in conjunction with the resident's treating clinicians. An initial assessment should be completed when the CPAP machine is implemented, and reviewed at regular intervals and earlier if there is a substantive change in the resident's condition which may affect their capacity to use, operate and/or clean the CPAP machine.
ii. document the results of the assessment in the resident's specific health management plan, along with, as appropriate:
    1. strategies used to support the person to perform this procedure are detailed in the resident's specific health management plan; and/or
    2. provide directives to carers as to the use, operation and cleaning of the CPAP machine as necessary; and
iii. where carers are required to assist in the use, operation and cleaning of the CPAP machine, that this assistance is documented and recorded in the resident's daily case notes.

b. conduct an audit of resident's individual care plans to ensure that all residents who utilise a CPAP machine have been appropriately assessed to ascertain whether the resident has capacity to independently use, operate and clean the CPAP machine and that where appropriate:
    i. strategies used to support the person to perform this procedure are detailed in the resident's specific health management plan; and/or
    ii. where the resident is unable to independently use, operate and/or clean the CPAP machine, this is documented in the resident's specific health management plan and directives given to carers as to the use, operation and cleaning of the CPAP machine as necessary.
c. provide internal education to staff about the expectations and requirements for:
    i. documenting information received at medical appointments, such as equipment cleaning schedules, in the resident's care plans to ensure such information is adequately provided to other carers at the facility;
    ii. adequately documenting instructions provided by family members or clinicians on utilising medical equipment, including CPAP machines, in the resident's health management plan; and
    iii. complying with Annecto's 'Specific Health Management Policy'.

ORDERS AND DIRECTIONS

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:

Sydney Cunningham, Senior Next of Kin

Ms Cheryl De Zilwa, Chief Executive Officer, Annecto

Dr Anne Southcott, Head of Unit, Respiratory & Sleep Disorders Medicine, Western Health

Ms Treasure Jennings, Disability Services Commissioner

Senior Constable Jordan Harris, Coroner's Investigator

Signature:

Leveasque Peterson, Coroner

Date : 15 February 2022

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.