IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

COR 2024 000080

FINDING INTO DEATH WITHOUT INQUEST

Form 38 Rule 63(2)

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

Findings of:	Coroner Dubrow
Deceased:	DN[1]
Date of Birth:	2000
Date of death:	5 January 2024
Cause of death:	1(a) Plastic bag asphyxia in a vitiated atmosphere with inert gas
Place of death:	23 Leber Street Warrandyte, Victoria, 3113 Victoria
Keywords:	Nitrous oxide inhalation, inert gas inhalation

[1] This finding has been de-identified for the purpose of publication by order of Coroner Dimitra Dubrow.

INTRODUCTION

1. On 5 January 2024, DN was 23 years old when he was found deceased in his car in Warrandyte, in circumstances suggestive of suicide. DN is survived by his parents, JS and HW.

2. DN attended many clinicians from a young age including a behavioural paediatrician from 2003 until 2008, and an adolescent psychiatrist from 2016. He also consulted a psychologist from 2022. His primary diagnosis was Autism Spectrum Disorder with other diagnoses of Oppositional Defiant Disorder, Attention Deficit Hyperactivity Disorder, anxiety, and intermittent major depression

3. DN was a National Disability Insurance Scheme (**NDIS)** participant and also received the Disability Support Pension for assistance with increased difficulties with anxiety, interpersonal relationships, and other functional impacts stemming from his diagnoses.

4. DN had multiple involvements with police and had spent some time in prison. He also had multiple presentations to hospital for suicidal ideation as well as an admission to an inpatient unit as a teenager following overdose. DN also had a history of intermittent drug misuse which further impacted his mental health.

5. DN had several different jobs including as a nursery hand dispatch from November 2021 to June 2022. Following this, DN engaged in gym work through Fitcare as part of his NDIS supports. More recently in October 2023, he was undertaking Certificates III and IV in Fitness, with a view becoming a personal trainer. DN had started working out with a personal trainer who had previously worked with him at Fitcare as part of gaining his qualifications in fitness. However, due to DN's difficulties with interpersonal relationships stemming from his diagnoses, he exhibited behaviours that breached the boundaries of this professional relationship. The relationship subsequently broke down, and this had a significant impact on DN's acute mental health as well as the stress relating to the course work.

6. DN's mother provided a comprehensive history of DN's challenges, supports, and navigating life with his diagnoses. She expressed concern about the difficulties and responses DN experienced in his education, custodial and police interactions, and responses to his neurodiversity. Overall, DN was making progress, engaged with supports, and generally trying to get his life back on track.

THE CORONIAL INVESTIGATION

7. DN'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.

8. 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.

9. 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.

10. Judicial Registrar Katherine Lorenz, then coroner, initially held carriage of this investigation. I took carriage of this matter upon my appointment in September 2024.

11. Victoria Police assigned an officer to be the Coronial Investigator for the investigation of DN's death. The Coronial Investigator conducted initial enquiries on the Court's behalf, including taking statements from witnesses.

12. This finding draws on the totality of the coronial investigation into the death of DN 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.[2]

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

Circumstances in which the death occurred

13. On 4 January 2024, DN was pulled over by police for speeding in Wonga Park. The police officer observed that that DN had self-inflicted injuries on both arms. DN was visibly upset

[2] 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.

and said that he was feeling suicidal. Concerned for DN's welfare, the police officer requested an ambulance, and DN was taken to Maroondah Hospital for a Mental Health Assessment.

14. Once in the emergency department, DN expressed that he had been feeling terrible and had a plan to drive to the bush and take his life. He indicated that this deterioration was in relation to a relationship breakdown with his personal trainer, as she had not reciprocated his romantic interest. Following assessment, DN indicated that he did not want to be admitted to hospital due to a previous traumatic experience in his teens. He denied ongoing suicidal ideation, plan or intent and declined the need for increased community intervention via public mental health services. The clinician discussed this with DN's mother, who was supportive of DN's discharge home. DN was subsequently discharged with a plan to catch an Uber home and text his mother on arrival.

15. At 10.20pm, DN sent a text to his mother indicating that he had arrived home.

16. On 5 January 2024, at about 1:25am, a friend saw a post that DN had made on social media. This depicted a video of DN with a large cut on his arm which was bleeding heavily. The friend was unable to contact DN, nor was he home when the friend attempted to visit.

17. The friend then called Triple Zero and police subsequently attended DN's address. Police formed the view that DN was in his car, and broadcasts were made to local channels to look out for the vehicle.

18. Police requested location-based triangulation for DN's phone. The results were available at 3:56am and placed DN's phone in the Warrandyte area.

19. At 4:20am, police located DN's vehicle parked in a residential street with the front driver window down. Police approached the vehicle and observed that the driver's seat was fully reclined. DN was sitting in the seat and had a plastic bin liner over his head with a tube attached and a belt tightened around his neck. He was unresponsive. The tube was connected to a large cylinder of nitrous oxide. Evidence reveals that DN had made an online purchase for immediate delivery of just hours earlier on 4 January 2024 at 10:49pm. Police also noted the laceration to DN's arm and observed blood throughout the vehicle.

20. Paramedics from Ambulance Victoria attended at 4:30am and confirmed that DN was deceased. No suspicious circumstances were identified in respect of his death.

Identity of the deceased

21. On 8 January 2024, DN, born 2000, was visually identified by his mother, who completed a statement of identification.

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

Medical cause of death

23. Forensic Pathologist Dr Michael Duffy from the Victorian Institute of Forensic Medicine conducted an external examination and provided a written report of the findings.

24. The examination showed wounds to both wrists without underlying damage to the blood vessels. These injuries did not significantly contribute to the death.

25. Toxicological analysis of post-mortem samples identified the presence of candesartan, telmisartan, and metformin.[3] Dr Duffy provided an opinion that these were not contributory to the death.

26. Dr Duffy explained that while no volatile compounds were detected, such as nitrous oxide, because these compounds are metabolised rapidly, this does not preclude inhalation at the time of death.

27. Dr Duffy provided an opinion that the medical cause of death was 1(a) Plastic bag asphyxia in a vitiated atmosphere with inert gas.

28. I accept Dr Duffy's opinion.

FINDINGS AND CONCLUSION

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

    a) the identity of the deceased was DN, born 2000;

    b) his death occurred on 5 January 2024 at 23 Leber Street Warrandyte, Victoria, 3113 from *plastic bag asphyxia in a vitiated atmosphere with inert gas*; and

[3] Candesartan is an antihypertensive medication, telmisartan is used to treat hypertension and chronic heart failure and metformin is an antidiabetic drug used to treat maturity-onset diabetes. There is no indication of a therapeutic reason for DN to be taking these prescription only medications.

c) the death occurred in the circumstances described above.

30. Having considered the available evidence in this case, I am satisfied that DN intentionally took his own life in the context of multiple stressors. It is apparent that DN was well engaged with supports and had made clear progress, but he also struggled with his mental health, interpersonal relationships and self-regulation. I note the comments made by DN's mother, in her statement to the Court that;

> *"DN had all the supports in place, and he had reached out to them even as late as that day. I guess I was hoping he would be able to get through challenging time he was going through. I don't blame any one person or event. I think things just got too much for DN and he became overwhelmed. I believe he had tried so hard to get his life on track but that it was harder than he thought. He knew he had made mistakes in his life, and these were hard to overcome. I think the failed relationship with the personal trainer and the stress around the personal training course were the final straw. When I read over all the challenges he had over the years, I can almost understand how tired he was."*

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

COMMENTS

Pursuant to section 67(3) of the Act I make the following comments:

1. DN took his own life by concentrating and inhaling the contents of a large nitrous oxide cylinder that he had purchased online several hours prior. Whilst inert gas inhalation is an established suicide method in Victoria, accounting for approximately 20 suicides each year over the past decade, the use of nitrous oxide is a relatively new development.

2. Nitrous oxide is used therapeutically as a mild anaesthetic, and non-therapeutically for a range of purposes including as an aerosol propellant for certain foods and as an additive to boost oxygen supply in combustion engines. However, it is also used as a recreational inhalant drug that produces psychoactive effects such as euphoria, distortion of senses and altered experience of space and time. These effects last for around a minute, with no immediate adverse consequences and can be prolonged through inhaling more of the gas.

3. Between 2000-2019, there were two nitrous oxide inhalation suicides in Victoria with helium, fuel hydrocarbons, nitrogen and argon accounting for the other inert gas inhalation suicides

during this period. Data from the Coroners Prevention Unit[4] **(CPU)** indicates that there was one nitrous oxide inhalation suicide in Victoria in 2020, two in 2021, two in 2022, one in 2023, and three suicides in 2024. In 2025, there were approximately six nitrous oxide inhalation suicides (noting that the forensic medical cause of death is yet to be confirmed in some of the deaths.)

4. The Therapeutic Goods Administration **(TGA)**, which administers the Poisons Standard in Australia,[5] has historically only regulated access to nitrous oxide for therapeutic purposes, listing it in Schedule 4 of the Poisons Standard.[6] Nitrous oxide used for any non-therapeutic purpose was not scheduled and therefore could be sold and purchased (i.e. accessed by people who wanted to use it for recreational purposes) without restrictions.

5. During 2019-2020, concerns were mounting that nitrous oxide inhalation might not be as safe as commonly believed. There were reports of heavy misuse and dependence, as well as neurological side-effects caused by prolonged use.[7] In Australia, these harms were specifically associated with 'nangs': small steel cylinders or chargers containing around 8 grams of nitrous oxide under pressure, which were designed to be discharged into cream dispensers to aerate (or whip) the cream contained in them. By discharging a nang into an empty cream dispenser, the nitrous oxide could then be further discharged into a balloon (or even directly into the mouth) to be inhaled. Nangs were readily available, and there were case reports of people using hundreds of nangs per day.

Efforts to tackle recreational nitrous oxide use:

6. In December 2020, the TGA announced that it was opening public consultation on a proposal to create a new Schedule 10 entry for nitrous oxide in the Poisons Standard, to capture nitrous

[4] The CPU was established in 2008 to strengthen the coroners' prevention role and assist in formulating recommendations following a death. The CPU is comprised of health professionals and personnel with experience in a range of areas including medicine, nursing, mental health, public health, family violence and other generalist non-clinical matters. The unit may review the medical care and treatment in cases referred by the coroner, as well as assist with research related to public health and safety.

[5] The Poisons Standard (also known as the Standard for the Uniform Scheduling of Medicines and Poisons) is the federal legislative instrument through which access to medicines and poisons (i.e. substances that may cause death, illness or injury) is regulated in Australia.

[6] The Poisons Standard contains a series of numbered schedules, which describe the level of control over the availability of substances listed therein. Medicines and poisons requiring a prescription to access are listed in Schedule 4.

[7] Chronic use of nitrous oxide can cause vitamin B12 deficiency (by rendering vitamin B12 in the body inactive) and this over time can lead to nerve damage, spinal cord injury and resultant symptoms such as weakness and loss of sensation.

oxide for non-therapeutic purposes when supplied in containers less than 50 cubic centimetres in volume (or in gaseous preparations of less than 10 grams).[8] Schedule 10 is for *"substances of such danger to health as to warrant prohibition of supply and use,"* so this proposal effectively would have banned nangs from sale in Australia.

7. The TGA published its interim decision in March 2021 and determined not to proceed with the Schedule 10 listing. Instead, a new listing was created under Schedule 6 of the Poisons Standard that is used for substances with moderate potential to cause harm, where harm can be reduced through use of distinctive packaging. This listing applied to all nitrous oxide (regardless of cylinder size) for non-therapeutic purposes and required that the gas be labelled with a warning statement and medical advice. The TGA explained: *'The intention of these labelling requirements is to promote the safe use of products available to the public, and mitigate the harms of their misuse, through educating consumers and suppliers'.*[9]

8. The TGA's reasons for the decision included that while misuse of nitrous oxide was increasing, it was mostly low-volume and intermittent misuse. Additionally, the TGA noted there are many legitimate uses for the small nitrous oxide bulbs (with no suitable alternative products that could fulfil these uses), and nitrous oxide has low toxicity when small amounts are inhaled for recreational use.

9. On 8 October 2021, the TGA confirmed its decision to list nitrous oxide for non-therapeutic uses under Schedule 6. The delegate who published the TGA decision concluded their reasons with the following observation:

> *'I reiterate my view that reducing harms from the misuse of nitrous oxide requires a range of strategies beyond scheduling. Should it be necessary, consideration of further conditions may be considered in the future, including restrictions on sales quantities*.'[10]

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[8] See Therapeutic Goods Administration, "Consultation: Proposed amendments to the Poisons Standard - ACMS, ACCS and Joint ACMS/ACCS meetings, March 2021", 24 December 2020, accessed via https://www.tga.gov.au/resources/consultation/consultation-proposed-amendments-poisons-standard-acms-accs-and-joint-acmsaccs-meetings-march-2021

[9] Therapeutic Goods Administration, "Notice of interim decision to amend (or not amend) the current Poisons Standard", March 2021, https://www.tga.gov.au/sites/default/files/notice-interim-decisions-proposed-amendments-poisons-standard-nitrous-oxide-march-2021.pdf accessed 16 February 2026.

[10] Therapeutic Goods Administration, "Notice of final decisions to amend (or not amend) the current Poisons Standard in relation to nitrous oxide", 8 October 2021,< https://www.tga.gov.au/resources/publication/scheduling-decisions-final/notice-final-decisions-amend-or-not-amend-current-poisons-standard-relation-nitrous-oxide> accessed 16 February 2026.

10. In addition to the Poisons Standard, nitrous oxide is regulated as a deleterious substance under the *Drugs, Poisons and Controlled Substances Act 1981* (Vic) **(DPCS Act).** This Act does not restrict who is authorised to supply or sell Schedule 6 poisons, meaning that nitrous oxide in general, can be sold and possessed by anybody. However, the sale of nitrous oxide (along with other drugs and poisons) is also subject to Part IV of the DPCS Act, which restricts the reasons as to why certain types of substances can be sold.

11. Section 58 of the DPCS Act requires that a person must not sell a 'deleterious substance' to another person if they know (or reasonably ought to know) that the person to whom it is sold, intends to inhale it.

12. In DN's case, he purchased the large nitrous oxide cylinder from an online website that offered delivery within the hour. These types of websites are plentiful, and the access and ease for people to purchase these large nitrous oxide cylinders is concerning. It is difficult to regulate these types of purchases to ensure that people are purchasing the nitrous oxide for bona fide non recreational reasons.

13. These similar concerns were identified by Coroner Carlin (as she then was) in her finding into the death of Diane Bell[11] who took her own life by argon gas inhalation. Coroner Carlin explored the possibility of regulating argon (and other inert gas) sales through Victorian legislation via an amendment to the DPCS Act. Coroner Carlin made the following recommendations:

> a. *That the Department of Health and Human Services explore whether the deleterious substances provisions of the Drugs, Poisons and Controlled Substances Act 1981 (Vic) might be amended to include the major gases used in inert gas inhalation suicide in Victoria; and whether such an amendment would have any practical impact on Victorians' ability to access these gases for the purposes of suicide.*
>
> b. *That the Australian Competition and Consumer Commission expand the scope of its engagement with Australian gas manufacturers, importers and suppliers, to include not only helium but all common gases used in inert gas inhalation suicide, when considering what design modifications could be made to reduce people's ability to use gas cylinders and associated equipment in suicide.*

[11] COR 2017 002906, *Form 38 Finding into Death without Inquest of Diane Bell (a pseudonym*), delivered 13 June 2019.

14. In their response, the Department of Health and Human Services **(DHHS)** rejected Coroner Carlin's recommendation. DHHS Secretary Kym Peake noted that while the suggested amendment to the DPCS Act was possible, *'it would be very difficult to establish the substance intended use was for the purpose of suicide … the main indication for inappropriate use is repeated purchases which would not occur for inert gases and it is likely that many retailers would not have the skills to detect the intended use was for suicide.'*[12]

15. The ACCC's response[13] advised that in consultation with international regulators, they had not identified any feasible design modification for gas cylinders that would reduce the ability to use them in suicide.

16. On 15 June 2020, Coroner Jamieson delivered her finding into the death of Gordon Malcolm Wallace,[14] who also died by argon gas inhalation. Coroner Jamieson acknowledged the previous responses to Coroner Carlin's recommendations but maintained that the *'benefits of restricting access specifically to argon gas outweigh the impost on redefining the grounds for distribution.'* Coroner Jamieson also recommended that DHHS consider amending the DPCS Act to specifically include argon gas.

17. In their response,[15] DHHS again rejected the recommendation providing the same reasons as in the case of Diane Bell. Further, they noted that placing an expectation on retailers to assess whether a single purchase of inert gas is for legitimate purposes would not be feasible and although it is possible to amend the DPCS Act, *'the department believes that is unlikely to result in the desired outcome of blocking supply to a single premediated purchase of argon gas.'*

18. In her recent finding into the death of TMP[16] from argon gas inhalation, Coroner Jamieson indicated that in May 2024, she had sought an update from the ACCC to enquire whether they

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[12] Response from the Secretary of the Department of Health and Human Services dated 20 September 2019 available at https://www.coronerscourt.vic.gov.au/sites/default/files/2019-11/2018%201315%20and%202017%202906%20Response%20to%20recommendations%20from%20DHHS_MANNING%20and%20BELL_Redacted_0.pdf

[13] Response of the ACCC dated 11 September 2019 available at https://www.coronerscourt.vic.gov.au/sites/default/files/2019-11/2017%202906%2C%202017%205077%20Response%20to%20recommendation%20from%20ACCC_BELL_MrL_Redacted.pdf.

[14] COR 2018 5646, *Form 38 Finding into Death without Inquest of Gordon Wallace*.

[15] Response from the Secretary of the Department of Health and Human Services dated 1 September 2020. Available at https://www.coronerscourt.vic.gov.au/sites/default/files/2020-09/2018%205646%20Response%20to%20recommendationsd%20from%20DHHS_WALLACE.pdf

[16] COR 2024 3929 *Form 38 Finding into Death without Inquest of TMP*, delivered 20 June 2025.

had identified any new countermeasures to reduce the risk of inert gas inhalation suicide in Victoria or Australia and specifically, had they explored any new interventions that might reduce the public's access to argon and nitrogen. She noted that in its response the ACCC stated that it '*directs its resources to matters that provide the greatest overall benefit to the Australian community and is unable to pursue all product safety matters that come to its attention.'* Further, while the ACCC is aware that gases such as argon and nitrogen can be used in suicides, it *'does not propose recommending mandatory standards for argon or nitrogen at this time.'*

19. In response, Coroner Jamieson stated in her finding;

> *"I see no merit in making a recommendation in this matter given the Department of Health has twice declined to amend the deleterious substances provisions of the DPCS Act 1982 (Vic) following coronial recommendations, and the ACCC's advice that they have been unable to identify any feasible design modifications for gas cylinders which would reduce the ability to use them in inert gas inhalation suicide, and do not propose recommending mandatory standards for argon.*
> *...However, I and my colleagues at the Court will continue to monitor these deaths and conduct comprehensive investigations with the view to identifying and making appropriate recommendations as soon as they may arise.*[17]

Conclusion

20. It is evident that these issues remain complex and there are multiple considerations that need to be balanced in allowing for inert gases to be obtained for their intended purposes and avoiding access to them as a means of suicide. Several Australian states have investigated and, in some cases, enacted, their own controls over the availability of nitrous oxide to members of the public, to curb harms associated with recreational use.

21. For example:

    a) In South Australia, under the *Controlled Substances (Poisons) (Nitrous Oxide) Variation Regulations 2019* (SA) that commenced on 1 April 2020, sale of nitrous oxide is restricted to people aged 18 years or over, the gas cannot be sold between

[17] COR 2024 003929 available at https://www.coronerscourt.vic.gov.au/sites/default/files/COR%202024%20003929%20Form%2038%20-%20Finding%20into%20Death%20without%20Inquest%20-%20Pseudonym%20and%20Redacted.pdf

10pm and 5am, and the gas cannot be stored in such a way that it is visible to members of the public.

b) In Western Australia, under the amended *Medicines and Poisons Regulations 2016* (WA) (in force from 30 October 2024), nitrous oxide can only be purchased by approved businesses (such as registered food businesses and businesses with a liquor licence), and sale of nitrous oxide cylinders with contents greater than 10 grams is completely prohibited.

c) In NSW, the Ministry for Health conducted public consultation between March and May 2024 on options to restrict nitrous oxide sales, including prohibiting sales to people aged under 18 years, limiting the size of cylinders that can be sold, and prohibiting same-day delivery for retail supply.[18] According to the Ministry's website, it is currently considering the results of the consultation and determining what proposals to recommend to the government.[19]

22. Given that there is still newly emerging data regarding nitrous oxide inhalation as a suicide method and we do not have data from states outside of Victoria on its prevalence, I do not intend currently to make recommendations about potential intervention at a national level. However, as my colleagues have done, I also intend to distribute my findings into DN's death to the TGA, the ACCC, and the Victorian Department of Health, for their information, and to notify them of my concern that large nitrous oxide cylinders might be emerging as an unsafe product facilitating suicide. I concur with Coroner Jamieson's comments that the Court will continue to monitor these deaths and make appropriate recommendations, for the safety of the community.

23. 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.

[18] The proposed reforms for consultation are described in New South Wales Ministry of Health, *Nitrous Oxide Reforms: Consultation Paper*, St Leonards: NSW Ministry of Health, March 2024.

[19] See New South Wales Ministry of Health, "Nitrous Oxide Reforms", undated, <https://www.haveyoursay.nsw.gov.au/nitrous-oxide-reform>, accessed 16 February 2026.

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

JS, Senior Next of Kin

HW, Senior Next of Kin

Senior Constable Tristan Gouldthorpe, Coronial Investigator

Katherine Whetton, Acting Secretary, Victorian Department of Health

Consumer Product Safety Branch, Australian Competition and Consumer Commission

Therapeutic Goods Administration

Signature:





Coroner Dimitra Dubrow

Date : 16 November 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.