# CORONER'S COURT OF THE AUSTRALIAN CAPITAL TERRITORY

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| **Case Title:** | **Inquest into the death of MK** |
| **Citation:** | **[2026] ACTCD 4** |
| **Decision Date:** | 8 April 2026 |
| **Before:** | Coroner Archer |
| **Findings:** | See [40], [47], [48] and [96] |
| **Catchwords:** | **CORONIAL LAW** – manner and cause of death – motor vehicle accident – drowning following vehicle entry into water – driver significantly impaired by nitrous oxide – non-therapeutic nitrous oxide use contributing to cause of death – public safety issues arising – volatile substance use – ease of access by young persons – large size of cannisters – lack of data relating to nitrous oxide in the ACT – recommendations – decision not to conduct a hearing – publication of findings to establish a record of road related deaths – condolence |
| **Legislation Cited:** | *Controlled Substances (Poisons) (Nitrous Oxide) Variation Regulations 2019* (SA)<br>*Coroners Act 1997* (ACT) ss 13, 34A, 52 and 57<br>*Drugs, Poisons and Controlled Substances Act 1981* (VIC) s 58<br>*Medicines and Poisons Regulations 2016* (WA) ss 148D and 148E<br>*Medicines, Poisons and Therapeutic Goods Act 2008* (ACT) ss 10, 12, 20, 24, 26, 59, 60, 61 and 193<br>*Medicines, Poisons and Therapeutic Goods Regulation 2008* (ACT) ss 22, 661 and 735<br>*Psychoactive Substances Act* 2013 (NZ)<br>*Summary Offences Act 2005* (QLD) s 23<br>*Therapeutic Goods Act 1989* (Cth) ss 14, 14A and 52D<br>*Therapeutic Goods (Poisons Standard—February 2026) Instrument 2026* (Cth) ss 13, 16, 18, 29, 30, 31, 32, 34 and 54<br>*Volatile Substance Abuse Prevention Act 2005* (NT) s 52 |
| **Cases Cited:** | *Inquest into the death of Bradley Hope* (2019/00386164) [2023] NSWCorC 7 (3 March 2023)<br>*Inquiry into the death of Piata Amelia-Blaise Otufangavalu* [2025] NZCorC 738 (unpublished) |
| **Texts Cited:** | *Fences, Guardrails and Barriers Municipal Infrastructure Standard 10 Edition 1 Revision 0, Transport Canberra and City Services, September 2021* (ACT)<br>Government of Western Australia Mental Health Commission website on Volatile Substance Use: https://vsu.mhc.wa.gov.au/ |

Grzebieta R.H et al, ‘Roadside Crash Barrier Testing’ (Conference Paper, 3rd International Crashworthiness Conference, February 2002)

Hannah Walter et al ‘Exploring the experiences and perceptions of young people’s recreational nitrous oxide use (2025) 18(2) *Advances in Dual Diagnosis*, 42

New South Wales Ministry of Health, *Nitrous Oxide Reforms* (Consultation Paper, March 2024)

New Zealand Ministry of Health, *Nitrous Oxide Advisory*, (Advisory, 22 September 2024)

Samuel Gresham and Jacques Eugene Raubenheimer ‘Current regulations in context: Scraping Australia’s online nitrous oxide market’ (Research Paper, International Journal of Drug Policy Volume 139, 26 March 2025)

**File Number:** CD 162 of 2023

**CORONER ARCHER:**

## Introduction

1. On 22 July 2023 at approximately 16:20 hours MK died in a motor vehicle accident. The vehicle MK was driving entered Isabella Pond, north of the intersection of Drakeford Drive and Athllon Drive, in the suburb of Greenway in the Australian Capital Territory ("ACT"). MK drowned. He was 18 years old at the time of his death.

## Jurisdiction

2. MK's death was reported to the ACT Coroner's Court on 23 July 2023 as it appeared to fall within the ambit of section 13(1)(g) of the Coroners Act 1997 (ACT) ("the Act") as a death 'directly attributable to an accident'.

3. Pursuant to section 13 of the Act I was required to hold an inquest into the manner and cause of MK's death. The inquest consisted of an investigation.

4. I make findings in accordance with section 52 of the Act. The section relevantly provides:

> **52 Coroner's findings**
>
> (1) A coroner holding an inquest must find, if possible—
>
> (a) the identity of the deceased; and
>
> (b) when and where the death happened; and
>
> (c) the manner and cause of death; and
>
> (d) in the case of the suspected death of a person—that the person has died.
>
> ---
>
> (4) The coroner, in the coroner's findings—
>
> (a) must—
>
> (i) state whether a matter of public safety is found to arise in connection with the inquest or inquiry; and
>
> (ii) if a matter of public safety is found to arise—comment on the matter.

## Evidence

5. In making my findings, I have had regard to a volume of material including:

   (a) Police coronial report, dated 24 July 2023;

   (b) Post-mortem report, dated 25 August 2023, prepared by Professor Johan Duflou;

   (c) Mechanical inspection statement, dated 15 August 2023, prepared by the Australian Federal Police ("AFP") Vehicle Inspection Team;

(d) Assessment report in relation to the road and environmental conditions of the relevant sections of Drakeford Drive at the time of the accident, dated 27 July 2023, prepared by the ACT Transport Canberra and City Services;

(e) Statement of the Chief Health Officer of the ACT, Dr Kerryn Coleman, dated 17 December 2025; and

(f) MK's medical records.

**Circumstances Surrounding MK's Death**

6. On the date of his death, MK, who held a provision licence, was driving his vehicle northbound along Drakeford Drive in Greenway in the ACT. The direction of his driving is represented by the arrow in the image below.[1] MK's vehicle was seen by witnesses entering the roundabout, where Drakeford Drive and Athllon Drive intersect, without slowing.


[1] Satellite Image obtained from Google Maps © 2026 Airbus CNES / Airbus, Maxar Technologies, Vexcel Imaging US Inc, Map data © 2026 Google.

7. The vehicle partially mounted the roundabout's central island, with the two right hand side wheels up on the island and the two left hand side wheels remaining on the road. The vehicle continued in this fashion, before exiting the northern side of the roundabout directly onto the grass median strip which separates the dual carriageways of Drakeford Drive. The car proceeded straight along the median strip, which is approximately 150 to 200 metres in length, before descending into Isabella Pond.

8. Witnesses observed the driver of the vehicle, MK, sucking on a balloon or round shaped item whilst in the roundabout. They also described the vehicle driving straight along the grass median strip and into the water without swerving, braking or fishtailing.

9. Following calls from members of the public, the AFP, the ACT Ambulance Service and the ACT Fire and Rescue attended the scene. MK's vehicle had become fully submerged and was not visible.

10. Later divers from the AFP Maritime Police Team entered the water and located the vehicle resting on its wheels at a depth of approximately 3 to 4 metres. The front of the vehicle was facing a southerly direction.

11. MK was located inside the vehicle. The evidence suggests MK was conscious whilst the vehicle was in the water. The evidence also suggests that MK was wearing his seatbelt appropriately whilst he was driving.

12. Located within the driver's footwell was a large cannister of nitrous oxide with a pressure release nozzle attached. There were also several small steel cannisters located in the vehicle. Collectively, these are known to be purchased for the purposes of inhaling nitrous oxide to obtain a "high".

**Post-Mortem Examination**

13. At my direction, a post-mortem examination was conducted by Professor Johan Duflou, forensic pathologist, on 25 July 2023. The examination consisted of a CT scan, an external examination and toxicology testing. Professor Duflou observed fluid within MK's airways, typical of drowning.

14. Toxicology testing detected low levels of Tetrahydrocannabinol ("THC"), the active ingredient of cannabis.

15. At present, there is no testing able to be performed to detect the presence of nitrous oxide in post-mortem blood in the ACT. As such, Professor Duflou was unable to confirm by testing the presence of nitrous oxide or its level within MK's body.

16. Professor Duflou opined the cause of MK's death was drowning. I accept Professor Dulfou's opinion.

## Issues

17. My investigation into MK's death was structured around answering three questions about the cause of the accident that led to his death:

    A. Did the condition of his vehicle contribute?

    B. Did the road conditions contribute?

    C. Did the consumption of drugs contribute?

## Did the Vehicle Contribute?

18. MK was driving a green VE Holden Commodore. The vehicle was registered at the time of the accident.

19. The car was in a damaged state when recovered from the water.

20. On 4 August 2023 an AFP vehicle inspection officer conducted a mechanical examination of the vehicle. That officer concluded "[t]he vehicle was found to have been maintained in a good condition. There are no indications of any mechanical or structural failure which may have contributed to the incident". The damage observed to the vehicle was consistent with the accident and associated rescue.

21. MK appears to have taken good care of his car.

22. I find the vehicle did not contribute to the cause of death.

## Did the Road Conditions Contribute?

*Road*

23. ACT Transport Canberra and City Services prepared an assessment report in relation to the road and environmental conditions of the relevant sections of Drakeford Drive at the time of the accident.

24. The report described the configuration of the roads at and near the point where MK's car left the road. Drakeford Drive is a dual carriage way with lanes in both north and south bound directions. The posted speed limit of Drakeford Drive in the area is 80km/hr. Athllon Drive intersects Drakeford Drive, from the west, in a dual lane roundabout. Isabella Pond is located approximately 150 to 200 metres north of the roundabout.

25. Drakeford Drive bridges across Isabella Pond for approximately 60 metres. The approach to the northbound side of the bridge is pictured below.[2] Shorter W-Beam barriers can be seen on either side of the carriageway on approach to the bridge. Yellow 'end terminals' are visible at the beginning of each W-Beam barrier, depicted in the far left and centre right of the image. The W-Beam barriers transition to taller bridge barriers along the bridge. On exit from the bridge, the taller bridge barriers transition back to the W-Beam barriers which extend for a short distance.


26. W-Beam barriers are semi-rigid barriers designed to redirect 'errant or out of control vehicle[s]'.[3] Here they assist traffic to safely enter and exit the bridge.

27. End terminals are energy absorbing safety features. They work to reduce the severity of impact with the beginning or end of a road barrier, for instance reducing the risk of 'spearing' which occurs when a vehicle makes contact with the beginning of a barrier and the barrier pierces into the vehicle.

28. On the northside of the roundabout, in the lead up to Isabella Pond, Drakeford Drive continues as two 3.5 metre traffic lanes and a 2 metre cycle lane. The northbound and southbound lanes are separated by a grass median strip, approximately 20 metres wide and 150 - 200 metres in length. Approximately 3 metres from the northern end of the grass median strip is a concrete culvert/access manhole which assists in controlling the flow of stormwater down to Isabella Pond. The northern end of the median strip transitions into a rock wall embankment which extends down to Isabella Pond. The rock

[2] Image obtained from © 2026 Google Maps, captured July 2023.
[3] *Fences, Guardrails and Barriers Municipal Infrastructure Standard 10 Edition 1 Revision 0, Transport Canberra and City Services, September 2021* (ACT), 1.1.5.2.

wall embankment is approximately 10 metres in length, angled out towards the water. This rock wall embankment is mirrored on the opposite side of the pond.

29. At the time of the accident the relevant parts of the road were dry and in good repair. The bridge barriers were in good condition. The weather was clear, it was daylight hours and visibility was good.

30. ACT Transport Canberra and City Services found no evidence indicating the vehicle lost traction with the road surface prior to driving onto the grassed median strip. There were no marks indicating the breaks were engaged or the vehicle swerved or fishtailed on the grassed median strip.

31. I find that the road conditions did not contribute to the cause of death.

## Did the Consumption of Drugs Contribute?

*Cannabis*

32. The level of THC detected in MK's post-mortem toxicology was low and therefore is unlikely to have caused a level of driver impairment that would account for the manner of MK's driving.

*Nitrous Oxide*

33. Nitrous oxide is a low-potency anaesthetic gas, predominantly used in dentistry and emergency care for short-term analgesia and anaesthesia. It also has culinary uses as a food additive and is widely used in the production of whipped cream.

34. Nitrous oxide is usually sold in large high pressure cannisters or in small steel cartridges known as bulbs. These cannisters and cartridges are often colloquially referred to as "nangs" or "whippets". The nitrous oxide located in MK's vehicle is an example of a large nitrous oxide cannister which allows for quick decantation via a twistable pressure release nozzle.

35. It is not clear where MK sourced the nitrous oxide from. Nitrous oxide is understood to be widely available through retailers (e.g. tobacconists, convenience stores and food wholesalers) and online.[4] Websites selling nitrous oxide cannisters rarely verify the age of purchasers; many sites provide bulk pricing incentives and flavourings designed to attract younger audiences. [5]

[4] NSW Ministry of Health, *Nitrous Oxide Reforms* (Consultation Paper, March 2024), [4.1].
[5] Samuel Gresham and Jacques Eugene Raubenheimer 'Current regulations in context: Scraping Australia's online nitrous oxide market' (Research Paper, International Journal of Drug Policy Volume 139, 26 March 2025), 3.

36. Nitrous oxide inhalation is associated with health risks including "decreased blood pressure, fainting and associated injuries, skin and lung injuries, and asphyxiation".[6] In instances of consistent and "heavy" use, nitrous oxide has been found to cause "neuropsychiatric problems, such as a loss of muscle control and psychosis".[7]

37. Notwithstanding the absence of available testing for the presence of nitrous oxide in post-mortem toxicology, on the balance of probabilities, I am satisfied that MK was inhaling nitrous oxide at the time of the accident. I form this view on the following evidence:

    (a) Nitrous oxide was located in the footwell of the vehicle;

    (b) Witnesses consistently described MK breathing into a balloon or round shaped object whilst driving in the roundabout;

    (c) It is apparent that MK was conscious when his vehicle was in the water; and

    (d) MK was driving in a manner that was clearly impaired.

38. I find that consuming nitrous oxide was a significant contributing factor to the motor vehicle accident which caused MK's death.

## Medical Records

39. The medical records indicate that MK struggled with polysubstance use as a young person from age 11 onwards. At various times he reported to clinicians and others that he was consuming cannabis, nitrous oxide and lysergic acid diethylamide (**LSD**). Records indicate he was warned about safety issues that might arise from driving with drugs.

## Formal Findings

40. On the basis of the evidence before me for the purposes of s 52(1) of the Act, I find that:

> MK died in Isabella Pond, Greenway ACT on 22 July 2023 by drowning in a motor vehicle accident after the car he was driving crashed into Isabella Pond. MK was significantly impaired by nitrous oxide at the time of the accident.

[6] *Nitrous Oxide Reforms* (n 2) [4.1].
[7] *Nitrous Oxide Reforms* (n 2) [4.1].

**Public Safety**

*Barrier Design*

41. I caused two questions to be put to ACT Road Engineers in relation to the barriers or lack thereof at the scene.

42. Firstly, ought there have been a barrier between the northside of the roundabout and the grassed median strip? The following response was received:

> *Not recommended.*
>
> *A barrier in the medium strip to account for vehicles leaving the carriageway within the roundabout and adjacent approaches would create a safety risk to road users due to:*
>
> (a) *Inability to provide compliant end terminals; and*
>
> (b) *the approach angle to a barrier next to the roundabout circulating roadway would create an impact angle greater than 25 degrees, which is greater than the impact angle used when testing the compliance of a barrier, hence the potential to become a risk for road users entering the roundabout from adjacent entries.*

43. Second, ought there have been a barrier at the northern end of the grass median strip at the top of the rock wall embankment? The following response was received:

> *Not recommended.*
>
> *A crash barrier is designed to be struck at an acute angle. A barrier perpendicular to the travel path of vehicle has a greater likelihood of resulting in serious injuries to vehicle occupants. For similar reasons to the above.*

44. According to the *Fences, Guardrails and Barriers Municipal Infrastructure Standards 10 Edition 1 Revision 0*, published by Transport Canberra and City Services in September 2021, road safety barriers are warranted where:

- the consequences of impact with the unshielded hazard are greater than consequence of impacting the barrier;
- there is a high likelihood that vehicles will leave the carriageway; and
- there is a high level of consequence to the vehicle occupants, other road users or roadside features associated with vehicles leaving the carriageway.

45. An effective road barrier should redirect a car with minimal risk of injury to the occupants whilst allowing the driver to regain control of the vehicle. Where a car crashes into a barrier at an angle greater than 45 degrees, the car will absorb the majority of the impact resulting in serious damage to the vehicle and low chances of occupant survival.[8]

46. The length of the median strip, between 150-200 metres, would also enable any vehicles travelling northbound that found their way onto the median strip to comfortably stop before the rock wall embankment.

47. I am satisfied a barrier at the top of the embankment would not have obviated the risk of harm and therefore make no comment or recommendation pursuant to section 52(4) of the Act.

*Nitrous Oxide*

48. Pursuant to section 52(4) of the Act I find that matters of public safety relating to nitrous oxide arise from the death of MK.

49. Nitrous oxide use is considered in the context of a wider public health discussion about Volatile Substance use ("VSU"). VSU may be defined as "the deliberate inhalation of substances which produce a vapour or gas at room temperature".[9] VSU can be further divided into 4 subcategories:

    (a) Aerosols - sprays that contain solvents and/or hydrocarbon propellants such as deodorants or spray paint;

    (b) Gases - household and commercial products containing gas fuels, and gases used as medical anaesthetics such as nitrous oxide or propane;[10]

    (c) Nitrites - strong-smelling liquids that may contain any one of a range of nitrites including amyl nitrite and butyl nitrite; and

    (d) Solvents - liquids or semi-solids that vaporise at room temperature and commonly contain toluene or xylene such as such as petrol or glues.

50. The potential for VSU to cause death has been the subject of attention in a number of Australian jurisdictions. For example, in 2019 the Queensland Government convened an 'Inhalants Roundtable' which brought together a range of stakeholders including

[8] Grzebieta R.H et al, 'Roadside Crash Barrier Testing' (Conference Paper, 3rd International Crashworthiness Conference, February 2002), p 10.
[9] *Inquest into the death of Bradley Hope* 2019/386164 (NSW), [22].
[10] There is some inconsistency as to how nitrous oxide has been classified. In the *Inquest into the death of Bradley Hope* 2019/386164 (NSW) at [94] nitrous oxide was classified as a nitrite. In contrast, the West Australian Mental Health Commission's website on VSU (https://vsu.mhc.wa.gov.au/) classifies nitrous oxide as a gas.

Queensland Police Service, Queensland government departments and youth and health service representatives. The key themes included:

- enhancing the availability of statistical evidence relating to VSU including deaths and harms associated with VSU;
- ensuring that police are aware of signs of VSU so that the investigations are more targeted at that issue;
- the formulation of public awareness and education campaigns around VSU harms;
- the development of safety strategies around VSU including access to poison hotlines and improved warnings on aerosol labels; and
- the exploration of alternates to products like nitrous oxide.

51. Such an approach recognises that the issue of VSU is complex and requires a multi-faceted response.

52. In 2023 the State Coroner of New South Wales, Magistrate O'Sullivan, published findings in the *Inquest into the death of Bradley Hope*[11] in which a 16 year old tragically died as a consequence of complications associated with VSU, specifically the inhalation of hydrocarbon chemics from an aerosol deodorant. State Coroner O'Sullivan made a number of recommendations including that the NSW Ministry of Health convene a 'roundtable' forum addressing VSU in a similar manner to Queensland.[12] Although nitrous oxide was not involved in the death of Mr Hope, State Coroner O'Sullivan recommended the roundtable specifically include the misuse of "nangs" given their predominance in VSU among young people.[13]

53. Relevantly, State Coroner O'Sullivan observed "the issue of accessibility [of VSU products] is central to the apparently young age of many users".[14]

54. State Coroner O'Sullivan also raised concerns around the "dearth of data"[15] limiting effective policy implementation. The lack of data was attributed, in part, to the defunding

[11] *Inquest into the death of Bradley Hope* (2019/00386164) [2023] NSWCorC 7 (3 March 2023).
[12] *Bradley Hope* (n 7), Recommendation A in [204].
[13] *Bradley Hope* (n 7) [95].
[14] *Bradley Hope* (n 7) [99] and [129] "Demographics of inhalant users are very young, typically aged between 9 – 18 years old".
[15] *Bradley Hope* (n 7) [123] "The inquest revealed that the ability to draw sound conclusions as to VSU prevalence and trends is significantly hindered by the absence of effective data collection methods and consequently, accurate, reliable and current data. This dearth of data undoubtedly impacts negatively on the ability to implement targeted, evidence-based policy and strategic responses to this issue."

of the National Inhalant Information Service ("NIIS") in 2014.[16] The NIIS was commissioned in 2008 after the National Directions on Inhalant Abuse Report recommended establishing a national database of carefully targeted resources to improve education around inhalant abuse.

55. Later, in March 2024, the NSW Ministry of Health publish a Consultation Paper on '*Nitrous Oxide Reforms*' ("the NSW Consultation Paper"). The Report outlines the scope of nitrous oxide use and its effects:

(a) 4.2 Prevalence of recreational use

The 2019 National Drug Strategy Household Survey shows that 0.9% of people in NSW (aged 14 years or over) have used nitrous oxide for non-therapeutic reasons in the past 12 months. Use mostly centres among young adults, with 4.0% of people in NSW aged 18 to 24 years using in the previous 12 months. [6] Research shows that recreational use of nitrous oxide is increasing around the world

4.3 Harm associated with recreational use

While deaths associated with nitrous oxide are thought to be rare, there has been a 23-fold increase in associated harm over the previous decade. Cases of serious harms, such as spinal cord damage and psychosis, have been associated with use of large quantities of cartridges and high volume cylinders. Access to these has been facilitated through online suppliers offering bulk purchases with fast and late-night delivery.

4.3.1 Nervous system damage

Recreational use of nitrous oxide is associated with damage to the nervous system, including the brain, spinal cord and nerves. This typically presents as numbness or tingling sensation in the arms, hands, legs, or feet, weakness in the lower limbs, and loss of balance and coordination.[2] In some cases, the damage can leave people with permanent mobility issues or suffering from visual disturbances, sexual dysfunction, bladder dysfunction or incontinence. Recovery from these symptoms may be slow, requiring lengthy rehabilitation.[8] In some cases, the damage is irreversible.

4.3.2 Psychiatric and behavioural impacts

Recreational nitrous oxide use is associated with a range of psychiatric symptoms including mood disturbance, memory impairment, and psychosis (hallucinations and delusions).[3, 4, 8]

4.3.3 Driving impairment

Driving while intoxicated with nitrous oxide can pose significant risks. The effects of nitrous oxide can last up to an hour and can impact cognitive and motor functions. One report

[16] *Bradley Hope* (n 7) [ [171].

found driving errors increased for up to 30 minutes after exposure.[10] It is difficult to prove a driver is under the influence of nitrous oxide due to the relatively 5 short-lived effects, and difficulty detecting nitrous oxide in toxicology analysis (such as from saliva, blood or urine tests). There have been five nitrous oxide-related drug impaired driving cases identified in NSW between January 2021 - June 2023, and no cases from 2019-2020. The use of nitrous oxide seen in impaired drivers is likely to be an underestimate of the extent of nitrous oxide use.

4.3.4 Other risks

Acute and chronic use of nitrous oxide is associated with a risk of severe frostbite, lung injuries, cardiac abnormalities (including sudden death), asphyxiation and injuries associated with falls.[11]

56. According to the NSW Consultation Paper over half of the 817 nitrous oxide related emergency department presentations in NSW, recorded during the period from January 2016 – June 2023, were in people aged 18 to 24 years.[17] A further 14% were in people of ages less than 18 years. The number of presentations increased from 9 in 2016 to 192 in 2021.[18]

57. Data collected nationally in Australia from self-disclosing nitrous oxide consumers, for the period of 2021 – 2023, suggests that the purchase of large cannisters has increased among consumers.[19] Consumers reported they sourced large cannisters of nitrous oxide primarily from corner stores, through friends or online.[20] The median age of the respondents ranged between 22 and 23 years and more than half identified as male. [21]

*Driving Impaired by Nitrous Oxide*

58. As noted, the difficulties in determining the presence of nitrous oxide at autopsy has meant that there is little direct evidence of impairment from that source in fatal road accident cases. Presentations in Emergency Departments in non-fatal road accident cases allow for the identification of nitrous oxide impairment from self-report or witness accounts. The statistics quoted above are noted. Participants in a small exploratory Australian study reported consuming nitrous oxide in their cars but believing it did not impair their driving ability.[22]

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[17] *Nitrous Oxide Reforms* (n 2) [4.3.5].
[18] See (n 16).
[19] "In 2021, a very small proportion (6%) reported using larger cannisters; this increased to 26% in 2023", Jodie Grigg et al, 'Nitrous Oxide Sourcing, Use and Harms: Insights From Australians Who Use Ecstasy/MDMA and Other Illicit Stimulants' (Research Paper, Drug and Alcohol Review, 2025), 2116.
[20] See (n 18).
[21] See (n 18).
[22] Hannah Walter et al 'Exploring the experiences and perceptions of young people's recreational nitrous oxide use (2025) 18(2) *Advances in Dual Diagnosis*, 42, 51.

59. In 2024, nitrous oxide was linked to a motor vehicle accident in New Zealand ("NZ"), in which a 19 year old drove a car across centrelines into oncoming traffic, tragically killing five people.[23] The driver had consumed nitrous oxide within an hour of the collision and Coroner Bates found she was significantly impaired "due to her use of nitrous oxide and potentially exacerbated by her use of cannabis".[24]

60. Shortly after, in September 2024 the Medicines and Medical Devices Safety Authority of NZ ("Medsafe") and the and the Psychoactive Substances Regulatory Authority of NZ published the "Nitrous Oxide Advisory".[25] Medsafe stated that when nitrous oxide is supplied for the primary purpose of inducing a psychoactive effect the *Psychoactive Substances Act 2013* (NZ) ("PSA") applies. Under the PSA distributors may apply for a licence to import and/or sell a psychoactive substance. No cream chargers, cannisters or other products containing nitrous oxide have been approved for use, making it illegal to sell nitrous oxide or products containing nitrous oxide for recreational use. A breach of this regulation is punishable by a maximum penalty of 2 years imprisonment and financial penalty of up to $500,000.

*State and Territory Responses*

61. Consistent with developments in New Zealand, several Australian jurisdictions have recently implemented or appear to be considering reforms to reduce the risks and harms associated with recreational nitrous oxide use, to encourage responsible retail practices and to promote public safety.

62. In South Australia, the *Controlled Substances (Poisons) (Nitrous Oxide) Variation Regulations 2019* (SA), imposed several restrictions on the sale of nitrous oxide by retail stores and online businesses including making it an offence to:

- sell or supply nitrous oxide to people under the age of 18;
- sell nitrous oxide between the 22:00 hours and 05:00 hours;
- make nitrous oxide visible or accessible to the public in retail stores; and
- fail to display a notice on the premises that details the offence of selling to people under the age of 18.

63. In October 2024, the Western Australian Government amended the *Medicines and Poisons Regulations 2016* (WA) in an effort to restrict access to nitrous oxide for non-legitimate purposes. Small nitrous oxide cartridges up to 10 grams are only accessible

[23] *Inquiry into the death of Piata Amelia-Blaise Otufangavalu* [2025] NZCorC 738.
[24] *Piata Otufangavalu* (n 19), [68].
[25] NZ Ministry of Health, *Nitrous Oxide Advisory*, (Advisory, 22 September 2024).

to “approved recipients”, which include registered food businesses, selected businesses with a liquor licence, schools and other educational institutions and cooking school businesses.[26] The West Australian Mental Health Commission also produces a VSU website which includes comprehensive resources on VSU and a VSU incident reporting system.[27]

64. Legislation in Victoria, the Northern Territory and Queensland the prohibits the sale of nitrous oxide in circumstances where there is a reasonable belief that the purchaser intends to inhale the substance or provide it to a third party to inhale. [28]

65. The NSW Ministry of Health has published the NSW Consultation Paper as part of a proposed regulation on the supply of non-therapeutic nitrous oxide.[29]

*The Commonwealth Regulatory Framework*

66. The *Therapeutic Goods (Poisons Standard—February 2026) Instrument 2026* (Cth) (“Poison Standards”), which was enacted pursuant to section 52D of the *Therapeutic Goods Act 1989* (Cth) (“TGA”), commenced on 1 February 2026. The Poison Standard classifies nitrous oxide, except for human therapeutic use, as a Schedule 6 Poison.

67. Schedule 6 Poisons are described as:

> Substances with a moderate potential for causing harm, the extent of which can be reduced through the use of distinctive packaging with strong warnings and safety directions on the label.[30]

68. Pursuant to section 13 of the Poison Standards, primary packs and immediate containers of nitrous oxide must not be supplied unless they are labelled and packaged in accordance with the requirements of the Poison Standards.[31] The Poison Standard sets out that the label must show:

- s 16 – the signal word ‘POISON’;
- s 18 – the cautionary statement ‘KEEP OUT OF REACH OF CHILDREN’;
- s 29 – the words ‘SAFETY DIRECTION’ and ‘CAUTION – Do not use for children under 2 years unless a doctor has told you to.’;

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[26] *Medicines and Poisons Regulations 2016* (WA) ss148D and 148F.
[27] Available at: https://vsu.mhc.wa.gov.au/.
[28] *Drugs, Poisons and Controlled Substances Act 1981* (VIC) s 58, *Volatile Substance Abuse Prevention Act 2005* (NT) s 52 and *Summary Offences Act 2005* (QLD) s 23.
[29] *Nitrous Oxide Reforms* (n 2).
[30] *Therapeutic Goods (Poisons Standard— February 2026) Instrument 2026,* Reader’s Guide Classification table.
[31] Further specifications as to placement of the label, language etc. are found in s 13(2) - (4) of the Poison Standards.

- s 30 – the warning statement 'WARNING – May cause irreversible nerve damage if inhaled';
- s 31 – the first aid instruction 'For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor (at once)';
- s 32 – the physical address in Australia of the manufacturer or distributor in Australia; and
- s34 – the mass of the poison per stated mass of the preparation.

69. Each provision referred to above sets out further specific requirements on how those words must be displayed.

70. Pursuant to section 54 of the Poison Standards, suppliers must store nitrous oxide "in such a way as to prevent access by children".

71. There are no restrictions on advertising Schedule 6 Poisons.

72. Pursuant to section 14 of the TGA It is a criminal offence to supply, including sell, nitrous oxide that does not conform with the standards outlined above. The offences can be summarised:

    - Per section 14(6) where the supply of nitrous oxide does not conform with a standard applicable and results in harm, a maximum penalty of 5 years imprisonment or 4000 penalty units or both applies;
    - Per section 14(9) where supply of a nitrous oxide does not conform with a standard applicable to the good, a maximum penalty of 12 months or 1000 penalty units or both applies; and
    - Per section 14(9AA) it is a strict liability offence to supply nitrous oxide which does not conform with a standard applicable to the good, and a maximum penalty of 12 months or 1000 penalty units or both.

73. Civil penalties also arise where supply of a good does not conform with a standard applicable to the good under TGA max penalty of 5000 penalty units.[32]

*The ACT Regulatory Framework*

74. Pursuant to the *Medicines, Poisons and Therapeutic Goods Act 2008 (ACT)* ("MPTGA") the Poison Standards apply in the ACT.

[32] TGA s 14A.

75. Section 10 of the MPTGA defines a "*regulated substance"* to include "*poisons"*. Pursuant to section 12 of the MPTGA a "*poison"* includes "*moderate harm poisons"* which are substances classified as Schedule 6 Poisons under the Poison Standards.

Authority to supply

76. Section 24 of the MPTGA defines:

> ***supply—***
>
> (a) includes the following:
> (i) sell (or offer or expose for sale);
> (ii) dispense;
> Note Dispense means supply on prescription (see dict).
> (iii) supply under a requisition or standing order;
> (iv) dispose of by any method for free (other than by discarding); but
>
> (b) does not include administer.

77. Pursuant to section 26 of the MPTGA, a person commits an offence if they supply a substance which they are not authorised to supply. This offence is punishable by maximum of 5 years imprisonment or 500 penalty units or both.

78. The *Medicines, Poisons and Therapeutic Goods Regulation 2008* (ACT) ("the Regulation") is made under the MPTGA. Section 661 of the Regulation applies by way of section 20 of the MPTGA and the former provides:

> Anyone is authorised to supply a low harm poison or moderate harm poison.

79. Consequently, section 26 of the MPTGA does not apply to the supply of nitrous oxide.

Packaging and Labelling offences

80. Pursuant to section 60(1) of the MPTGA it is an offence punishable by a maximum of 1 year imprisonment and 100 penalty units or both for an authorised person to supply a regulated substance to someone where the substance is not labelled either as prescribed by regulation or in accordance with an approval under s 193 of the MPTGA.[33]

81. The offence is replicated in identical terms in section 60(2) of the MPTGA however the maximum penalty is 50 penalty units and per section 60(4) it is a strict liability offence.

82. Identical offences appear in relation to packaging in section 59 of the MPTGA.

Storage Offences

83. Pursuant to section 61 of the MPTGA

> A person commits an offence if—

[33] The Chief Health Officer of the ACT is empowered to make approvals for the purposes of s 193 of the MTPGA.

(a) the person is authorised to possess a declared substance; and
(b) the person is prescribed by regulation in relation to the substance; and
(c) the person fails to store the substance as prescribed by regulation.

Maximum penalty: 100 penalty units, imprisonment for 1 year or both.

84. Storage requirements for poisons set out in section 735 of the Regulation apply only to dangerous poisons.

85. Under the current regulatory framework in the ACT, nitrous oxide may be lawfully supplied to persons under the age of 18 with promotional packaging and through rapid delivery.

*ACT Chief Health Officer Response*

86. In the course of the inquest, on 29 September 2025, a statement was sought from the Chief Health Officer of the ACT, Dr Kerryn Coleman, as to the availability of nitrous oxide for non-therapeutic use in the ACT and the regulation of its supply and use in the ACT. Dr Coleman provided a response to the Court on 17 December 2025.

87. Dr Coleman accepted that nitrous oxide is known to "cause a range of adverse health effects including brain damage and death".

88. Dr Coleman acknowledged that non-therapeutic nitrous oxide cannisters and cartridges are readily available in the ACT including through advertised delivery services.

89. Beyond the application of the Poison Standard in the ACT, Dr Coleman advised that the Health and Community Services Directorate ("HCSD") is "not aware of any additional controls on the availability" of nitrous oxide in the ACT.

90. Dr Coleman recognised that a number of other jurisdictions are considering regulatory controls on nitrous oxide but concluded that "there are no plans in the ACT to introduce new regulations in relation to this product".

91. Dr Coleman further advised that the "HCSD has no specific data on poisonings, hospital presentations, rates of abuse, or relative harm caused by [nitrous oxide] in the ACT and as such, it is difficult to estimate the prevalence of recreational nitrous oxide use". Dr Coleman stated the reason being "[d]ata available to emergency department administrative collection is not specific enough to isolate presentations specifically related to poisoning" due to nitrous oxide.

92. Dr Coleman also noted that "health surveys generally capture [nitrous oxide] use under 'inhalant' more broadly" and drew attention to the 2022/23 Australian Secondary School Students Alcohol and Drug Survey which found 20% of ACT students aged 12-17 years reported inhalant use in their lifetime.

93. Although not prompted to, Dr Coleman did not reference any educational material available in the ACT for parents, teachers or retailers raising awareness about the regulation of, or risks associated with, nitrous oxide consumption nor its potential to cause driver impairment.

**Recommendations**

94. Nitrous oxide use requires a multifaceted response, targeting supply, demand and harm reduction.[34] Other jurisdictions in Australia have implemented or advanced consideration of reforms in response to the harms arising from nitrous oxide use and VSU more broadly. Legislation targeting supply of nitrous oxide forms just one part of an effective response to reducing harm and increasing public safety.

95. The ACT does not appear to have sufficient data available to determine the prevalence of non-therapeutic nitrous oxide use in the ACT, nor the prevalence of its associated incidents of harm. The accident, in which MK was involved, is the first recorded fatal motor vehicle accident in the ACT where nitrous oxide impairment significantly contributed. However, in the absence of reliable prevalence data in relation to nitrous oxide use in the community, it may not be the only instance of nitrous oxide impairment causing or contributing to a motor vehicle accident in the ACT.[35]

96. Nitrous oxide use is a matter of public safety and I make the following observations and three recommendations:[36]

    (i) The non-therapeutic use of nitrous oxide, particularly among young people, is of concern in the ACT. MK clearly began consuming nitrous oxide below the age of 18. Although it is not clear where MK sourced nitrous oxide from, a large nitrous oxide cannister was located in MK's vehicle.

> Consistent with developments in other jurisdictions, I recommend a review of the current regulatory framework in the ACT be undertaken which includes, but is not limited to, a consideration of how the ACT may:
>
> (a) limit the availability of large nitrous oxide cannisters for non-therapeutic use; and

[34] Available at: https://vsu.mhc.wa.gov.au/.
[35] *Nitrous Oxide Reforms* (n 2) [4.3.3] "The use of nitrous oxide seen in impaired drivers is likely to be an underestimate of the extent of nitrous oxide use."
[36] s 57(4) of the Act requires a report that contains recommendations on a matter of public safety to be presented to the Attorney General.

(b) prohibit supplying persons below the age of 18 with nitrous oxide for non-therapeutic use.

(ii) The lack of data available to the HCSD as to health presentations related to nitrous oxide is concerning. The current data in the ACT does not provide an accurate representation of substance use in the community, without which effective policy cannot be implemented. Moreover, the ACT cannot contribute meaningfully to national databases.

I recommend the HCSD in consultation and collaboration with other agencies, including but not limited to the ACT Ambulance Service and the Australian Federal Police, develop a database of nitrous oxide related presentations to emergency services in the ACT.

(iii) At present, and appropriately, education is not the strategy currently employed to address VSU in Australia.[37] Any education directed towards young people should be part of a targeted approach for those already engaging in nitrous oxide use. Nonetheless, knowledge of nitrous oxide use and its associated harms appears to remain low among key stakeholders including parents, teachers, frontline workers and retailers.

I recommend that the ACT consider developing, in collaboration with key stakeholders, a resource of targeted educational material addressing the risks of nitrous oxide use.

## Decision to Dispense with a Hearing

97. Pursuant to section 34A of the Act I am satisfied that the manner and cause of MK's death were sufficiently disclosed, and, as such, a hearing is not required.

98. I informed MK's family of my decision to dispense with a hearing on 4 March 2026. I provided them with a copy of my provisional findings and invited them to comment.

## Condolences and Postscript

99. MK was a young man at the beginning of his adult life and his death is a tragedy.

100. MK's family describe MK as a hard-working, compassionate and caring person. He was deeply loved by his family, friends and wider community and will continue to be sorely missed by his family to whom I extend my condolences.

[37] *Bradley Hope* (n 7), [189].

101. I sincerely apologise to MK's family for the delay in finalising the inquest and I thank them for their ongoing engagement with the coronial process despite difficult delay.

I certify that the preceding one hundred and one [101] numbered paragraphs are a true copy of the Reasons for Findings of his Honour Coroner Archer.

Associate to Coroner Archer

Date: 8 April 2026