IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

COR 2023 002206

FINDING INTO DEATH WITHOUT INQUEST

Form 38 Rule 63(2)

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

Findings of:	Coroner Simon McGregor
Deceased:	K M
Date of birth:	24 May 2004
Date of death:	27 April 2023
Cause of death:	1(a) Drug toxicity (3,4-methylenedioxy-nmethylamphetamine (MDMA), methylone)
Place of death:	The Royal Melbourne Hospital, 300 Grattan Street, Parkville, Victoria, 3052
Keywords:	Drug toxicity, unintentional overdose, MDMA, music festival

INTRODUCTION

1. K M was 18 years old when he died at the Royal Melbourne Hospital on 27 April 2023, five days after collapsing at a music festival. At the time of his death, K M lived at [redacted] with his father, O W M.

2. K M was of Vietnamese heritage and was the only child of O W M and B D. K M's parents divorced in 2010 when he was five years old and thereafter he was raised by his father.[1] At the time of his passing, K M was halfway through a carpentry apprenticeship and led an active life, regularly attending the gym. Aside from mild asthma, he had been in good health and had no recorded history of mental health difficulties.[2]

3. The extent of K M's drug use is not known. K M's father stated he had tried his best to shield K M from negative influences and to warn him about the dangers of drugs.[3] K M's girlfriend, S, stated that K M had taken drugs in the past, and she believed he had started experimenting with 3,4-Methylenedioxy-N-Methylamphetamine (**MDMA**) in early 2023.[4]

4. Those close to K M described him as a funny and caring person who was filled with positivity. He enjoyed cars, video games and cooking, and had a large group of close friends.[5]

THE CORONIAL INVESTIGATION

5. K M'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.

6. 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.

[1] Coronial brief, statement of O W M dated 27 August 2023.
[2] Coronial brief, statement of O W M dated 27 August 2023.
[3] Coronial brief, statement of O W M dated 27 August 2023.
[4] Coronial brief, statement of S dated 11 October 2023.
[5] Coronial brief, statement of O W M dated 27 August 2023; statement of S dated 11 October 2023; statement of Luke Tran dated 23 November 2023.

7. 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.

8. Victoria Police assigned Detective Senior Constable Kuo-Wei Lo to be the Coroner's Investigator for the investigation of K M's death. Detective Senior Constable Lo conducted inquiries on my behalf, including taking statements from witnesses – including family, friends, the forensic pathologist and treating clinicians – and submitted a coronial brief of evidence.

9. This finding draws on the totality of the coronial investigation into the death of K M 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.[6]

10. In considering the issues associated with this finding, I have been mindful of K M's human rights to dignity and wellbeing, as espoused in the *Charter of Human Rights and Responsibilities Act 2006*, in particular sections 8, 9 and 10.

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

Circumstances in which the death occurred, pursuant to section 67(1)(c) of the Act

11. On 22 April 2023, a music festival called 'Dreamstate' was held at Flemington Racecourse from 2:00 pm to 10:00 pm. Records from the venue indicate that 9,873 people attended the event. K M's father dropped K M and his girlfriend S at the event, where they met up with friends.

12. At some point in the afternoon, K M purchased MDMA capsules from someone at the festival, though it was unable to be established when or where, as he was alone when he obtained

[6] 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.

them.[7] Friends later reported to medical staff that K M consumed three MDMA tablets that night, at one-hour intervals, starting at 5:00 pm.[8]

13. S stated she did not notice anything wrong with K M other than that he was sweating a lot.[9] Shortly before 9:20 pm, K M was witnessed by a friend to be in a distressed state and was assisted to the St John Ambulance medical tent. [10] He collapsed near the medical tent and was assisted via wheelchair to the St John Ambulance medical tent by volunteer first responders.[11]

14. At 9:20 pm, K M arrived at the medical tent in an unconscious state. He almost immediately stopped breathing and entered into cardiac arrest. Cardiopulmonary resuscitation (**CPR**) was commenced. The Senior Doctor in Charge, Consultant Emergency Physician Dr Martin Dutch, was alerted to K M's arrival and attended immediately. A defibrillator was applied, but the rhythm analysis monitor showed a non-shockable rhythm. Dr Dutch inserted a supraglottic airway and CPR was continued.[12]

15. At 9:28 pm, the monitor showed ventricular fibrillation and the first shock was delivered by the defibrillator. At 9:30 pm, a second shock was delivered with 1mg of adrenaline given intravenously. At 9:32 pm, Dr Dutch was successful in placing an endotracheal tube. At 9:33 pm, the third shock was delivered with another 1mg of adrenaline intravenously.

16. CPR was continued at all times between defibrillations and K M's pulse was consistently monitored, but he remained in cardiac arrest. At 9:37 pm, the fourth defibrillator shock was delivered, and Dr Dutch performed a point of care ultrasound examination to look for reversible causes of cardiac arrest. K M was noted not to have a pneumothorax, not to have a cardiac tamponade, not to have a catastrophic aortic pathology and no significant intra-peritoneal haemorrhage. No medically or surgically reversible cause of cardiac arrest was identified on ultrasound. CPR was again recommenced.[13]

17. At 9:39 pm, K M was found to have a pulse, having been in cardiac arrest for 17 minutes.[14]

[7] Coronial brief, statement of S dated 11 October 2023.
[8] Coronial brief, statement of Dr Shyamala Sriram dated 20 October 2023.
[9] Coronial brief, statement of S dated 11 October 2023.
[10] Coronial brief, statement of Dr Shyamala Sriram dated 20 October 2023.
[11] Coronial brief, statement of Dr Martin Dutch dated 25 August 2023.
[12] Ibid.
[13] Ibid.
[14] Ibid.

18. K M was administered adrenaline boluses to support his low blood pressure. He was identified as having low blood pressure with low glucose level and was treated with a glucose infusion and further adrenaline. He was also noted to be in a hyperthermic state (38.7℃).

19. Dr Dutch noted that at this time there was already marked changes in K M's biochemistry, with evidence of 'a severe mismatch between the need to supply vital glucose and oxygen to cells throughout his body, and what as able to be supplied during the events preceding and including his cardiac arrest'.[15]

20. At approximately 9:43pm, K M was connected to a mechanical ventilator and officially handed over to Ambulance Victoria paramedics at 10:02pm for transport to the Royal Melbourne Hospital.[16]

21. K M arrived at the Royal Melbourne Hospital at 12:10am on 23 April 2023. He was later transferred to the Intensive Care Unit, where he was monitored on life support, but his condition continued to deteriorate.[17]

22. On 27 April 2023, spectroscopic imaging showed no evidence of brain perfusion, indicating brain death. Life support was switched off and K M was declared deceased at 5:09 pm.

Identity of the deceased

23. On 28 April 2023, K M, born 24 May 2004, was visually identified by his father, O W M.

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

Medical cause of death

25. Forensic Pathologist Dr Hans de Boer from the Victorian Institute of Forensic Medicine conducted an autopsy on 3 May 2023 and provided a written report of his findings dated 12 July 2023.

26. The autopsy revealed no evidence of violence or injury that could have caused or contributed to death.

[15] Ibid.
[16] Ibid.
[17] Coronial brief, statement of Dr Shyamala Sriram dated 20 October 2023.

27. Toxicological analysis of ante-mortem samples obtained at the time of K M's admission to the Royal Melbourne Hospital on 22 April 2023 identified the presence of methylone[18] and a very high level of 3,4-Methylenedioxy-N-Methylamphetamine (MDMA)[19] (~1.2 mg/L). Alcohol and gamma hydroxybutyrate were not detected. Fentanyl and midazolam were identified, consistent with use in the setting of medical intervention.

28. Dr de Boer opined that the level of MDMA detected was consistent with excessive use, and sufficient to explain death in the absence of other contributing factors.

29. Dr de Boer further noted the presence of methylone, another stimulant drug with some effects similar to MDMA, though he did not make any specific comment about the nature of its contribution to K M's death because methylone is still not a well understood drug. Methylone belongs to the synthetic cathinone class of new psychoactive substances, which has risen to prominence in Australia and internationally over the past decade. Synthetic cathinones have been found to play a contributory role in at least 17 Victorian overdose deaths since 2013. Available evidence in some of these deaths indicates the deceased likely consumed a substance that contained synthetic cathinones while believing the substance was something else, such as MDMA. One such death, involving a combination of MDMA and synthetic cathinones, was the subject of my colleague Coroner Sarah Gebert's recently published *Finding into death without inquest of Mr P*.[20]

30. At autopsy, Dr de Boer also found that K M had an anomalous configuration of coronary arteries, with a high take-off of the right and left coronary arteries, and abnormal origin of the right coronary artery, with a partial inter-arterial course between the pulmonary artery and aorta. He explained that this variant has been associated with compression of the right coronary artery, which may cause an oxygen deficit in its territory, and that clinical presentation is highly variable. In some cases, patients experience no symptoms, while others experience episodes of intermittent chest pain and, in rare cases, it may cause sudden cardiac death. Dr de Boer further explained that stimulant drug use increases heart rhythm and could therefore lower the threshold for ischaemia.[21] He opined that it could not be excluded that the coronary artery abnormality contributed to the mechanism of death.

[18] A psychoactive illicit drug closely related to MDMA, but with milder effects.
[19] An amphetamine derivative used for its euphoric and entactogenic effects. It is a common illicit drug of abuse.
[20] Coroners Court of Victoria, Coroner Sarah Gebert, 20 May 2022.
[21] When the heart is starved of oxygen due to insufficient blood supply.

31. Dr de Boer provided an opinion that the medical cause of death was 1(a) drug toxicity (3,4-methylenedioxy-nmethylamphetamine (MDMA), methylone).

32. I accept Dr de Boer's opinion.

FAMILY CONCERNS

33. In the course of my investigation, K M's mother, B, expressed concerns about the appropriateness of the medical care K M received when he first arrived at the St John Ambulance medical tent,[22] and raised questions about the possibility that the MDMA K M had taken was adulterated or contaminated.[23]

Medical care

34. In his statement to the court, Dr Dutch sets out a detailed timeline of the medical care K M received under the care of St John Ambulance medical staff. It is clear from that evidence that CPR was commenced immediately upon K M entering cardiac arrest, and that medical personnel then made every effort to revive him and urgently deliver him to hospital care. They did so in difficult circumstances, without the benefit of time to take any substantive medical history. I am satisfied that both St John Ambulance and Royal Melbourne Hospital medical personnel acted in K M's best interests and provided medical care that was reasonable and appropriate.

Adulteration of illicit drugs

35. In this case, police were notified of K M's passing at the Royal Melbourne Hospital some five days after his collapse at the music festival and were therefore not in a position to analyse the drugs he had taken. Attending paramedics and medical staff did not report finding any tablets or capsules in K M's possession.

36. However, the circumstances of K M's death are sadly far from unique and once again highlight the serious risk associated with consuming substances obtained from unregulated drug markets. As has been examined by a number of Victorian coroners, capsules and tablets such as those K M ingested can contain unexpected substances in terms of both composition and dose strength, creating a heightened risk of adverse events causing harm such as an overdose.

[22] Phone contact with Coroners Court of Victoria Family Liaison Officer on 17 July 2023.
[23] Coronial brief, statement of O W M dated 27 August 2023.

Victorian Coroners have previously concluded that the risk of further deaths in similar circumstances could be reduced if a drug checking service was introduced in Victoria.[24]

37. This issue was most recently addressed by State Coroner, Judge John Cain in *Finding into Death of Mr P without Inquest* (25 August 2023), in which his Honour investigated the death of a young man who died as a result of mixed drug toxicity after ingesting cocaine and an MDMA pill described as a 'Blue Punisher' at a music festival. In that matter, Judge Cain again recommended the introduction of a drug checking service in Victoria, explaining that:

> *A drug checking service (also known colloquially as a pill testing service) enables a person who obtains a substance from an unregulated drug market to submit a sample, where it is analysed to establish what it contains. This information can then be used to deliver harm reduction interventions such as education to the individual who submitted the substance. Additionally, when particularly risky substances are detected during testing, more general warnings can be disseminated publicly through a drug early warning system (usually a website or app or other online resource) so the broader community of people who use drugs are aware of the potential dangers.*[25]

38. While there is no evidence before me as to the particular composition or potency of the capsules K M ingested, I note that a properly equipped drug checking service can analyse submitted samples and establish not only their contents, but also the purity of the contents.[26] It is possible that the capsules K M consumed contained a higher dose of MDMA than he expected. It is also likely that these capsules contained methylone, a stimulant of the synthetic cathinone class that has been implicated in other Victorian overdose deaths in recent years. In either case, staff at a drug checking service could have advised K M of the capsules' contents and the potential risks of ingesting them, as well as how to recognise and respond to these risks, giving K M information he needed to make better informed and safer choices about his drug use.

39. I cannot be certain that, had a drug checking service existed, K M would have used that service, or indeed changed his drug consumption behaviour on the basis of any information gleaned, but such a service would at least have provided the opportunity for him to do so and for him to receive tailored harm reduction information from the drug checking facility.

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[24] See *Finding into the death of Mr P without inquest* (Coroners Court of Victoria, Coroner Sarah Gebert, 20 May 2022); *Finding into the death of Mr S without inquest* (Coroners Court of Victoria, Coroner Sarah Gebert, 29 April , 2022); *Finding into the death of Anson without inquest* (Coroners Court of Victoria, Coroner Paresa Spanos, 7 April 2021).

[25] *Finding into death of Mr P without inquest* (Coroners Court of Victoria, State Coroner Judge John Cain, 25 August 2023) at [9].

[26] The CanTEST service currently operating in the Australian Capital Territory provides purity information regarding several drugs (including MDMA) in submitted drug samples.

FINDINGS AND CONCLUSION

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

    a) the identity of the deceased was K M, born 24 May 2004;

    b) the death occurred on 27 April 2023 at The Royal Melbourne Hospital, 300 Grattan Street, Parkville, Victoria, 3052, from drug toxicity (3,4-methylenedioxy-nmethylamphetamine (MDMA), methylone); and

    c) the death occurred in the circumstances described above.

41. Having considered all of the circumstances, I am satisfied that K M's death was the unintended consequence of the deliberate ingestion of drugs.

RECOMMENDATIONS

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

    (i) The Secretary to the Victorian Department of Health, as the appropriate arm of the Victorian Government, trial a drug checking service in the State of Victoria to explore the potential to minimise the risks and number of preventable deaths associated with the use of drugs obtained from unregulated drug markets.

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

Pursuant to section 73(1B) of the Act, I order that this finding be published on the Coroners Court of Victoria website in accordance with the rules.

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

O W M, Senior Next of Kin

B D, Senior Next of Kin

Dr Martin Dutch, Royal Melbourne Hospital

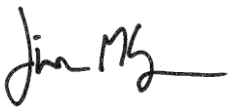
Andrew Mariadason, Royal Melbourne Hospital

Elizabeth Treasure, DonateLife Victoria

Prof Euan Wallace, Secretary to the Department of Health

Senior Constable Kuo-Wei Lo, Coroner's Investigator

Signature:



Coroner Simon McGregor

Date: 13 March 2024

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.