



IN THE CORONERS COURT  
OF VICTORIA  
AT MELBOURNE

Court Reference: COR 2016 5077

**FINDING INTO DEATH WITHOUT INQUEST**

*Form 38 Rule 60(2)*

*Section 67 of the Coroners Act 2008*

Findings of:	Caitlin English, Deputy State Coroner
Deceased:	Baby M
Date of birth:	30 June 2016
Date of death:	25 October 2016
Cause of death:	1(a) Unascertained in the setting of detected methamphetamine
Place of death:	Dales Creek, Victoria

## **HER HONOUR:**

### **Background**

1. Baby M was born on 30 June 2016 at 36 weeks gestation via caesarean. He was nearly four months old when he died.
2. Baby M lived in Dales Creek with his parents, Ms C and Mr D, and older brother. The family lived in a caravan at the rear of a property owned by Mr D's parents.
3. After Baby M was born, he was breastfed for approximately six weeks before being transitioned to formula. His parents stated that he took to the bottle well and was fed approximately five to six times per day, consuming approximately 125 ml each time. He slept well in a bassinet located at the end of his parents' bed.
4. Baby M was found pale and cold in his bassinet on the morning of 25 October 2016. He was unable to be revived.

### **The coronial investigation**

5. Baby 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. Coroners independently investigate reportable deaths to find, if possible, identity, medical cause of death and with some exceptions, surrounding circumstances. Surrounding circumstances are limited to events which are sufficiently proximate and causally related to the death. Coroners make findings on the balance of probabilities, not proof beyond reasonable doubt.<sup>1</sup>
7. The law is clear that coroners establish facts; they do not cast blame, or determine criminal or civil liability.
8. Under the Act, coroners also have the important functions of helping to prevent deaths and promoting public health and safety and the administration of justice through the making of

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<sup>1</sup> In the coronial jurisdiction facts must be established on the balance of probabilities 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.

comments or recommendations in appropriate cases about any matter connected to the death under investigation.

9. Coroner Rosemary Carlin initially had carriage of this investigation. Victoria Police assigned an officer to be the Coroner's Investigator for the investigation into Baby M's death. The Coroner's Investigator investigated the matter on Coroner Carlin's behalf and submitted a coronial brief of evidence.
10. After considering all the material obtained during the coronial investigation, Coroner Carlin determined that she had sufficient information to complete her task as coroner and that further investigation was not required.
11. In September 2019, Coroner Carlin was appointed to the County Court and I took over carriage of this matter for the purposes of finalising this finding.
12. 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.

#### **Identity of the deceased**

13. Baby M was visually identified by his grandfather on 25 October 2016. Identity was not in issue and required no further investigation.

#### **Medical cause of death**

14. On 27 October 2016, Dr Essa Saeedi, Forensic Pathology Trainee (supervised by Dr Matthew Lynch, Senior Forensic Pathologist), at the Victorian Institute of Forensic Medicine, conducted an autopsy upon the body of Baby M and reviewed a post mortem computed tomography (CT) scan.
15. The autopsy revealed a number of injuries, including bruising and abrasions on Baby M's face. The bruising may have been sustained hours prior to death, but a remote time frame could not be excluded. The injuries could have been acquired by blunt trauma or as a consequence of resuscitation.
16. A healing ulcer was noted to the left of the upper frenulum. The well-established healing indicated it was a few weeks old.

17. Toxicological analysis of post mortem specimens taken from Baby M identified methylamphetamine and amphetamine<sup>2</sup> in his blood and hair. Methylamphetamine was also found in two exhibits, being one plastic baby bottle containing white liquid, and a plastic container containing unknown liquid and a baby's bottle.
18. Dr Saeedi noted that the detection of methylamphetamine in Baby M's blood confirmed antemortem exposure to the drug, which may be passively acquired via inhalation of the drug from the environment or via ingestion of contaminated bottle contents. Dr Saeedi noted that the drug is subject to significant post mortem redistribution after death leading to elevations in the blood concentration, which can exceed two-fold or more, which make the levels uninterpretable. The effect of this drug on infants is unknown due to the lack of scientific literature/studies that address this issue.
19. There was no post mortem evidence of any other injuries that may have caused or contributed to Baby M's death.
20. I note that Dr Saeedi stated that Baby M's death did not satisfy the diagnostic criteria for sudden infant death syndrome (SIDS) due to his injuries and the detection of methylamphetamine in his blood and hair.
21. After reviewing toxicology results, Dr Saeedi completed a report, dated 7 April 2017, in which he formulated the cause of death as "1(a) Unascertained". As part of my investigation, I consulted with Dr Lynch regarding the amendment of the case of death. Whilst I am satisfied that the evidence does not establish the methylamphetamine as casual, the significant adverse effects of methylamphetamine should be acknowledged. In consultation with Dr Lynch, I have therefore amended the cause of death to '1(a) Unascertained in the setting of detected methylamphetamine.'

### ***Expert report***

22. Dr Dimitri Gerostamoulos, Head of Forensic Science and Chief Toxicologist at the Victorian Institute of Forensic Medicine, provided an expert report regarding the effect of the methylamphetamine found in Baby M's blood and hair.

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<sup>2</sup> Amphetamines is a collective word to describe central nervous system stimulants structurally related to dexamphetamine. One of these, methamphetamine, is often known as 'speed' or 'ice', which is a strong stimulant. Amphetamine is also a metabolite of methamphetamine, benzphetamine, and selegiline. Amphetamines stimulate the central nervous system, causing persons to become hyperactive and more aroused. Blood pressure and heart rate are also increased.

23. He stated that children may be harmed directly or indirectly from exposure to methylamphetamine. Depending on the amount ingested, adverse effects may include agitation, crying, vomiting, tachycardia, hyperthermia, and rhabdomyolysis. Due to the lack of relevant pharmacological information, it is not possible to predict the toxic effects from a blood concentration for methylamphetamine in infants.
24. Dr Gerostamoulos noted that the concentration of 0.1 mg/L methylamphetamine and 0.3 mg/L of amphetamine detected in Baby M's blood was most likely consistent with oral ingestion of methylamphetamine/ amphetamine. As the blood sample was a cavity sample, it is subject to redistribution. Therefore, the interpretation is limited as to the significance of the drugs detected.
25. There are few published scientific reports of deceased infants or children with methylamphetamine/ amphetamine. In a review of eight cases of foetal and infant deaths associated with methylamphetamine use, the mean concentration was 0.36 mg/L for methylamphetamine and 0.05 mg/L for amphetamine. Only one of these deaths was directly attributed to methylamphetamine (methylamphetamine concentration of 0.03 mg/L). I am not aware as to how the causal link was established in that case.
26. Dr Gerostamoulos noted there was methylamphetamine and amphetamine detected in the exhibits submitted for analysis, as noted above. Oral consumption of these were possible sources for the explanation of methylamphetamine in Baby M.
27. There was no methylamphetamine or amphetamine detected in Baby M's stomach contents. The drugs may have been metabolised and no longer in the stomach contents or at a concentration that could not be detected by the laboratory.
28. Dr Gerostamoulos noted there was also methylamphetamine and amphetamine detected in Baby M's hair. This could be due to environmental contamination where methylamphetamine was used by adults in his vicinity, exposure in-utero, or as a result of previous ingestion of methylamphetamine.
29. Dr Gerostamoulos explained that in general, infants and young children cannot metabolise drugs fully and as a result drugs have greater potency. Methylamphetamine is metabolised by certain enzymes that are not fully formed in children until one or two years of age.

Hence, the administration or consumption of a drug can have significant effects on an infant or child that cannot metabolise or clear a drug normally.

30. Dr Gerostamoulos concluded that there are significant risks for infants or children ingesting drugs such as methylamphetamine or amphetamine. These can result in adverse or toxic effects and death.

#### **Circumstances in which the death occurred**

31. At approximately 6.15am on the morning of 25 October 2016, Mr D returned from a night out. Ms C was asleep on the lounge. Baby M's older brother was asleep on the bed and Baby M was awake in his bassinet, kicking his legs.
32. Mr C fed Baby M some pre-prepared formula, but Baby M only consumed about 40 ml. Mr C thereafter settled him in his bassinet on the bed. Mr C went to sleep on the bed.
33. At approximately 8.15am, Ms D found Baby M cold and pale in his bassinet and started screaming. Mr C picked Baby M up and initially attempted to perform cardiopulmonary resuscitation before taking him to the main house. Ms D called emergency services and performed cardiopulmonary resuscitation under the instruction of the emergency call taker.
34. When paramedics arrived, they confirmed that that Baby M had passed away. He was thereafter taken to the Royal Children's Hospital.

#### ***Victoria Police investigation***

35. After Baby M's death, Detective Senior Constable John Hageman and Detective Senior Constable Stuart Grimley attended the caravan to conduct an investigation in line with sudden unexpected death of an infant (SUDI) guidelines. At this time, the bottle from which Baby M was last fed was seized and sent for forensic examination.
36. On 14 November 2016, Mr C and Ms D attended the Bacchus Marsh Police Station and provided statements in relation to Baby M's death. Both parents denied using methylamphetamine but stated that they socialised with people who did, and that Baby M must have been exposed to methylamphetamine through those interactions.

37. Mr C stated that they took steps to ensure their children were not exposed when they were around people using methylamphetamine, such as keeping Baby M outside or having the drug users move to a separate room. Mr C admitted that Baby M was likely exposed to:

*... meth smoke probably every second day when visiting family and friends. We were both wary about the kids being exposed to the meth smoke and thought that we were protecting them from exposure by not being too close to it. Pretty much everyone we visited during the time [Baby M] was alive was smoking ice ...*

38. In contrast, Ms D stated that when she visited other people, she did not see any drug use.

39. Both parents confirmed that Baby M had not left their care for any length of time.

40. On 24 November 2016, Detective Senior Constable Hageman and Sergeant Troy Morrow attended the caravan with crime scene officers to execute a search warrant for the purposes of a forensic examination. A number of swabs were taken from around the interior of the caravan. All of the swabs – except for those taken from Baby M’s bassinet – tested positive for methylamphetamine.

41. On 12 September 2017, Mr C was arrested and interviewed in relation to Baby M’s death. He maintained that neither he nor Ms D used methylamphetamine and that he had no explanation for the drug being in Baby M’s body, other than that they had socialised with drug users and it must have occurred through that contact. In relation to the forensic examination detecting methylamphetamine around the caravan, Mr C explained that people had used the caravan after they moved out on the day of Baby M’s death.

42. Mr C was released from custody pending enquiries.

43. On 13 September 2017, Ms D was interviewed at the Bacchus Marsh Police Station in relation to Baby M’s death. She also denied that she and Mr C had used methylamphetamine. She could not explain the results of the forensic examination but nominated four people who may have exposed her children to methylamphetamine.

44. Ms D was released pending further enquiries.

45. In November 2017, police interviewed two of the four people that Ms D said may have exposed her children to methylamphetamine. Both stated that they had observed both Mr C and Ms D use drugs around either one or both of the children.
46. The criminal investigation was referred to the Office of Public Prosecutions but charges in relation to Baby M's death were not recommended.

### **Findings**

Pursuant to section 67(1) of the *Coroners Act 2008* I find as follows:

- (a) the identity of the deceased was Baby M, born 30 June 2016;
- (b) Baby M died on 25 October 2016 at Dales Creek, Victoria, from an unascertained cause in the setting of detected methylamphetamine; and
- (c) the death occurred in the circumstances described above.

### **Comments**

Pursuant to section 67(3) of the Act, I make the following comments connected with Baby M's death:

1. I am satisfied that the methylamphetamine and amphetamine found in Baby M's body was due to exposure during his young life. I cannot say whether the exposure is attributable solely to one parent or both or their acquaintances.
2. I am therefore unable to be satisfied as to how or when Baby M ingested methamphetamine/ amphetamine.
3. Given the advice from Dr Saeedi and Dr Gerostamoulos, I cannot be satisfied as to whether Baby M's exposure to methylamphetamine/ amphetamine directly contributed to his death.
4. I note that the criminal investigation has already been referred to the Office of Public Prosecutions and charges were not recommended. I therefore see no need to refer this matter pursuant to section 49(1) of the Act.



5. As part of my investigation into Baby M's death, I requested data from the National Coronial Information System (NCIS) regarding other Australian cases where an infant died of unascertained causes *and* toxicology analysis showed the presence of amphetamine.
6. The NCIS identified 18 deaths between 2013 and 2018. The highest number of deaths in any one year was five (in 2014 and 2016). Four such deaths occurred in Victoria. In one of those four cases, amphetamine and methylamphetamine was found in the baby's blood, which was acquired in utero due to the mother's drug use.
7. I also note that I have recently finalised the *Finding into Death Without Inquest into the death of Maddox Garry Wheeler*.<sup>3</sup> In that case, methylamphetamine was detected in post mortem samples of Baby Maddox's hair and blood, indicating exposure during life. As here, the association between methylamphetamine and death could not be determined. In that case, I could only make a recommendation regarding safe sleeping guidelines.
8. During the years I have served as a Victorian Coroner, I have become increasingly concerned by the growing number of deaths I investigate that occur in a context of methamphetamine use. These include both deaths where methamphetamine use is a direct causal factor (for example methamphetamine-involved overdoses, and motor vehicle collisions involving methamphetamine-affected drivers), and deaths where use of the drug is a relevant stressor affecting the mental and physical health of the deceased as well as their relationships with partners and family and friends.
9. What is even more concerning is that infants and children are also being exposed to their parents' methamphetamine use. Due to limited research, the exact effect of methylamphetamine on infant and child health is unknown, but the effects, both emotionally and physically, are indisputably negative. As Dr Gerostamoulos noted, physical adverse effects included agitation, crying, vomiting, tachycardia, hyperthermia, and rhabdomyolysis.
10. I note that my anecdotal observations regarding methamphetamine involvement in Victorian deaths are reflected in a range of evidence showing that the burden of methamphetamine-related mortality has increased substantially over the past decade:
  - (a) a 2014 Coroners Prevention Unit data summary prepared for the Parliament of Victoria's Law Reform, Drugs and Crime Prevention Committee, showed that

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<sup>3</sup> COR 2016 0318, finding dated 11 December 2019.

between 2009 and 2013 the annual frequency of deaths reported to the Coroners Court of Victoria where methamphetamine was detected more than doubled, from 66 deaths in 2009 to 166 deaths in 2013;<sup>4</sup>

- (b) a subsequent national study found that the rate of methamphetamine-related deaths across Australia doubled during the period 2009-2015;<sup>5</sup> and
- (c) Victorian Coronial data shows that between 2009 and 2016, the annual frequency of overdose deaths involving methamphetamine rose from 23 to 119. There was a subsequent decline to 93 deaths in 2017, however despite this decline methamphetamine was still the third most frequent contributing drug (after diazepam and heroin) in 2017.<sup>6</sup>

11. The increase in methamphetamine-related deaths – and harms more broadly – has been accompanied by an increase in community efforts to understand and address them. Key developments have included:

- (a) the Law Reform, Drugs and Crime Prevention Committee commenced its *Inquiry into the Supply and Use of Methamphetamines, particularly 'Ice', in Victoria* in 2013, and delivered its Final Report in September 2014. The Final Report contained 54 recommendations;
- (b) these recommendations were considered by the Victorian Government's Ice Action Taskforce, which developed an Ice Action Plan (released on 5 March 2015) to coordinate the response to methamphetamine-related harms;
- (c) the Ice Action Plan in turn informed the development of the Victorian Drug Rehabilitation Plan, launched in October 2017. This maintained the importance of addressing methamphetamine-related harms, while also expanding the focus to encompass other illegal drugs as well as misuse of pharmaceutical drugs;

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<sup>4</sup> The Coroners Prevention Unit data summary was provided as a submission to the Law Reform, Drugs and Crime Prevention Committee's methamphetamine inquiry, and appended to the Committee's final report in this inquiry. See Law Reform, Drugs and Crime Prevention Committee, *Inquiry into the Supply and Use of Methamphetamines, particularly 'Ice', in Victoria - Final Report*, Melbourne: Parliament of Victoria, September 2014, volume 2 of 2, pp.787-799.

<sup>5</sup> Darke S, Kaye S, Dufrou J, "Rates, characteristics and circumstances of methamphetamine-related death in Australia: a national 7-year study", *Addiction*, 2017, doi: 10.1111/add.13897.

<sup>6</sup> Jamieson A, *Finding without inquest into the death of Samuel Jack Morrison*, Court Reference COR 2016 2730, 6 August 2018.

- (d) in parallel with these Victorian initiatives, the Australian Government also took steps to address methamphetamine harms, announcing its National Ice Action Taskforce in April 2015 and National Ice Action Strategy in December 2015. The National Strategy included funding for programs over a four-year period.
12. Given this significant activity at both a state and federal level, my sincere hope is that over time I will see a decrease in methamphetamine use among the deaths I investigate. And, in correlation, I sincerely hope I see a marked decrease or complete eradication of infant deaths where methylamphetamine has been detected in post mortem toxicological analysis.
  13. The decline between 2016 and 2017 in methamphetamine involvement in Victorian overdose deaths was a positive sign, though it is still far too early to conclude that this was a 'turning point' as opposed to an anomaly or temporary decline.
  14. Some time ago I directed the Coroners Prevention Unit to continue monitoring methamphetamine involvement among deaths reported to the Coroners Court of Victoria, so we can gain further insight into whether current state and federal initiatives are having an impact on the drug's harms. I now direct the Coroners Prevention Unit to monitor deaths of all Victorian infants and children where methylamphetamine is detected in post mortem toxicological analysis and to make this data available to researchers with the aim of determining the effect of this abhorrent drug on infants and children.

I direct, pursuant to section 49(2) of the Act, that the Principal Registrar notify the Registrar of Births Deaths and Marriages of the prescribed particulars in this finding and accordingly amend the currently registered cause of death to better reflect the circumstances in which Baby M died. Namely, '1(a) Unascertained in the setting of detected methylamphetamine'.

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

Ms D, Senior Next of Kin  
Mr C, Senior Next of Kin  
Royal Children's Hospital  
Commissioner for Children and Young People  
Council on Obstetric and Paediatric Mortality and Morbidity  
Brendan Annear, Claudia Grimberg Lawyers

Registrar of Births Deaths and Marriages

Sergeant John Hageman, Coroner's Investigator, Victoria Police

Signature:

*C. English*

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**Caitlin English**  
**Deputy State Coroner**  
Date: 28 April 2020

