STATE CORONER'S COURT
OF NEW SOUTH WALES

Inquest:	Inquest into the death of six patrons of NSW music festivals, Hoang Nathan Tran Diana Nguyen Joseph Pham Callum Brosnan Joshua Tam Alexandra Ross-King
Hearing dates:	8 – 19 July 2019, 10 – 13 September 2019, 19 – 20 September 2019
Date of findings:	8 November 2019
Place of findings:	NSW State Coroner's Court, Lidcombe
Findings of:	Magistrate Harriet Grahame, Deputy State Coroner
Catchwords:	CORONIAL LAW – Manner of death, death at music festival, MDMA toxicity, harm minimisation strategies, policing of music festivals, drug checking, drug monitoring schemes, drug education,
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Introduction

1. This inquest[1] examined the deaths of six young people. Hoang Tran (known as Nathan), Diana Nguyen, Joseph Pham, Callum Brosnan, Joshua Tam, and Alexandra Ross-King (known as Alex)[2] died during or just after attending music festivals in NSW during a 13-month period from December 2017 until January 2019. In each case, post mortem toxicology results showed that an amount of the drug MDMA (3,4-methylenedioxymethylamphetamine) was found in their blood at a toxic level, and in one case, mixed drug toxicity (MDMA and cocaine) was recorded as the cause of death. For their families and friends, each death was completely unexpected and profoundly tragic.

2. Nathan, Diana, Joseph, Callum, Joshua and Alex were gifted, vibrant, well connected and very much loved. In a short time, these six young people enriched the lives of their families and friends. Their deaths, at the beginning of adulthood, are also a terrible loss for the whole community. I have no doubt that each would have gone on to make many contributions in their own clever, generous and productive ways.

3. At the outset, I acknowledge their families' pain and once again offer each family my sincere and personal condolences. The court was deeply moved by the grief expressed by parents and by their commitment to engage with the inquest process in an attempt to understand the complex factors which may have contributed to their child's death. The court was also impressed by their clear motivation to help find ways that could prevent other families experiencing the pain they bear. They come from different backgrounds and may see different solutions to the issues under investigation, but each family has shown extraordinary grace and courage. They have my full respect.

4. To fully understand why Nathan, Diana, Joseph, Callum, Joshua and Alex died it has been essential to learn as much as possible about their drug use at music festivals and to place that use in a broader context. This process has been a painful one. The illegality of MDMA and other drugs sometimes consumed at music festivals means that open discussion of these issues is often difficult or even impossible. It can be hard for the community to grapple with some of the underlying issues when drug use is illegal and drug users are stigmatised. It is difficult to properly explain the potential risks to young people if our only permissible message is "just say no". While we continue to hide the true extent of drug use, it remains inherently more dangerous. I commend the young people's friends and peers who came forward to assist the court in these difficult circumstances. We need to understand how many young people take drugs and why they do it. We need to understand what is common practice and

[1] In the context of these findings I refer to the proceedings as an inquest, however in reality six separate proceedings have occurred.

[2] As is the custom of this court I will, with family permission, refer to the deceased by their first names.

what risks are known and understood. There is little prospect of meaningful intervention without this kind of important information. As a result of the assistance given, the court was able to understand the circumstances of each death in the context of a substantial and growing body of expert evidence and research.

5. What emerged was in some respects positive. The evidence arising from this inquest clearly indicates that there is much that can be done to prevent MDMA deaths. There are practical solutions to some of the issues identified. However, the evidence draws into clear focus the need for the NSW Government to look with fresh eyes at the potential dangers associated with drug use at music festivals. There is a need to reframe our main priority from reducing drug use to reducing drug death.

6. Much has been done already to improve the emergency health response. This will mean that once patrons are identified as suffering from toxic drug effects they will likely receive better care than was previously available. These changes, driven and implemented by the Ministry of Health, are to be commended. Festival organisers are continuing to review the environmental risks involved. However, much more can be done to prevent this kind of harm arising in the first place. There is no single solution, but there is strong evidence to support a range of initiatives, including drug checking and drug monitoring, strengthening peer support organisations, changing the way festivals are currently policed and improving the safety of the environments where festivals are held.

The evidence

7. The court took evidence over 16 hearing days. The court also received extensive documentary material in 24 volumes, which included witness statements, medical records, photographs and expert reports. In addition, eight research volumes were tendered to provide background and relevant information.[3]

8. A list of issues was prepared before the proceedings commenced. It included:

    - Whether the medical treatment and transfer was adequate and appropriate for all six young people.

    - Whether appropriate and effective harm minimisation strategies were in place at the five festivals.

    - With respect to Nathan:

        - Did the actions of NSW Police and/or security personnel contribute to his cause of death?

        - Were the actions of NSW Police reasonable?

9. I offer specific thanks to the NSW Police Officers in Charge of each of these investigations. They have worked hard to expedite the production of police briefs of evidence for each case. I also thank the Police Force of the Australian Capital Territory (ACT), which provided such important evidence about their own initiatives and procedures. I thank the NSW Ministry of Health, which has taken significant steps since late 2018 to minimise harm at music festivals. I thank the festival promoters and providers who showed interest and cooperated with this inquest.

10. It is impossible to refer in detail to all of the extensive material before the court within the scope of these reasons. However, all the material has been carefully considered and reviewed. The court was particularly concerned that this inquest be finalised quickly so that any recommendations could be provided to government for full consideration before the start of the summer festival season.

[3] Attached to these findings are Appendices which detail the nature of the expertise and research that was gathered.

The scope of the inquest

11. In NSW inquests are routinely dispensed with in the vast majority of drug deaths, where the focus is usually on proximal factors only. This is because the questions a coroner must determine pursuant to section 81 of the *Coroners Act* 2009 (NSW) can be construed fairly narrowly. The coroner is to make findings as to the identity of a nominated person and in relation to the place and date of death. The coroner is also to address issues concerning the manner and cause of the person's death. When interpreted narrowly, these questions may be answered quite simply. The cause of death can be recorded as "drug toxicity" and the manner of death as "accidental drug overdose."

12. A coroner also has powers to make recommendations in relation to matters that have the capacity to improve public health and safety in the future, however these powers only come into play if the matter is ultimately listed for inquest.

13. These six tragic deaths from drug toxicity associated with consumption at music festivals indicated a possible trend of escalating mortality rates worthy of comprehensive coronial review. As a community it is essential that we understand how these deaths occurred and what if anything can be done to reduce the possibility of similar deaths in the future. It was important to carefully examine the manner and cause of each death in some detail, to properly understand the medical cause of death and to review the surrounding and contributing circumstances. At the outset it was important to understand whether these particular deaths were triggered by novel substances, high strength doses or unwanted adulterants. It was important to understand what role environmental factors may have played and how effective the medical response was.

14. During the investigation it became clear that there is a wealth of available information that can assist in understanding the context and circumstances surrounding these deaths. Doctors, scientists, criminologists, health policy professionals and peer workers came forward to share their expertise with the court. Many had been working in their respective fields for decades and can properly be regarded as national and international experts. Many had practical suggestions to save lives based on sound research and on experience both here and overseas. A range of views was sought. The court then had the opportunity to sift through divergent opinions and positions, away from the heated political environment where these debates sometimes take place.

15. The court examined each individual death and took evidence related to the circumstances surrounding it. The court also took evidence that was useful to guide its power to make recommendations pursuant to section 82 of the *Coroners Act*. After some deliberation and consultation with family members, it was determined that these matters should be grouped together for a single inquest, which as well as examining each individual death could attempt

to grapple with some of the broader public health and death prevention issues that might arise from the evidence. That plan was well known to the legal representatives of the parties who had leave to appear. A comprehensive brief was served containing a wealth of cross-disciplinary expert material.

16. There was no argument mounted at the commencement of proceedings in relation to the legitimate scope of this inquest. The Commissioner of Police appeared to accept that drug checking or pill testing, the use of drug detection dogs and other matters such as harm reduction educational strategies were all legitimate issues for consideration. However, at the conclusion of the evidence, submissions were received from the Commissioner of Police stating that the Coroner "has no valid jurisdictional power" to make a recommendation in relation to a single aspect of the inquiry, that is the current practice of strip searching for possession of drugs at music festivals.[4] The Commissioner also submitted that there was no evidentiary basis to support the making of recommendations in relation to strip searching and that the proposed recommendation was impractical, unnecessary and inappropriate.[5]

17. This submission echoed one made and adjudicated towards the end of the inquest in relation to the tender of a report by Dr Michael Grewcock and Dr Vicki Sentas entitled *Rethinking strip searching by NSW Police*.[6] It is noted that at the time this initial objection was made, a considerable body of documentary material and some oral evidence in relation to the practice of strip searching had already been admitted, without objection from the Commissioner or any other party.[7]

18. In short the Commissioner's final submissions once again asserted that the evidence before the court did not establish a sufficient link between the deaths under investigation and the police practice of strip searching. The Commissioner submitted that the issue was not sufficiently linked to the "manner or cause" of any particular death under consideration.

19. As I have already stated, coroners are tasked to make findings in relation to the "manner and cause of deaths". The legislation does not contain a definition of "manner of death." In *Conway* v *Jerram* (2010) 78 NSWLR 371 at [52] in a passage supported by Campbell JA's remarks denying leave to appeal, Barr AJ explained that the phrase "*manner of death should be given a broad construction to enable a coroner to determine by what means and in what circumstances a death occurred*."

[4] Submissions received from NSW Commissioner of Police p 11 [46].
[5] Submissions received from NSW Commissioner of Police.
[6] Exhibit 56.
[7] See for example the expert evidence of Dr Caitlin Hughes (Exhibit 4, Vol. 7 Tabs 105, 106 and 126, Exhibit 28, 17 July 2019 T731.1-756.23); Dr Will Tregoning 19 July 2019 T894.1-912.28; Dr Peta Malins (Exhibit 4, Vol. 7 Tabs 109 and 110, 19 July 2019 T913.1-923.14); Evidence of [redacted] 11 July 2019 T285.1-303.19; Exhibit 4 Vol. 8 Tabs 134 and 137; Exhibit 43.

20. On the application for leave to appeal in *Conway*, Young JA explained that the scope of an inquest is a matter for the coroner to determine and that the appropriate scope depends on all the circumstances of the case [47], while acknowledging that "*a line must be drawn at some point which, even if relevant, factors which come to light will be considered too remote*"[49]. In short, it is well accepted that the question has been described as one of remoteness and one not readily susceptible to easy definition. The issue of remoteness depends on the facts of each case. A common sense approach is sometimes urged.

21. It is also important to note that in Conway, Barr AJ also observed at [63] that "*the power of a coroner to consider matters of public health and safety seems apt to enable the coroner to consider matters outside the scope of what may be considered necessary to determine the manner and cause of death"*.[8] However the power cannot arise until after there is an inquest and there cannot be an inquest unless the evidence justifies it. The Commissioner does not make the submission that an inquest was not justified in this case, just that the consideration of the single issue of strip searching is beyond scope.

22. I have already considered this issue during the proceedings. In the circumstances of this inquest, limited examination of the practice of strip searching at music festivals is within the legitimate scope of my inquiry. I do not intend to restate the reasons previously given in any detail. In my view the issue is directly raised by examination of the concerns held by Alex Ross-King at the time of her entry to the music festival. It is clearly legitimate to examine whether police search practices may have had an effect on her method of consumption. Nevertheless, if I am wrong about that nexus, the evidence is also relevant to my recommendation function. Having commenced this inquest, it is open to this court to consider evidence in relation to a common police practice which some experts state has the potential to increase harm and even death at music festivals. I have carefully considered the submissions provided by those representing the Commissioner and my earlier view as to whether it is appropriate to consider the practice of strip searching at music festivals, in a limited manner, has not changed.

23. While various police practices at music festivals are properly within the purview of this investigation, I should note for completeness that there are many other aspects concerning the regulation of music festivals which are beyond scope. The court has been mindful to consider only matters which relate directly to these deaths and the court's death prevention function. There are many broader regulatory issues concerning music festivals currently under consideration elsewhere. This court has not, for example, embarked on a close

[8] I also note a decision of former State Coroner Magistrate Barnes in this regard. The decision of 5 June 2015, a preliminary decision in the *Inquest into deaths arising from the Lindt café siege* examined whether the examination of bail issues was beyond the permissible scope of the inquest. After a useful summary of the law, His Honour found that there was no basis for concluding that when an inquest is held inquiries cannot be made and evidence called for the sole purpose of recommendations.

examination of many of the issues raised in the recent report produced by the Parliamentary Inquiry into the New Festival Regulations.[9] Various complex licensing issues and user pay cost arrangements, methods for regulators to identify which festivals are "high risk" and similar issues have not been considered. Those matters are beyond the scope of this inquest.

24. The court has also left many important broader issues relating to the consumption of amphetamine-type substances, outside the specific context of music festivals, for the proper consideration of the Special Commission of Inquiry into the Drug "Ice".

[9] Final Committee Report on the Parliamentary Inquiry into the New Music Festival Regulations, Exhibit 44 Tab 8.

Background

25. Each year in Australia there are hundreds of music festivals, showcasing different music and dance genres. The musical styles are diverse, ranging from country and folk music to electronic and dance music. Clearly, different musical styles will attract different patrons and create different atmospheres.

26. The music festivals that the six young adults attended were *Knockout Circuz* within the Sydney Showground; *Defqon.1* at the Sydney International Regatta Centre in Castlereagh; *Knockout Games of Destiny* at Sydney Showgrounds; *Lost Paradise* held at Glenworth Valley; and *FOMO* at Paramatta. They each promote a genre of music that can loosely be described as "electronic dance music", which itself comes in a variety of styles and tempos.

27. These types of music festivals typically attract many young people for a variety of reasons unconnected to the use of illicit drugs. They are vibrant cultural events and provide a place where patrons can dance and socialise in an environment that is stimulating and fun. They commonly showcase top Australian and international artists, so that for the one ticket price, patrons can see a range of acts. Music festivals give young people a chance to socialise face to face, away from smart phones and computer screens, and to meet people from around the world. They become prominent events in the social calendar and something many young people look forward to.

28. While some people may be attracted solely to the music at music festivals, some express a desire to augment their experience with the use of drugs.[10] In this respect Nathan, Diana, Joseph, Callum, Joshua and Alex were not unusual. The evidence revealed that their pattern of use was also likely to be typical. They were keen to have new experiences. They used infrequently on special occasions or when socialising, were not addicted, and had never had reason to seek professional help in relation to their drug use. It appears that each had used MDMA before, without a having a significant negative consequence.

29. Over the summer period of 2018 to 2019, there was a substantial increase in drug-related deaths and harms associated with a number of music festivals in NSW. Dr Kerry Chant, the NSW Chief Health Officer and Deputy Secretary of Population and Public Health at the NSW Ministry of Health, gave evidence about the extent of that increase. From September 2018 to January 2019, five young people lost their lives after consuming drugs at music festivals. To put that in perspective, over the last decade in Australia, around 12 deaths were associated with music festivals, including four festival-related deaths across Australia over the summer

[10] See for example the evidence of drug user experiences contained in Exhibit 3, Vol. 24 Tab 83.

of 2015.[11] Dr Chant identified the number of deaths over the last summer as an unexpectedly marked increase within a short period.

30. In addition to these deaths, a number of people who attended festivals over that period developed serious medical illness requiring hospital admission and intensive care management for drug-related toxicity. For the 25 NSW music festivals held in 2018–19 that have been examined by NSW Health in detail, there were 29 pre-hospital intubations, 25 drug-related intensive care admissions, and at least an additional 23 drug-related hospital admissions.[12] In other words, in addition to the five deaths over the summer period, there were many more "near misses". This evidence highlighted the need for an urgent, holistic review, not just to determine the circumstances of the tragic loss of six young lives, but to consider recommendations to government that could lead to action to reduce the risk of further deaths.

31. The deaths were also put in the context of other deaths that have been reported to a state or territory coroner where the death was drug-related and the deceased had been to a music festival. According to a report produced for the inquest by the National Coronial Information System (NCIS) there were 44 deaths between 2000-2019 "*associated with music festivals*". Not all of these deaths were from toxicity. Some occurred as a result of physical misadventure or intentional self-harm after taking drugs. These statistics do not appear to include Alex Ross-King or Callum Brosnan and do not accord exactly with figures supplied by the NSW Health.[13]

[11] Submission received from Dr Kerry Chant on behalf of NSW Health, Exhibit 3, Vol. 20 Tab 1, p 1.
[12] Submission received from Dr Kerry Chant on behalf of NSW Health, Exhibit 3, Vol. 20 Tab 1, p 1.
[13] "Drug Related deaths associated with music festivals in Australia, 200-2019", Exhibit 4, Research Brief Vol.8, Tab 124

Some common themes

32. Although each of the six deaths had distinctive facts and raise particular concerns, there were a number of shared features. Prior to examining the individual deaths, it is useful to briefly review some of the commonalities which require further consideration.

The type of music festival

33. The five music festivals that the six young adults attended were *Knockout Circuz* within the Sydney Showgrounds; *Defqon.1* at the Sydney International Regatta Centre in Castlereagh; *Knockout Games of Destiny* at Sydney Showgrounds; *Lost Paradise* held at Glenworth Valley; and *FOMO* held at Paramatta. Although each of the festivals might define itself and the music styles of its artists slightly differently, they all feature 'electronic dance music' and attract primarily younger patrons.

34. Both the *Knockout Circuz* attended by Nathan and the *Knockout Games of Destiny* event attended by Callum were produced by Harder Styles United (HSU), which is a company that promotes and hosts various large-scale electronic dance music events under the broad genre of "hard style". Its director, Peter Finley, explained that within "hard style", there are sub-genres, which include: "'*raw style' which is a bit heavier in terms of the kick [rhythm], there's 'UK hardcore' which is about 160, 170, more vocals on the kick, a bit fluffier I guess, there's 'hard trance' as well which is … in between hard style and trance but it's still considered under the hard style genre*".[14] For the *Knockout Circuz*, HSU engaged Mothership Events, an events management and producing company. Justin Nyker, Director of Mothership Events, described *Knockout Circuz* as a "*hardcore, hardstyle music event*", a sub-genre of electronic dance music.[15]

35. Diana and Joseph attended *Defqon.1*. The promoter for *Defqon.1* is Q-dance Australia, which is part of a global company called LiveStyle Inc, the largest electronic dance music promoter in the world. The Director of Q-dance Australia, Simon Coffey, explained in oral evidence that electronic music starts with different tempos and has different names, creating different atmospheres and different environments. The broad umbrella of electronic dance music includes house music, trance, hard core, hard style, raw style and others.[16] The electronic music at *Defqon.1* featured upper tempo dance music extremely popular with the 18-to-25-year age group.[17]

36. The *Lost Paradise* festival, which Joshua and his friends travelled from Queensland to attend, is a four-day camping and music festival which was held at Glenworth Valley from 28

[14] Peter Finley, 16 July 2019 T673.31-674.11.
[15] Statement of Justin Nyker, Exhibit 3, Vol. 14, Tab 81.
[16] Simon Coffey, 10 July 2019 T176.35-177.2.
[17] Simon Coffey, 10 July 2019, T177.4-6, T178.9-12.

December 2018 through to 1 January 2019. Simon Beckingham, the Co-Founder and Director of *Lost Paradise,*[18] gave evidence that they "*try to curate the music so that it's got a balance across lots of different genres, ranging from electronic music through to indie rock and hip hop*".[19]

37. Alex attended *FOMO* festival, a national touring music festival that reached Sydney on 12 January 2019. *FOMO* engaged Holly Gazal, who specialises in freelance marketing and event management services and was the event manager for Sydney and Brisbane. Ms Gazal explained that *FOMO* has a diverse music policy, but it is predominantly "*urban, rap, and electronic*" and is described in their briefings to the stakeholders as "*indie electronic*" as opposed to harder styles, trance or one of the higher intensity genres.[20]

38. Each of the festivals involved high intensity music where vigorous dancing is common. This appears to create specific risks which need to be closely managed. The importance of monitoring environmental factors such as water provision, shade and chill out spaces becomes particularly important in this context. It is unlikely to be a coincidence that music festivals with slower or more varied music and dance styles appear to have been less likely to have experienced drug-related death over the same period.

Personal characteristics of the young people who died

39. Without exception, the six young people who died were well connected to family and friends. They demonstrated no obvious indicators to their families that they were at risk of drug-related death. There is no evidence that they suffered drug addiction or had ever sought help in that regard.

40. Nathan, aged 18, had a number of close friends with whom he regularly socialised. He had a close and loving family to support him. He met up with a group of about five to ten friends to attend *Knockout Circuz* at Sydney Olympic Park and for several weeks they had been part of a Snapchat group making arrangements.[21] I learnt from the family statement, prepared by Nathan's mother, that he was very close to his family. He was an honest, loveable and nurturing son with a good sense of humour and a happy personality. He would share his social plans with his family and he kept his promises. Nathan wanted to join the police force.[22]

41. Diana lived with her parents, older brother and younger sister in Melbourne. She was extremely close with her family including her cousin Jenny, and had recently become

[18] Simon Beckingham founded the festival in 2014 with co-founder Wade Cawood: Simon Beckingham, 15 July 2019 T572.35.
[19] Simon Beckingham,15 July 2019 T573.28-33.
[20] Holly Gazal, 18 July 2019 T806.11-22.
[21] See statements of Nathan's friends in Exhibit 3, Vol. 12.
[22] Tran family statement read by P Ava-Jones, 8 July 2019 T41.41-44.

engaged to her long-term boyfriend, Andy. Diana worked part-time and was very creative. She loved eating out at restaurants, playing futsal with Andy and hard style dancing. Diana travelled to Sydney to attend *Defqon.1* with a friend from high school.[23] She was 21 years of age when she died.

42. Joseph was studying teaching and lived at home with his parents and siblings.[24] Joseph's mother told the inquest of his generosity, sharing both his time and money with his family, and how happy that made her. Joseph loved his mother's cooking and would proudly show pictures of the food she made to friends. His family is left with good memories of their countless days of fun together and he is kept in their prayers.[25] Joseph, aged 23, was an ambassador for *Defqon.1* which involved selling tickets for the event and promoting the musical genres happy hard core, hard style and dubstep. He attended *Defqon.1* with a group of friends.[26]

43. Joshua, aged 22, was living with friends, excelling at work and a weekly visitor at his parents' home. Josh had two older sisters he enjoyed teasing and had recently become an uncle (a role he adored). He had been obsessed with football since he was a teen, and was enthusiastic about life.[27] *Lost Paradise* was being held at Glenworth Valley and Josh travelled to the event with a group of about 20 friends from his home town of Brisbane.[28]

44. Callum was 19 years old and optimistic about his future. He was a devoted older brother to his siblings, a loyal son, protective friend and loving boyfriend to Hayley. His mother and father both spoke at the inquest about their love for Callum. I learned from them that Callum was musically gifted and a talented sportsman, with a courageous and buoyant personality. He gave "*the best hugs*". He was a deep thinker. In the last year of his life Callum worked with young people on the autism spectrum and was deeply committed to that work.[29] Callum attended *Knockout Games of Destiny* at Sydney Showgrounds with a group of friends and acquaintances.[30]

45. Alex was a beautiful, creative soul loved deeply by her family. She was 19 years old and working in the family business to save money and travel the world. Her mother shared with the court Alex's positive outlook, that she was a strong-willed leader, a good listener and everyone's best friend. She was a free spirit and uncomplicated.[31] Alex was looking forward

[23] Statement of Jenny Nguyen, Exhibit 3, Vol. 1 Tab 8.
[24] Statement of [redacted] Exhibit 3, Vol. 2, Tab 21.
[25] Pham family statement read by P Ava-Jones, 20 September 2019, 1417.8-1418.39.
[26] Statement of [redacted] Volume 2, Tab 21.
[27] Family statement read by Julie Tam, 8 July 2019 T45.31-48.27.
[28] Statement of [redacted] Exhibit 3 Vol. 6, Tab 9; Statement of [redacted] Exhibit 3 Vol. 6, Tab 10.
[29] Family statement read by Cornelius Brosnan, 8 July 2019 T42.44-45.8; Family statement read by Heidi Brosnan, 20 September 2019 T1425.6-39.
[30] See for example statement of [redacted], Exhibit 3 Vol. 15, Tab 11.
[31] Family statement read by Jennie Ross-King, 8 July 2019 T48.49-50.27.

to *FOMO* music festival,[32] catching a hire bus from Gosford train station to Parramatta Park with a group of about 20 friends and acquaintances.[33]

46. The parents of these young people spoke of their shock in learning of their beloved child's death. They had no reason to be concerned. There were no signs of addiction or problematic drug use.

Lack of knowledge about drugs and the signs of toxicity

47. While it is difficult to be certain, it appears likely that each of the young people had limited knowledge about the potential dangers of MDMA or how to recognise the signs of distress. Piecing it together from the accounts of their friends, it appears that while there was great care and concern, there was a real lack of understanding about the danger of high dose MDMA and the signs of MDMA toxicity. By the time medical attention was sought, each of the young people was already at risk of serious harm or death.

48. Each of the young people attended the festivals with supportive friends, who were ultimately devastated by their friend's death. Tragically, some of the friends spoke of being with the young people as their conditioned worsened, not knowing the seriousness of the developing situation and lacking the skills or sobriety to get immediate help.

49. Diana's friend, [redacted] saw Diana drinking vodka drinks with no food, and was with her when Diana took two pills from two different sources. When [redacted] saw Diana stumble on the dance floor, she was clearly caring towards her friend and she sat her down and placed a cool water bottle behind her head. However, when the security guard noticed them and approached to help, both Diana and [redacted] resisted and tried to pretend Diana was okay. It was only because the security officer heard Diana's slurred speech and insisted on getting her to the medical tent that they proceeded straight there. Diana collapsed on the way.

50. Joseph's friend, [redacted] was told by Joseph that he had taken three or four pills, although he didn't know if they were half or whole. When he saw that Joseph was sweating, he didn't think anything of it because Joseph did tend to sweat a lot. When [redacted] later lost sight of Joseph, he looked for his friend and tried to call him, but he wasn't concerned about his welfare and just assumed he'd met up with other people.

51. [redacted] gave evidence he did not remember having any drug education at school.[34] He had little personal knowledge about drugs.[35]

52. Joshua's friend, [redacted] told the court that he had seen people "*have big nights out*", but he did not expect anyone to die.[36] He described Josh sweating profusely and becoming

[32] Statement of Jennie Ross-King, Exhibit 3, Vol. 17, Tab 8.
[33] Statement of [redacted] Exhibit 3, Vol. 17, Tab 14.
[34] [redacted] 9 July 2019, T71.11-21.
[35] [redacted] 9 July 2019, T67.3.

increasingly concerned that he had lost his keycard. They became separated and were unable to contact each other. [redacted] stated that while people in his friendship group acknowledged there were risks involved with using MDMA, they did not truly understand these risks until Josh's death. When asked about his attitude prior to Josh's death, he stated "*I didn't think anyone would die*".[37]

53. While at the festival, Callum danced vigorously and appeared happy until around 11.30pm. At that time, his friend [redacted] noticed that he was standing staring at the stage looking blank and [redacted] kept asking him if he was okay and if he needed some water. Callum said no, "*he was just going to keep a strong mind and push through it*". It is clear that by the time Callum left the music festival he was seriously unwell. As he walked the short distance to the train station, his friends noticed that he was falling behind and at one point started to veer off in the wrong direction. When they arrived on the platform, Callum was stumbling and unable to walk properly and his face was grey. His friends sat him down, and when he subsequently passed out they went to get station staff to help. Soon afterwards, Callum recovered consciousness and vomited, before passing out again. Some of Callum's friends knew he used MDMA occasionally, and so did they, but it did not occur to them that he might be seriously unwell until he collapsed at the train station.

54. Alex's friend, [redacted] gave evidence to the court that she knew little about the possibility of a toxic or dangerous level of MDMA.[38] She said that she "*wouldn't take ten pills*" and was unlikely to take more than four or five. She had seen people "*come down*" and have headaches or vomit, but she had never seen anyone she thought was critically ill. She had never been taught that there was risk involved in mixing MDMA and alcohol or amyl nitrate. [redacted] stated that when people in her peer group used MDMA they did not think they were at any real risk of serious or permanent harm or death. She accepted that they only thought about the "*good time*" they would have on it, and not the "*bad things*" such as the risks involved.[39]

55. Tragically when [redacted] saw that Alex was frantic, extremely hot and needing to sit down she thought she was just "*messed up*", meaning intoxicated. Alex was agitated and even aggressive, which was entirely out of character. [redacted] cared deeply for her friend and yet had no idea, perhaps because she was also affected, that Alex was already critically ill. She remembers that it was not until Alex had collapsed and was no longer able to walk that a "*medical lady*" came over and said that Alex needed to get to the medical tent.

56. The court heard that while some of the young people had received drug education at school, it was of little or no practical help in the situations they faced. Most remembered that they had

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[36] [redacted] 15 July 2019, T508.21-26
[37] [redacted] 15 July 2019, T508.11-26
[38] [redacted] 17 July 2019, T779.30.26-45
[39] [redacted] 17 July 2019 T777.9-28.

been told "*say no to drugs*". Alex's friend, [redacted] told the court that the only thing she remembered from school was the giraffe, Healthy Harold, who came to primary school, with the message "Don't do drugs, they're bad". She could not recall anyone coming to her High School. At no time when her peer group was using drugs did she think to herself that they were at any risk of death or serious harm as a result of using MDMA.

57. Callum's great friend, [redacted], explained that his peer group occasionally used MDMA and it had not caused any of them significant harm. He had not received any information at school through drug or alcohol education that mixing MDMA with alcohol or other illicit drugs made it more dangerous. He had never been told about the possibility of particularly high dose or pure MDMA and to his memory "*there wasn't really any information about drugs at all*". He believed that information about what made drugs more or less dangerous might have been of assistance to his peer group in keeping them safe. When asked whether he understood that some people might be scared that if you tell school-aged students about drugs that it will encourage them to use, he answered in a very mature and thoughtful way and said "*I believe if it's done the right sort of way, it will help, say if the effects are sort of explained and what it does to your body and how it can affect you in the long term. If that's all explained, I think it could help."* He thought it might be particularly helpful if delivered by a doctor or toxicologist or someone younger that students can relate to.

58. There was no evidence that demonstrated that any of the young people had ever spoken with an expert about the risks of MDMA, either in relation to safe dosage or the potential danger of mixing drugs and alcohol. In this context it is important to examine ways to contact and connect with this hidden population through more nuanced public health messaging and through brief health interventions on site.

59. Interviews conducted by the Ministry of Health with young people who had been hospitalised following attendance at a music festival indicates those young people may have been aware in general terms about risks, "*but didn't think it would happen to them*". Getting help was delayed as they "*felt their symptoms may improve*".[40]

Substantial police presence

60. One of the factors which will require closer attention is the kind of policing which occurred at each of the music festivals. Each had a significant police presence, pursuant to arrangements that had been made many months before. Promoters were obliged to pay for some of the police officers attending under a 'fee for service' model.[41] The court heard

[40] See discussion of this research in submissions received from Dr Kerry Chant on behalf of NSW Health, Exhibit 3, Vol. 20, Tab 1.

[41] Statement of Detective Inspector Darren Deamer re FOMO, Exhibit 3, Vol. 17, Tab 22; Statement of Detective Sergeant Mark Wakeham re Defqon.1, Exhibit 3, Vol. 3, Tab 44; Statement of Detective Senior

evidence that while a large police search presence was a feature of the festivals under examination, this is not necessarily a feature of music festivals either in Australia or overseas.[42]

61. At each of the five festivals drug detection dogs were stationed at the entrance, so that patrons had to get past an obvious and highly visible number of police and security. There was also strip searching of some patrons. The presence of police and dogs can be intimidating. More importantly, as is explored further below, it can precipitate panic ingestion or dangerous pre-loading which can in turn increase the risk of serious illness or fatality. Other research suggests that a heavy police presence at the entry point can lead patrons to make a decision to purchase drugs inside the venue. Some researchers suggest buying from an unknown source may also hold some additional risk.

62. [redacted] a great friend of Callum Brosnan, explained that his peer group preferred to buy drugs in the festival, rather than bring them in, to avoid the risk of detection by drug dogs. If the dogs were not there, he believed they would have preferred to buy them from a known source outside the festival. He indicated that in spite of the police presence, it was still relatively easy to buy drugs inside.

63. There is clear evidence that Alex took all of the illicit drugs she had with her before she entered the festival in order to avoid detection by police on entry.[43] Her contemporaneous text messages and the testimony of friends confirm this.[44] The car Joshua was travelling in was looked over by security but he and his friends were not personally searched for drugs. One of his friends saw Joshua take some of the crystallised substance that he had brought into the festival in the camping area before entering the music festival grounds.[45] Joseph had about four or five pills in a bum bag and got them into the festival, in spite of the drug dogs at the entry point.[46] In contrast, evidence suggests that Diana took one capsule and one pill, both of which had been sourced within the venue,[47] and there is evidence that Callum planned on sourcing his drugs inside the venue to avoid detection by security.[48] A friend says Nathan may have bought around four capsules of MDMA at the festival.[49]

64. On the other hand, the court heard evidence put forward on behalf of the Commissioner of Police that the best way to avoid deaths is to strengthen the police response. Submissions

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Constable Atila Fadi re Lost Paradise, Exhibit 3, Vol. 7, Tab 13; Statement of Peter Finley re Knockout Games of Destiny and Knockout Circuz, Exhibit 25.

[42] Simon Coffey, 10 July 2019 T187.4-24; [redacted] T288.14-289.30.

[43] See for example statement of [redacted] Exhibit 3, Vol. 17, Tab 12; Statement of [redacted] Exhibit 3, Vol. 17 Tab 14.

[44] See text messages at Volume 18, Tab 27; and see statements from friends in Volume 17.

[45] Statement of [redacted] Exhibit 3, Vol 6, Tab 9.

[46] Statement of [redacted] Exhibit 3, Vol. 2, Tab 21.

[47] Statement of [redacted] Exhibit 3, Vol. 1, Tab 9.

[48] Statement of [redacted] Exhibit 3, Vol. 15, Tab 16.

[49] Statement of [redacted] Exhibit 3, Vol. 12, Tab 34.

made on behalf of the Commissioner stated that it is important to recognize music festivals create a concentrated market for drug supply and organized crime groups.[50]

65. It is crucial to determine what role, if any, the significant police presence had in the circumstances surrounding these deaths. It is clear from the evidence before this inquest that despite police dog operations it remained relatively easy for some of these patrons to purchase drugs at the venue. It may be that drug dog and search operations are not significantly reducing the ability of young people to source drugs inside, and yet are having a harmful effect on drug use patterns and practices. This is an area of concern.

MDMA toxicity was a causal factor in each death

66. In each of the six cases, the drug known as 3,4-methylenedioxymethamphetamine, commonly known as MDMA or ecstasy, was the major causal factor in the drug-related death.

67. Alex, Callum, Joseph and Diana are believed to have consumed more than one pill or capsule containing MDMA. It is not clear how much Joshua consumed in total, although a friend witnessed Joshua taking one rock-like crystal from a bag containing one gram of MDMA, washing it down with vodka.[51] There is no evidence in the brief of what happened to the rest of the substance in that bag.

68. Nathan's friends shared a 600 ml bottle of water that had some MDMA mixed in it but they do not report seeing Nathan drink any of it.[52] He is thought to have purchased around four capsules of MDMA at the event and consumed some or all of them, appearing drug-affected by 8:30pm.[53] In addition to the MDMA, toxicology results detected traces of para-methoxymethylamphetamine (PMMA) although not at a level that is likely to have contributed to death.[54]

69. Diana took two different capsules or tablets. One was a capsule bought from a male inside the venue. The other was a tablet, pinkish white in colour, that it is believed she also purchased at the event.[55] Joseph told one friend that he had taken three or four pills but it was not clear if they were halves or whole pills.[56] Callum is believed to have taken between six and nine capsules of MDMA.[57] Alex took two and ¾ capsules. The first ¾ was taken in

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[50] Submissions received from NSW Commissioner of Police, p 2.
[51] Statement of [redacted] Exhibit 3, Vol. 6, Tab 9.
[52] Statement of [redacted] Exhibit 3, Vol. 12, Tab 28.
[53] Statement of [redacted] Exhibit 3, Vol. 12, Tab 30.
[54] Toxicology report from ChemCentre WA re Nathan Tran, Exhibit 44, Tab 19; Supplementary statement of Dr Santiago Vazquez, Exhibit 55, Tab 3; Dr Santiago Vazquez, 20 September 2019 T1409.30-49.
[55] Statement of [redacted] Exhibit 3, Vol. 1, Tab 9.
[56] Statement of [redacted] Exhibit 3, Vol. 2, Tab 21.
[57] Detective Inspector Karl Leis, 16 July 2019, T636.43-48: "*So the evidence that we had from one particular witness was that Callum was supplied six and a half capsules, we have the evidence of another witness who*

the morning[58] and another two were taken at the same time just before entering the festival around 12.30 pm, to avoid being detected by police at the festival.[59]

70. Although it is not possible to determine from biological fluids the purity or dose of MDMA taken by the six young adults,[60] there is strong evidence to suggest that a relatively high strength, highly potent MDMA was consumed. Firstly, the toxicology results summarised in the table at Appendix A[61] to Associate Professor Anna Holdgate's expert report[62] show that MDMA was found at toxic levels in each of the six young people.[63] Secondly, in the two cases where other substances purchased by the young people remained, testing showed a relatively high purity. In Callum's case, one of the capsules he had purchased that night remained in his shoulder bag and, on testing by NSW Health Pathology Forensic & Analytical Science Service (FASS), it was found to contain approximately 77% MDMA.[64] The dose of that capsule was calculated to be 69 mg of MDMA.[65] ChemCentre WA performed an analysis of the same sample, determining the MDMA content was approximately 83%.[66] In Joshua's case, two samples of a crystalline substance found in his wallet were by tested by the laboratory ChemCentre WA and the content of MDMA is reported to be approximately 83% and 88% respectively.[67] Thirdly, I received substantial evidence that "*high purity, high content of MDMA products*"[68] have been a feature of the illicit market in the United Kingdom for several years and are responsible for a large number of deaths from MDMA toxicity in that country. Fourthly, I heard evidence of high strength or "super strength" pills available on the

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describes that interaction that I mentioned a moment ago about the seven and putting up the seven fingers, we've also got evidence from a police officer that spoke to one of Callum's friends at the train station and there was a figure of nine that was mentioned there, but as to the exact amount, is unknown."

[58] Statement of [redacted], Exhibit 3, Vol. 17, Tab 12.

[59] Statement of [redacted], Exhibit 3, Vol. 17, Tab 12; Statement of [redacted], Exhibit 3, Vol. 17, Tab 14.

[60] Statement of Dr Santiago Vazquez, Exhibit 3, Vol. 24, Tab 65.

[61] Amended appendix A to statement of Associate Professor Anna Holdgate, Exhibit 54.

[62] Statement of Associate Professor Anna Holdgate, Exhibit 3, Vol. 24, Tab 78.

[63] See Associate Professor Holdgate's statement at Exhibit 3, Vol. 24, Tab 78: "*Although higher blood levels of MDMA are associated with worse toxicity, deaths associated with MDMA have been reported in individuals with blood levels in the 'recreational' range and toxic effects are not necessarily directly related to the level of MDMA in the blood. Thus there is no specific level of ingestion which can be considered 'safe'. The blood level for those experiencing 'recreational' MDMA effects is reported to be 0.1 to 0.25 mg/L. Regarding 'toxic' levels, most fatalities reported from MDMA are with blood levels greater than 0.5mg/L but deaths have also been reported in the 0.11 to 0.55mg/L range. (Kalant H, The Pharmacology and toxicology of MDMA and related drugs. Canadian Medical Association Journal 2001;165:917-928)*."

[64] NSW FASS Certificate of Analysis, Exhibit 3, Vol. 15, Tab 7; Statement of Una Cullinan, Exhibit 3, Vol. 24, Tab 66.

[65] Statement of Una Cullinan, Exhibit 3, Vol. 24, Tab 66.

[66] ChemCentre WA Drug Sample Analysis Report re capsule found in Callum Brosnan's shoulder bag, Exhibit 55, Tab 6; Email from ChemCentre WA dated 17 September 2019, Exhibit 58.

[67] See ChemCentre WA Drug Sample Analysis Report re two bags of white powder found in Joshua Tam's wallet, Exhibit 55, Tab 7; Email from ChemCentre WA dated 17 September 2019, Exhibit 58. See also analysis of the same samples by QLD Forensics at Exhibit 3, Vol. 6,Tab 5; Email from QLD Health (Forensics) dated 17 September 2019, Exhibit 59; Statement of Helen Granforth, Exhibit 3, Vol. 24, Tab 63.

[68] Statement of Dr Amira Guirguis, Exhibit 3, Vol. 22, Tab 30 p 12; Dr Amira Guirguis, 19 September 2019 at T1388.8-15; Statement of Professor Fiona Measham, Exhibit 55, Tab 4 p 16. See also statement of Dr Samuel Banister, Exhibit 3, Vol. 24, Tab 84; Dr David Caldicott, 10 September 2019 T974.4-12.

Australian market that mean large doses are contained in a single pill, tablet or crystallised rock.[69]

71. Prior to the provision of the toxicology results, the court was unaware of the exact cause of each person's death. In each case it has now been established that the death was caused by MDMA toxicity, not from adulterants or unknown substances.

Polydrug use

72. In some, but not all of the deaths, MDMA was mixed with other drugs or alcohol, a practice which substantially increases the risk of harm resulting from drug use. Quite apart from risks caused by the dangerous interaction of certain drugs, is the reality that alcohol use commonly affects judgment and memory. This creates an additional risk factor.

73. The court learnt from friends who gave evidence that four[70] of the six young adults were consuming alcohol at or around the time they took the MDMA, even if toxicology results did not always show alcohol present post mortem. In some cases, the alcohol consumption was excessive, meaning that it would have impaired the judgment of the individual and is likely to have exacerbated the harms caused by MDMA.

74. The toxicology results for Joseph showed that the only illicit drug present was MDMA.[71]

75. In Joshua[72] and Alex's[73] cases, the direct cause of death is attributed to their use of MDMA. Cannabinoids were detected but likely had minimal or no role in their deaths. Low blood alcohol levels were reported in both cases. I learnt from Alex's friends that she had also inhaled amyl nitrate (referred to as Jungle Juice) on the bus on the way to the festival. I understand that amyl nitrate can also impair judgement and combining it in large quantities with MDMA can be unpredictable and dangerous, potentially increasing strain on the heart and placing the body under excess stress.[74]

76. Diana had a low level of cocaine present in her system that is likely to have been ingested sometime in the lead up to her death,[75] although it was not thought to be related to her

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[69] Statement of Dr David Caldicott, Exhibit 3, Vol. 24, Tab 76, p 9; Dr David Caldicott, 10 September 2019 T977.9-50; T990.4-41.

[70] Diana, Joshua, Alex and Callum's friends report seeing them consume alcohol. One of Nathan's friends believes Nathan may have been drinking Canadian Club whiskey en route to the event: Statement of [redacted], Exhibit 3, Vol. 12, Tab 31.There is no evidence Joseph was drinking alcohol.

[71] Autopsy report re Joseph Pham, Exhibit 3, Vol. 2, Tab 14.

[72] Autopsy report re Joshua Tam, Exhibit 3, Vol. 6, Tab 2.

[73] Autopsy report re Alex Ross-King, Exhibit 3, Vol. 17, Tab 6.

[74] Alcohol and Drug Foundation (ADF), Fact sheet re amyl nitrate, available at https://adf.org.au/drug-facts/amyl-nitrite/.

[75] Dr Santiago Vazquez, 20 September 2019 T1412.31-1413.4.

death.[76] She was observed to have consumed alcohol, although none was detected in her blood samples.

77. Callum's cause of death was described by the pathologist as mixed drug (MDMA and cocaine) toxicity[77] and there was evidence before me that Callum had ingested a line of cocaine the Friday afternoon before Saturday's *Knockout* event.[78] There was no alcohol detected in his biological samples.

78. On autopsy, Nathan's cause of death is reported as MDMA toxicity and no other illicit drugs are identified in his system.[79] A second testing of his biological samples by ChemCentre WA detected para-methoxymethylamphetamine (PMMA) at an approximate concentration of 0.0008 mg/L.[80] The presence of PMMA was observed by NSW FASS upon re-analysis. Dr Vazquez at NSW FASS stated that the level of PMMA detected by ChemCentre WA is very low; roughly 1000 times less than fatally toxic levels.[81] On the evidence available it is not possible for me to determine when Nathan might have ingested the PMMA nor whether its consumption was deliberate.

Heat

79. Each of the five festivals was held over the summer period and began during daylight hours running into the evening. Lost Paradise was a multi-day event that involved camping onsite. Weather conditions were hot and in some cases extreme. In addition, as has been mentioned, each of the young adults loved dancing, so that they were engaged in vigorous physical activity. Some appear to have remembered to drink water and others not.

80. The temperatures at the events were:

- *Knockout Circuz* within Sydney Showgrounds on 16 December 2017: 30.9 ºC at 3:30 pm and 23.7 ºC at 8:30 pm.[82]
- *Defqon.1* at the Sydney International Regatta Centre, Castlereagh on 15 September 2018: 31.9 ºC at midday and 27.7 ºC at 5:30 pm.[83]
- *Knockout Games of Destiny* at Sydney Showgrounds on 8 December 2018: 28 ºC at 3:30 pm and 22.4 ºC at 8:30 pm.[84]

[76] Autopsy report re Diana Nguyen, Exhibit 3, Vol. 1, Tab 4.
[77] Autopsy report re Callum Brosnan, Exhibit 3, Vol. 15, Tab 4.
[78] Summary of [redacted] ERISP prepared by NSW Police, Exhibit 3, Vol. 15, Tab 10.
[79] Autopsy report re Hoang Nathan Tran, Exhibit 3, Vol. 11, Tab 5.
[80] Toxicology report from ChemCentre WA re Nathan Tran, Exhibit 44, Tab 19.
[81] Supplementary statement of Dr Santiago Vazquez, Exhibit 55, Tab 3.
[82] Bureau of Meteorology data from Sydney Olympic Park, Exhibit 3, Vol. 14, Tab 82.
[83] Bureau of Meteorology data from Penrith Lakes, Exhibit 3, Vol. 5, Tab 99.
[84] Bureau of Meteorology data from Sydney Olympic Park, Exhibit 3, Vol. 15, Tab 21A.

- *Lost Paradise Music Festival* held at Glenworth Valley on 29 December 2018: 34.9 ºC at midday and 32.6 ºC at 5:30 pm.[85]

- *FOMO* at Paramatta Park on 12 January 2019: 30.6 ºC at midday and 31.6 ºC at 5:30 pm.[86]

Availability of onsite medical services

81. At each of the music festivals, onsite medical services were provided by a private company, EMS Event Medical (EMS), working alongside members of the NSW Ambulance service. At least one doctor was engaged by EMS, alongside nurses and paramedics.

82. In each case, the availability of medical care was discussed at stakeholder meetings leading up to the event, attended by, among others, the promoter, NSW Police, NSW Ambulance and EMS.

83. Clearly the provision of these health services was a major focus of the inquest.

[85] Bureau of Meteorology data from Mangrove Mountain, Exhibit 3, Vol. 10, Tab 42.
[86] Bureau of Meteorology data from Sydney Olympic Park, Exhibit 3, Vol. 18, Tab 36b.

The young people who died

84. I will briefly address the circumstances of the death of each of the young adults who are the subjects of this inquest.

Hoang Nathan Tran

85. Hoang Tran (known to his friends and family as Nathan), was born on 15 April 1999, and is the much loved son of parents who immigrated to Australia from Vietnam. He finished schooling at St Johns Park High School, Greenfield Park in 2016 and was still living with his parents, Thanh and My Duyen Thi and siblings. Nathan had been working on a casual basis at a McDonalds restaurant since finishing school.

86. According to his parents, Nathan was a quiet young man who spent much of his spare time engrossed in computer games. Although his drug use was a big shock to his parents, Nathan's good friends who were with him at this event spoke to police and explained that he had used MDMA on a number of occasions, including at music events. He was known to take the drug orally with water and would generally source it from a known dealer.

87. Nathan had no criminal history and no adverse interactions with police. In fact he had aspirations of joining the police force. He was approximately 115 kg in weight and almost 180 cm tall. He had no known health issues.

88. I had statements from many friends, some of whom had known Nathan since kindergarten and others who had met him in high school. They describe him as a valued close friend and someone who was quiet, quite shy and very nice.[87] He clearly had good friends who thought highly of him and he is deeply missed. Nathan's mother described him as "*very honest, lovable and nurturing son and as having a sense of humour and a happy person*".[88] He was much loved by his family and open with them, sharing with his mother and siblings what his plans were. Although he did not achieve academic excellence at school, he was always described as a student who was a pleasure to teach and lovable every time his mother attended the parents and teachers meeting night.

89. *Knockout Circuz* is a large-scale over-18s dance event which commenced at 2 pm on Saturday 16 December 2017 within the Sydney Showgrounds, 1 Showground Road, Sydney Olympic Park. It was scheduled to conclude at midnight. *Knockout Circuz* is promoted as an indoor 'hard style' (a reference to the type of electronic music) music festival featuring up to a dozen different music artists. The target demographic is 18–30 year olds. In 2017 it attracted 16,899 patrons.

[87] See the statements of friends in Exhibit 3, Vol. 12.
[88] Tran family statement read by P Ava-Jones, 8 July 2019 T41.30-31.

90. The Sydney Showground precinct is owned and managed by the Royal Agricultural Society (RAS) who enforce conditions of use including the provision of adequate medical and security services. In planning for the event, a number of stakeholder meetings were held and included representatives from NSW Ambulance and NSW Police.

91. *Knockout Circuz 2017* was a live music event planned by Harder Styles United (HSU) and produced by Mothership Events. Reddawn Security were hired to provide general security services within the event while the RAS employed additonal security (provided by Australian Concert and Entertainment Security – ACES) to enforce the responsible service of alcohol and 'site security'. In total, more than 100 security guards were involved in the event.

92. EMS were contracted to provide medical services for the event. According to EMS Director, Michael Hammond, himself a qualified nurse and paramedic, EMS specialises in providing medical services to large-scale public gatherings and private events and has vast experience with events of this kind. In terms of patient responsibility, EMS retains responsibility for patient care until a decision is made that the patient requires transport to hospital at which point NSW Ambulance assumes responsibility. EMS completed a risk assessment and recognised that drugs and alcohol consumption could be significant factors.

93. Mr Hammond was joined at the *Knockout Circuz* event by 23 staff members consisting of a qualified doctor, paramedics, two nurses, and Event Medical Technicians (EMT) who are typically trainee paramedics.

94. NSW Police provided officers on a 'user pays' basis to patrol the event. Among those were a contingent of Operational Support Group (OSG) trained police who have specific training in the areas of crowd control and public order/protest response.

95. There were additional police supporting a drug detection operation involving sniffer dogs. A police 'custody' area and command bus were situated within the Dome. It was a large police presence.

96. The commitment from the NSW Ambulance involved at least one ambulance vehicle and team (including an Intensive Care Paramedic) situated within the Dome along with a Forward Commander.

97. The event was advertised as a 'drug-free event' with a condition of entry that 'any drug activity will be handed over to police'. The prevalence of drug use within the 'dance party' culture was acknowledged by promoters within their Event Safety and Management Plan ('the Plan'). The plan noted the '*likelihood of drug occurrence*" was *"high"* particularly in relation to MDMA, Amphetamine, Methamphetamine, LSD, and gamma-hydroxybutyric acid

or *GHB"*.[89] The plan stated that the "*promoters support a harm minimisation approach which aims to eliminate or minimise the illness associated with drug use which may occur.*"[90]

98. Sixteen 'Crowd Care Event Staff' were employed to roam the venue, tasked with ensuring the safety of patrons, looking for signs of drug use and health concerns. Dressed in pink 'high vis' vests and carrying LED handheld signs, these staff offered free water to patrons and could facilitate medical assistance when required.

99. An Emergency Operating Centre (EOC) was used to oversee and coordinate the various agencies including NSW Ambulance and NSW Police with representatives from each organisation present. The precinct has CCTV coverage.

100. EMS established a 'Mass Gathering Medical Centre' within the Dome, a large indoor venue adjacent to the exhibition halls.

101. An 'event shift report' created by ACES security post event noted the weather on the date as being "*sunny, dry with temperatures of approximately 28 – 30 degrees."*

102. Nathan was 18 years old in 2017 and he attended the event with a group of about 15 friends. On arrival at the event, one friend mixed MDMA in a 600 ml bottle of water and shared it around. There was no evidence Nathan had any of the MDMA water. He was, however, thought to have purchased around four capsules of MDMA at the event.

103. While at the event, Nathan and his group of friends split their time between the middle of the dance floor area which was hot and a side area where it was cooler. Nathan exhibited behaviour which caused his friends to assume he was on drugs, including appearing "*lovey dovey*" and "*smiley*" and having wide eyes. At some point later the friends appear to have lost sight of him.

104. About 10:15 pm, Nathan was noted to be acting strangely and aggressively outside the Dome on Riverina Avenue, within the event's fenced-off boundary. He is reported to have looked like he was "*on drugs*" as he was chewing, his eyes were rolling back in his head and he was swinging his arms around.[91] One of the security guards reached out to hand him a bottle of water and Nathan knocked it out of his hand and spat at the security guard.[92] That was most unusual for Nathan, who was known to be gentle and amiable.[93] Nathan pulled away from the grip of an Asian male and then ran, before tripping over other patrons sitting on the ground. According to one witness, Nathan hit his head on the concrete with a thud.[94]

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[89] Knockout Circuz Event Safety and Management Plan, Exhibit 3, Vol. 14, Tab 71 p 176.
[90] Knockout Circuz Event Safety and Management Plan, Exhibit 3, Vol. 14, Tab 71 p 177.
[91] Statement of [redacted], Exhibit 3, Vol. 12, Tab 36 [4]; Statement of [redacted] Exhibit 3, Vol. 12, Tab 37 [5]; Statement of [redacted] Exhibit 3, Vol. 12, Tab 38 [8].
[92] Statement of [redacted], Exhibit 3, Vol. 12, Tab 37 [7].
[93] Evidence of Detective Sergeant Christopher Vavayis, 10 July 2019 T218.6-16.
[94] Statement of [redacted] Exhibit 3, Vol. 12, Tab 37 [8].

105. A team of four uniformed police officers approached and restrained Nathan, by forcing him to the ground. With the stated intention of controlling him, one of these officers placed a hand just above Nathan's collarbone and then applied a 'hold' which witnesses described as a "*headlock*". This police officer, with the assistance of his colleagues and security staff, moved Nathan to the ground so that he was in the prone position. He was handcuffed before being carried into the EMS medical area.[95]

106. Nathan's fall is captured on CCTV footage. So, too, is the assembling of security, police and EMS staff to Nathan's location.[96]

107. Dr Christopher Cheeseman, Emergency Medical physician and pre-hospital emergency care physician, gave evidence that in that footage Nathan appeared to be developing quite late signs of serotonergic syndrome "…*so by the time he had first contact with the security people at the event, he was actually quite a long way down the line of his illness…*"[97]

108. Numerous statements were obtained from event patrons, security staff, event medical staff, and NSW Ambulance Paramedics, and directed interviews were conducted with 'involved' police officers. Understandably, there were a number of patrons who found watching the events between Nathan, police and security that led to him being subdued and transported to be highly distressing and to them, it appeared than Nathan may have been assaulted. The situation occurred quickly, in a confused and noisy environment.

109. One festival patron [redacted] gave evidence.[98] She saw:

- One male security guard put his knee on Nathan's back and pull both of his arms to the rear. She had a direct view at that time.

- Police came to assist and started walking Nathan towards the other side of the Dome. Her view was partially obstructed at this stage.

- Towards the entrance to the Dome, a third police officer use one hand to grab Nathan around the neck while he thrashed his head from side to side. [redacted] was 3 – 4 metres away from Nathan at the stage with police standing side-on to her.

- The crowd was getting very tense at this stage and items were thrown at police.

- The same police officer, holding Nathan by the throat with his right hand, used his left hand to punch Nathan's face with a closed fist. He swung his left arm in an upward

[95] See statements of the involved officers at Exhibit 3, Vol. 11, Tabs 16 - 19; Statement of Marko Petrovic, Exhibit 3, Vol. 12; Detective Senior Constable Brenton Magee, 11 July 2019 T 330-354.
[96] CCTV footage, Exhibit 3, Vol. 14, Tab 78.
[97] Dr Christopher Cheeseman, 10 July 219 T254.32-35.
[98] Statement of [redacted] Exhibit 3, Vol. 12, Tab 42; [redacted] 11 July 2019 T285-303.

motion with his forearm facing upwards. [redacted] was still side on to police about 3 metres away.

110. Alternatively, security officer Marko Petrovic reports:[99]

- After his fall, two EMS staff attended on Nathan who was face down on the ground. Security staff were also in attendance.
- Nathan started to resist the assistance of medical staff. He attempted to lash out with his hands and attempt to get up off the ground. Two security officers moved in and secured his hands behind his back. Marko moved in and placed his body weight on Nathan's lower legs to secure them and prevent him from kicking out. He was conscious of the risk of positional asphyxia.
- At an early stage Marko saw a guard place their knee on Nathan's back and Marko screamed very quickly "*get your knee off his back*".
- Security staff released Nathan as soon as EMS staff advised he had calmed down sufficiently.
- EMS staff and security started walking Nathan to the medical tent in the Dome. Nathan would walk on his own for a few steps and then drop to the ground. Police approached at this time.
- Nathan continued to resist against security and EMS. Police decided to place Nathan on the ground to secure his hands. The movement was a forced but gentle lying down using minimal force. Nathan was handcuffed with his hands to the rear when on the ground.
- He didn't see police grab Nathan around the throat or punch him.
- Police decided to carry Nathan to the medical tent within the Dome.

111. Detective Senior Constable Brenton Magee told the court:[100]

- He saw security personnel struggling to gain sufficient control of Nathan and realised he needed to help.
- DSC Magee observed for a very short amount of time to determine the best spot to grab Nathan.

[99] Statement of Marko Petrovic, Exhibit 3, Vol. 12, Tab 44; Marko Petrovic, 11 July 2019 T305-327.
[100] Transcript of directed interview with Detective Senior Constable Brenton Magee, Exhibit 3, Vol. 11, Tab 19; Contemporaneous notes made by Detective Senior Constable Brenton Magee, Exhibit 3, Vol. 11, Tab 20; Detective Senior Constable Brenton Magee, 11 July 2019 T330-354.

- Nathan was thrashing his head about. He grabbed Nathan just above the clavicle with his right hand to try and control his head. By controlling his head he could control his body.

- He then stepped in and put his right arm over Nathan so that his right bicep was at the back of his neck. His closed right hand went into his left open hand to close off his grip. This was momentarily effective in controlling Nathan's head area.

- He then attempted to use a technique of getting Nathan's chin to his chest, to force his vision down and control his head. That manoeuvre was resisted. Nathan was fighting too much and really tensed up.

- Another three police officers helped to try and restrain Nathan and with the help of security managed to take Nathan to the ground. DSC Magee believes that he would have been in control of Nathan's rear, at the top of his shoulders in forcing him down to the ground.

- Nathan was handcuffed on the ground. It took a minute or two to get him up off the ground before he was walked to the medical tent. "*So, it was, I remember saying, I remember saying to the people around me, Just grab him by his hands and feets, 'cause we were struggling to coordinate it between everyone getting him off the ground, competing with, you know, him waking up at times and thrashing about, and, and his weight Um, so, he's face down, I remember his hands were, uh, together because they were handcuffed, facing towards the sky. Um, people had hold of his legs, his arms, as I said, I had hold of his pants with my left hand. Um, people had the control of, people had hold of the front, people had control of the, the back of the legs, and then I had control of his, his pants, and I said, we just penguin walked because it was such a tight narrow corridor into the medical tent area. Penguin walked through this corridor into the medical area*."

- DSC Magee had to try hard to restrain Nathan "*because he was just really, really strong*". Getting a grip of him and getting him up off the ground took the longest period of time because of how heavy Nathan's weight felt.

- DSC Magee denied that he nor any police or security officers punched Nathan in the face. He conceded that it could have looked that way to an onlooker, and said "*if I've put my right arm over it could perhaps look like I've punched someone, but I most certainly did not".*

- DSC Magee's focus was on getting Nathan to medical care as quickly and safely as possible.

112. Andrew Bennett, an EMS paramedic, was one of the first on scene to treat Nathan that night and observed interaction between police, security and Nathan. He confirmed Nathan was acting aggressively, thrashing his arms around and grunting. He describes Nathan's aggression as coming in waves. He refutes the suggestion security or police did anything that might compromise Nathan's welfare. He saw no evidence of a head injury.[101]

113. Police obtained an expert statement from Sergeant Justin Waters, Weapons & Tactics, Policy & Review, reviewing the circumstances of Nathan's case.[102] Sergeant Waters expressed the view that the physical force used by police to restrain Nathan was appropriate and reasonable in the circumstances. Having reviewed the video, Sergeant Waters expressed the view that police actions were reasonable in an attempt to control Nathan's movements and to protect him or other persons present from injury. Police were able to detain Nathan and used reasonable restraint to protect him or other persons from injury. In his view, police acted in accordance with Section 206 of the *Law Enforcement (Powers and Responsibilities) Act 2002.*

114. On a close review of all the evidence, including the CCTV footage, I am satisfied that there was no excessive use of force by police officers, security or EMS. I can well understand why it might appear that way to patrons who are not aware that one of the effects of serotonin toxicity is to make individuals who are normally very peaceful and calm behave in a way that is totally out of character, agitated and even aggressive.

115. I accept that [redacted] was an honest witness who tried to assist the court. However, I am of the view that she is mistaken in her memory of having seen DSC Magee or some other officer punch Nathan directly in the face. It is quite possible that the way DSC Magee held Nathan, as he struggled, looked alarming. It is important to remember that [redacted] saw this just hours after having been strip searched, an event that she described as humiliating and that was still distressing to recount over a year after the event. She considered the police presence intimidating and is likely to have felt distrustful of police. The actions the officer described of placing Nathan in a headlock using a closed fist grip may well have looked aggressive. It might be hard for a member of the public to understand why so many security and police were required to subdue one individual.

116. There is ample evidence, backed by the CCTV that Nathan was highly panicked and thrashing about and that he needed to be subdued so that he could be taken from that crowded, noisy area and provided with appropriate medical care.[103] It is consistent with police and security being genuinely concerned for Nathan's welfare that they took him

[101] Statement of Andrew Bennett, Exhibit 3, Vol. 13, Tab 57; Andrew Bennett, 10 July 2019 T224-242.
[102] Statement of Sergeant Justin Waters, Exhibit 3, Vol. 14, Tab 77 [35].
[103] See for example statement of [redacted], Exhibit 3, Vol. 12, Tab 36 [4]; Statement of [redacted] Exhibit 3, Vol. 12, Tab 37 [5]; Statement of [redacted] Exhibit 3, Vol. 12, Tab 38 [8].

straight to the medical tent, rather than to the police area.[104] I note that Nathan was a large build and because he was so hot and sweaty, it would have been difficult to retain hold of him.[105]

117. I have carefully reviewed the autopsy results and heard directly from the forensic pathologist who conducted the examination. I am satisfied that there are no injuries consistent with the excessive use of force.[106] There was no head injury or facial bruising. Apart from minor abrasion and bruising on the knees, the only injuries present were those associated with attempts at medical intervention. That is, there is no evidence of any significant injury occurring either when Nathan tripped or while being restrained by police that may have significantly contributed to the cause of death.

118. Once in the medical tent Nathan was administered 2.5 mg of midazolam as a sedative. NSW Ambulance personnel and medical staff attended at 10.33 pm and noted that Nathan was tachycardic (had a fast heart rate), tachypnoeic (meaning his breathing was quick and shallow) and had poor oxygen saturation. He was hypotensive with an unrecordable blood pressure and he was hyperthermic (he had a very high body temperature). At least one of the doctors thought he was having a seizure. His Glasgow Coma Scale, measuring his level of consciousness quickly declined to from seven to three.

119. Subsequent treatment included the removal of Nathan's clothing, cooling using ice packs and fans, and the provision of oxygen. NSW Ambulance intensive care paramedic Beth Donnelly inserted a nasopharyngeal airway in Nathan's nostril and an oropharyngeal airway, a medical device to open the airway, when his trismus (lockjaw) decreased. 'Hartmann's' IV fluids were administered. It was evident that he was not improving despite cooling, airway management, and fluid resuscitation. It was clear that he required urgent transport to a hospital.

120. Nathan was conveyed to Westmead Hospital, leaving the venue at 11:11 pm and arriving at 11:28 pm. Upon admission he was found to have "*severe respiratory*" issues and "*hyperthermia*". His temperature was 41 ºC upon arrival. Despite 'full prolonged resuscitation' Nathan was declared deceased at 12:50 am on Sunday 17 December 2017. Nathan's symptoms on presentation to hospital are in keeping with the effects of MDMA toxicity, and this is supported by the results of the later toxicological analysis.

121. An autopsy report completed by Dr Jennifer Pokorny records the cause of death as MDMA toxicity. Toxicological examination detected MDMA in Nathan's blood at 3.0 mg/L, a level

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[104] See Marko Petrovic, 11 July 2019 T319-323; Statement of Marko Petrovic, Exhibit 3, Vol. 12, Tab 44. See also Detective Senior Constable Brenton Magee, 11 July 2019 T330-354.

[105] According to his autopsy report Nathan was 115 kg and 1.78 m tall. There was evidence from a number of witnesses that it was difficult to hold and move Nathan including from NSW Ambulance paramedic Beth Donnelly, 10 July 2019 T268, Marko Petrovic 11 July 2019 T305-329; Statement of Detective Senior Constable Brenton Magee, Exhibit 3, Vol. 11, Tab 19; Detective Senior Constable Brenton Magee, 11 July 2019 T330-354.

[106] Autopsy report re Nathan Tran, Exhibit 3, Vol. 11, Tab 5.

within the reported lethal range.[107] Low levels of diazepam, midazolam and lignocaine (administered for medical purposes) were also detected. Alcohol was not detected in blood or in vitreous fluid.

122. Nathan's death in December 2017 is the only death in 2017 at a music festival that is attributed to an adverse reaction to drugs.

Diana Nguyen

123. Nearly one year later, on Saturday 15 September 2018, the *Defqon.1* Music Festival was held at Sydney International Regatta Centre, Castlereagh. This is an annual music festival which is attended by mostly young people. At approximately 6 pm there were approximately 30,000 people in attendance and the festival was sold out.

124. *Defqon.1* 2018 was planned and managed by Q-Dance. Security at the 2018 event was provided by ISEC and on-site medical services were provided by EMS and Medical Response Australia (MRA). Police presence at the festival included drug dog operations.

125. A number of patrons and police officers describe the weather conditions at the venue that day as uncomfortably hot, dry and windy.

126. On the Friday night before the festival, 21-year-old Diana Nguyen flew from Melbourne with her best friend. They were both excited to be attending the event.

127. Diana is the middle child to her father Phuoc Nguyen, and her mother Nga, and she has two siblings, a brother and sister. She was also extremely close to her cousin Jenny, who provided a statement to NSW Police that gives a clear impression of a creative, outgoing and fun-loving young woman, adored by her family.

128. Diana went to Penleigh and Essendon Grammar School, and she finished Year 12 in 2014. She was fluent in Vietnamese and English. Diana had a lot of friends and loved school. She met her fiancé Andy when she was 14 years old and they became engaged in 2018 on her birthday, in Hawaii.

129. Diana got a part-time job when she finished school, mainly at the duty-free shop at Melbourne Airport. She was employed there at the time of her death. She was creative, and had done courses in fashion and beauty. After finishing school, Diana joined a soccer team socially, and then she and her fiancé changed to futsal, which she loved. She played at Broadmeadows, a few times a week.

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[107] See Associate Professor Anna Holdgate's report at Exhibit 3, Vol. 24, Tab 78: *'The blood level for those experiencing 'recreational' MDMA effects is reported to be 0.1 to 0.25 mg/L. Regarding 'toxic' levels, most fatalities reported from MDMA are with blood levels greater than 0.5 mg/L but deaths have also been reported in the 0.11 to 0.55 mg/L range. (Kalant H, The Pharmacology and toxicology of MDMA and related drugs. Canadian Medical Association Journal 2001;165:917-928)*'.

130. Diana was described as a happy and energetic person who loved going out. She drank modestly and was not known to use recreational drugs often. She loved hard-style dancing events and had been to many music festivals. According to one of Diana's best friends, she and Diana had attended other events and had taken MDMA together. She was aware that Diana had used MDMA sporadically with others as well. Apparently she had not taken MDMA for about a year and there were evidently times when she attended a music event without using drugs. Diana had been looking forward to attending the dance event at *Defqon.1*.

131. On Saturday morning, Diana was already up by 7:00 am, doing her make-up and preparing for the day. About 3:00 pm, Diana, her best friend and another female met at the front gate of the festival and went inside.

132. It was a hot day and the temperature was above 30 ºC. The friends had VIP passes and attended the VIP tent located opposite the main stage. Diana was observed to have approximately three vodka cranberry drinks. At some point, it is thought she left to meet a girlfriend from whom she had pre-arranged to buy three MDMA pills. While she was gone, Diana's friend and the other female were in line for the bathroom when they were approached by males offering to sell 'caps' and they bought three for $60.

133. At around 4:20 pm, the three young women took a capsule each of the caps that had been purchased from the males. According to Diana's friend, they then danced at the main stage for the next hour and everyone appeared to be in good spirits. They returned to the VIP tent to get water and rehydrate.

134. Around two hours later, Diana and her friend had a discussion about how they were feeling. While Diana's friend said that she was feeling the effects of the drug starting to wear off, Diana reported back that she was feeling good. The third young woman still felt intoxicated and did not want to take more. Diana and her friend agreed that they would have one each of the pills that Diana had purchased separately. At around 7:00 pm, they both took a pill, described as pinkish white in colour.

135. The three friends continued to dance for 30–60 minutes. Diana's friend described feeling the peak effects around half an hour after taking the second pill and the effect was strong. Diana drank water while on the dance floor.

136. While Diana was dancing, she stumbled slightly and was shaky on her feet. Her friend took her to sit down on a seat in the VIP room and she sat beside her to support her. Diana was hot to the touch and was incoherent and sweating. A security guard noticed that she appeared unwell and approached them, insisting, over Diana's protest, that they go to the medical tent. Diana was then taken to the medical tent by the security officer and her friend.

She collapsed on the way and had to be supported and then carried by the security officer and a police officer who approached to assist.

137. On arrival at the tent at about 7:40 pm, Diana was unconscious and twitching. She was treated predominantly by Dr Wing from MRA. She had trismus (spasm of the jaw muscles) which prevented the medical team from opening her mouth. A nasopharyngeal airway device was inserted through her nostril. External cooling was commenced with ice packs. She received intravenous sodium bicarbonate for presumed hyperkalaemia (elevated potassium level). Shortly after intubation Diana's oxygen levels improved to 90% but then immediately declined to 74%. She received adrenalin but her oxygen levels remained low.

138. Diana was transferred to the NSW Ambulance stretcher at 8:50 pm and at 9:05 pm, she was transported to Nepean Hospital. While in the ambulance her oxygen saturation level deteriorated, she went into cardiac arrest and CPR was commenced. Her recorded temperature was 39.5 ºC.

139. According to ambulance records, Diana arrived at Nepean Hospital around 9.27 pm and she was handed over by Dr Wing. CPR was continued at Nepean Hospital, but tragically, it was not effective and she was pronounced deceased at 10:17 pm.

140. An autopsy report completed by Dr Toit-Prinsloo records the direct cause of death as 3,4 methylenedioxymethylamphetamine toxicity.

141. MDMA was present in toxic levels, 2.3 mg/L.[108] Toxicology conducted on ante and post mortem blood detected no alcohol in the sample. Cocaine, a stimulant drug was present at low, non-toxic levels and was not considered to be related to the cause of death. In addition to that, there was an amount of ketamine, an anaesthetic, and midazolam, a benzodiazepine, both drugs used during resuscitation.

Joseph Pham

142. Also at the festival that day was 23-year-old Joseph Nyugen Nhu Pham, the son of Cong and Phi. Joseph was a young man who was community-minded and full of promise. He attended Freeman Catholic College at Bonnyrigg Heights in 2007. In year 11 Joseph moved to Bossley Park High School and later attended ACU (Australian Catholic University) where he studied teaching. He enjoyed playing online games with friends and attending taekwondo twice a week.

[108] See Associate Professor Anna Holdgate's report at Exhibit 3, Vol. 24, Tab 78: '*The blood level for those experiencing 'recreational' MDMA effects is reported to be 0.1 to 0.25 mg/L. Regarding 'toxic' levels, most fatalities reported from MDMA are with blood levels greater than 0.5 mg/L but deaths have also been reported in the 0.11 to 0.55 mg/L range. (Kalant H, The Pharmacology and toxicology of MDMA and related drugs. Canadian Medical Association Journal 2001;165:917-928)*'.

143. Some years earlier, Joseph had volunteered for a non-profit organisation called SMASH, (Sydney Manga and Anime Show) an annual Japanese popular culture convention held in Sydney. Joseph was still studying at ACU but he worked part-time, usually in warehouse positions, while studying.

144. In 2018 Joseph was an ambassador for *Defqon.1*, meaning he would promote a particular music genre and sell tickets for the event.

145. A friend who was with Joseph at the time explains that a group of five young men met up to go to the event together. He describes them as "*pumped and ready to have a good time*".[109] They arrived in the early afternoon and were searched on entry. It appears that Joseph had four or five pills in a bum bag, but they were not discovered.

146. They went straight to one of the stages and stayed there or walked around until around 5:00 pm. According to his friends, Joseph took half of a purple-coloured pill and drank some water. Another friend also took half a tablet and he said that about half an hour after doing so, he started to feel hot but also a lot more energetic.

147. Around this time Joseph took his t-shirt off and his friends noticed that he appeared to be happy, hyped up and excited. He seemed to be enjoying himself, and was dancing during the night and moving throughout the crowd.

148. At some stage in the afternoon or early evening, Joseph told one friend that he had taken three or four pills but it was not clear if they were half or whole pills. Around 7pm, friends had lost contact with Joseph. They went searching for him and then walked backed to their pre-arranged meeting place. They couldn't find him there and later discovered that he had been transported to hospital.

149. Around 7:30 pm, Joseph arrived at the medical tent extremely unwell. At 7:34 pm his temperature was recorded as 37 ºC. He was treated predominantly by Dr Beshara from EMS. Attempts were made to insert an airway support device into his mouth but this was not possible because of his trismus. His blood pressure improved and his other observations remained relatively unchanged until 8:13 pm when his oxygen level began to fall.

150. At 8:24 pm Joseph went into cardiac arrest and cardiopulmonary resuscitation was commenced. At that time, NSW Ambulance took over his care. Paramedics found him to be hyperthermic (39.5 ºC).

151. Joseph was transferred by ambulance to Nepean Hospital, arriving at 8:51 pm. He was in cardiac arrest when admitted, and was unresponsive to all treatments. Treatment continued until 9.42 pm when he was pronounced deceased.

[109] Statement of [redacted] Exhibit 3, Vol. 2, Tab 20.

152. An autopsy report by Dr Szentmariay records the direct cause of death as acute 3,4 methylenedioxymethylamphetamine toxicity. No alcohol, commonly used medications or other illicit drugs were detected. The reported blood level of 2.0 mg/L MDMA falls within the reported lethal range in the literature.[110]

Callum Brosnan

153. About 3:30 pm on Saturday 8 December 2018, 19-year-old Callum Brosnan attended the music and dance event *Knockout Games of Destiny* at Sydney Showgrounds at Sydney Olympic Park. *Games of Destiny* is a hard-style music event planned by Harder Styles United (HSU) which put up several safety suggestion videos in the lead-up to the event, with tips including "*look after your mates*", "*drink water*" and "*make smart decisions*".

154. A large number of police and security personnel supplied by Reddawn were present for the event. There were additional security personnel from ACES. Medical services were provided by EMS.

155. Callum is the beloved son of Cornelius and Heidi Brosnan and was close to his younger brother and sister. He was born in England but grew up in Sydney and went to school in The Hills district of Sydney. He is described as a bright and very kind child. He excelled at sport and was a very gifted musician, singing and playing the piano, acoustic electric guitar and drums. I note from his mother's statement that in year 12 he played the part of the Beast in the Beauty and the Beast musical during which he sang and acted. Callum had played piano since about the age of 3 or 4 and was offered a place at the Sydney Conservatorium of Music to begin in 2018. However he also had options with modern history and English so he deferred the Conservatorium and was looking at university for 2019. He loved football, particularly AFL.

156. In February 2018 Callum began work caring for children with disabilities and he was responsible for looking after three children with autism.

157. Callum and a number of his friends began using MDMA in 2014 when they were in year 9. At one point they were taking MDMA every week and by 2018, Callum had progressed from taking one to three tablets, to taking between five and ten on some nights out. Callum was extremely close to his mother and father, who had no idea that he had ever used illicit drugs. Like so many young people, because he functioned so well and was getting on with his life as a responsible young adult, Callum's parents were not aware of any interest in drugs and his death was an incredible shock.

[110] See Associate Professor Anna Holdgate's report at Exhibit 3, Vol. 24, Tab 78: '*The blood level for those experiencing 'recreational' MDMA effects is reported to be 0.1 to 0.25 mg/L. Regarding 'toxic' levels, most fatalities reported from MDMA are with blood levels greater than 0.5 mg/L but deaths have also been reported in the 0.11 to 0.55 mg/L range. (Kalant H, The Pharmacology and toxicology of MDMA and related drugs. Canadian Medical Association Journal 2001;165:917-928)*'.

158. Callum attended the Knockout event with a large group of friends. It is not clear whether Callum was already in possession of some MDMA when he arrived. A friend who was with Callum that night reports that Callum purchased three and a half capsules of MDMA in the venue at about 5:30 pm.

159. Between 5:30 pm and 8:30 pm, Callum is believed to have consumed about 2 MDMA capsules before consuming a few more during the night till about midnight. The exact amount is unknown but it is believed that out of the group, Callum consumed the most of the capsules and the number he took is estimated to be between six and nine capsules in total. Information obtained by police suggests that he did not consume any food but was drinking water throughout the night to keep hydrated and he was seen drinking Canadian Club whiskey. He and his friends danced at the event and Callum was noted to be sweating a lot.

160. By about 12:00 am, the event had finished and Callum and his group of friends left the location. His friends noticed that Callum seemed disoriented as they walked to Sydney Olympic Park Railway Station and while waiting on platform three, he became obviously very ill and was experiencing seizure-like symptoms.

161. At around 12:30 am, the Station Duty Manager, Mr Rossli Sharif, was notified of an unconscious male on the platform and he immediately attended. When he arrived, he saw Callum lying on the ground of the platform, apparently unconscious but breathing. His eyes were rolled back in an upwards direction and his eyelids were flickering. Friends who were with him were forthcoming about the use of MDMA. Mr Sharif immediately called the control room to arrange an ambulance and put Callum in the recovery position. A short time later Callum appeared to regain consciousness and he was assisted to sit so that he could vomit. Mr Sharif assured him that the ambulance was on its way and that Callum would be okay. He made contact with the control room for a second time to reiterate that an ambulance was still required.

162. Three to five minutes after Callum finished vomiting, he was beginning to lose consciousness again. Mr Sharif put him back in the recovery position and made radio contact with the main Control Room again to advise that the customer was now unconscious and that an ambulance was still required. He estimates that this was between approximately 12:40 am and 12:45 am. NSW Police arrived at the platform, were provided with an update and they too called for an ambulance to attend the scene.

163. Police were greatly assisted by Callum's friends, who were not only open about what they believed Callum had taken but also showed police a shoulder bag containing one clear capsule containing a white substance in the front pocket, thought to be MDMA.

164. At 12:57 am, a paramedic arrived on the scene and began to treat Callum, after which he was conveyed to Concord Hospital at 01:30 am and was admitted at 1:46 am. On arrival, he

had a Glasgow Coma Scale score of three (out of a possible 15), with fixed and dilated pupils, and copious frothy respiratory secretions. His temperature was 41.9 °C. He was intubated and intraosseous and intravenous access was established. Ice packs were applied. Despite ongoing resuscitation, he was in asystole throughout (apart from an initial brief interval of pulseless electrical activity), he became increasingly acidotic, and no reversible cause of the arrest was identified. He was pronounced deceased at 3:00 am on 9 December 2018 according to the medical records.[111]

165. Laboratory investigations during his admission showed multiple derangements, including hyponatraemia (low sodium concentration in the blood), hyperkalaemia (high potassium levels in the blood), haemoconcentration (a marker of heart failure), elevated renal function tests, slightly increased liver enzymes and coagulopathy. These findings likely reflect multisystem organ failure to some extent. There was no sign of significant injury.

166. An autopsy report[112] prepared by Dr Rebecca Irvine describes the cause of death as a mixed drug (methylenedioxymethylamphetamine and cocaine) toxicity. His level of MDMA was in the toxic range: 2.8 mg/L.[113]

Joshua Tam

167. About 8:30 am on 29 December 2018, 22-year-old Joshua Tam arrived with a group of friends at the *Lost Paradise* music festival at Glenworth Valley.

168. *Lost Paradise* is a four-day camping and music event held at Glenworth Valley Outdoor Adventures, located at 69 Cooks Road, Glenworth Valley.[114] The festival operates on a lease agreement with Glenworth Valley, which holds an approved DA for a music event to the capacity of 15,000. Ticket sales in 2018 allowed for 11,153 patrons.

169. The founder and director of *Lost Paradise* is Simon Beckingham. He engaged Reddawn Australia as the security company. In addition, the festival had a large police presence, including drug detection dogs. EMS was engaged to provide medical facilities and personnel.

170. Joshua is the son of John and Julie Tam and was the youngest of their three children. He is survived by his parents and two older sisters. Joshua grew up in Brisbane. He started school at Mater Dei Primary School and went to high school at Marist College Ashgrove. After high school he went to Southbank TAFE where he studied business and went on to the

[111] Medical records from Concord Hospital, Exhibit 3, Vol. 16, Tab 36. Cf 4:26am as cited on the Form A, Exhibit 3 Vol. 15, Tab 2 and in the P79A, Exhibit 3, Vol. 15, Tab 1.
[112] Autopsy report re Callum Brosnan, Exhibit 3, Vol. 15, Tab 4.
[113] See Associate Professor Anna Holdgate's report at Exhibit 3, Vol. 24, Tab 78: '*The blood level for those experiencing 'recreational' MDMA effects is reported to be 0.1 to 0.25 mg/L. Regarding 'toxic' levels, most fatalities reported from MDMA are with blood levels greater than 0.5 mg/L but deaths have also been reported in the 0.11 to 0.55 mg/L range. (Kalant H, The Pharmacology and toxicology of MDMA and related drugs. Canadian Medical Association Journal 2001;165:917-928)*'.
[114] Statement of Haydn Francis Johnston, Exhibit 3, Vol. 10, Tab 40.

Queensland University of Technology where he began his business degree. He left there and put his degree on hold to work with his grandfather's body corporate management business. In July 2018 he moved out from home and he was enjoying living with two good friends. Throughout his school years Joseph was always very fit, particularly in high school where he played rugby. He trained a lot and went to the gym.

171. Joshua was not a regular user of prohibited drugs but had been known to use marijuana since high school sporadically, and he had previously consumed cocaine and pills of some sort on a few occasions. His parents were not aware that he had used MDMA or that he was interested in it. Although they knew he liked to have fun, and was attending a music event, the extent of his interest in and use of MDMA was a great shock to his parents.

172. Joshua and the friends he was travelling with lived in Queensland and they were excited to be going on a road trip to attend this event in NSW. When they drove into the festival grounds in December 2018, the vehicle they were travelling in was subjected to a search, but the drugs the group had on them were not located. Joshua and his friends set up their camp in the southern campsite.

173. By the time they arrived and had set up camp it was around midday, and the temperature was very hot, hovering around 40 ºC on the car thermometer. The friends started drinking after their campsite was set up and Josh is estimated to have consumed about five cups of mixed vodka over the course of about four hours. Josh was seen drinking water but it is thought to have been only a small amount. During this time, Josh was observed by a friend to ingest a drug believed to be MDMA in the shape of a small rock. This had been obtained before coming to the festival. Afterwards, at about 4:00 pm, Joshua and the group of friends proceeded inside the venue. Joshua was dancing and he was observed by a friend to be hot and was sweating.

174. About 6:00 pm an unknown female found Joshua lying on the ground in the mid-north campsite area, unconscious. Two private EMS paramedics attended by buggy within a matter of minutes after receiving the call. The unknown female provided information that she was a friend of Josh's, she was a nurse and he had taken five or six MDMA pills and consumed a litre of vodka. This female then left the area and police have not been unable to identify her or learn any further information to assist in identifying or locating her. Police do not consider the information she provided to be reliable.

175. Joshua was conveyed by buggy to the onsite EMS medical centre. Upon arrival at about 6:15 pm, he was transferred into the resuscitation room where he was treated by Dr Krishna Sura, a general practitioner. Joshua became combative towards the people trying to treat him, which was entirely out of character for him. His temperature was 43.4 ºC. Rapid cooling was initiated using ice packs and Joshua's body temperature began to drop. A decision was

made by Dr Sura that Joshua be transported to hospital and care was handed over to the onsite paramedics from NSW Ambulance. That was the correct decision in the circumstances he faced.

176. Joshua's friends became concerned when they hadn't seen him for some time and they went in search of him, first back at their campsite. From about 6:30 pm they formed small groups to search the entire venue including the EMS medical tent, but they had no information.

177. Joshua was placed in an ambulance to be taken to Gosford Hospital for treatment and went into cardiac arrest en route. He arrived at Gosford Hospital about 7:05 pm and despite all life support and resuscitation efforts, he was pronounced deceased at 7:52 pm.

178. An autopsy report by Dr Leah Clifton[115] concludes that the direct cause of death was the complications of MDMA use. Ante mortem and post mortem blood toxicology detected the presence of alcohol, benzodiazepines, ketamine, 3,4-Methylenedioxyamphetamine (MDA), 3,4-Methylenedioxymethylamphetamine (MDMA) and cannabinoids. The medical records clearly describe the drug ketamine as being administered to the deceased during the resuscitation efforts to assist in management of the combative behaviour. The alcohol, cannabinoids and benzodiazepine levels were all low and likely had a minimal or no role in the death. The reported blood level of 0.97 mg/L MDMA falls within the reported lethal range in the literature.[116]

Alexandra Ross-King

179. The last young adult to lose their life at a music festival in NSW over the summer of 2018–19 was a young woman by the name of Alexandra Maree Ross-King, known to her family as Alex or Al. She was 19 years old when she attended the *FOMO* music festival at Paramatta Park on Saturday 12 January 2019.

180. Alex is the beloved daughter of Jennie Ross-King and Matthew King. She was also very close to her stepfather, Andrew, and to her step-siblings and friends. She attended Ourimbah Public School and Narrara Valley High School. Alex was a bubbly, happy child and carried that into adulthood. She made friends easily and was well respected by her peers and teachers. She was a hard worker, getting a casual job at the age of 13 in a chicken shop and then going on to work for her mother and Andrew in the family butcher shop. Within a short period of time they came to rely on Alex to manage shifts, balance books and stock take. Her mother describes her as responsible beyond her years. Like most 18-year-olds, she was

[115] Autopsy report re Joshua Tam, Exhibit 3, Vol. 6, Tab 2.

[116] See Associate Professor Anna Holdgate's report at Exhibit 3, Vol. 24, Tab 78: '*The blood level for those experiencing 'recreational' MDMA effects is reported to be 0.1 to 0.25 mg/L. Regarding 'toxic' levels, most fatalities reported from MDMA are with blood levels greater than 0.5mg/L but deaths have also been reported in the 0.11 to 0.55mg/L range. (Kalant H, The Pharmacology and toxicology of MDMA and related drugs. Canadian Medical Association Journal 2001;165:917-928)*'.

finding her way in the world and staying out late with a close group of friends having fun. She was mature and responsible, and was a loving friend, daughter and sister.

181. Although, like many parents, Alex's mother, father and step father were not aware that she was interested in taking any stimulants, from the information provided by friends we know that throughout the first half of 2018 she was taking MDMA on some occasions at the weekends. On these occasions Alex would take one tablet or two, but she might occasionally have taken a third if she thought they weren't working enough.[117] In the second half of 2018 she had reduced the frequency at which she used MDMA because she thought it was "*stupid*" and didn't like the side effects of feeling sick the next day and being tired for work.[118]

182. *FOMO* is a live music event run across four states in Australia, performed by international and local artists. *FOMO* Festival Sydney is owned and run by *FOMO* Pty Ltd which engaged I-SEC (ISEC) to provide security planning and security management services to support the Sydney event. *FOMO* 2019 at Paramatta Park had a crowd of approximately 15,000 patrons. There was a large police presence including sniffer dogs.

183. Medical care was provided by EMS. The main medical tent is the compound in which administration and treatment occurs, and from where all the ambulance transports took place. The resources allocated in this tent maintained a capability from basic first aid, to management of advanced life support. The compound was located in the easternmost point of the site and was staffed by 30 EMS staff. Other staff who attended the tent throughout the day included NSW Ambulance staff, and observers from the NSW Health Disaster and Emergency Management and Planning.

184. Friends of Alex have cooperated with NSW Police in a way that enables the court to understand the surrounding events. On the night before the festival, Alex and a few other young women stayed at the home of a close friend. After discussing it among themselves, they agreed that they would buy MDMA to consume at *FOMO* the next day and together they sourced the drugs from a local supplier. They bought capsules for $20 each, described as coloured half dark green and half light green.

185. On the morning of the festival, Alex and her friends were excited. While some of them had breakfast, Alex declined to. The girls mixed up vodka with juice in litre bottles that they were planning to drink on the bus on the way to the festival. Alex and her group were joining other friends to travel to Parramatta on a private minibus, that left the central coast around 11:00 am. One of the young women on the bus told police that since drinks were so expensive in the festival, the group was "*pre-loading*" in the bus and many of them, including Alex, appeared to be intoxicated by the time they arrived.

[117] Statement of [redacted] Exhibit 3, Vol. 17, Tab 14.
[118] [redacted] 17 July 2019 T780.

186. Before getting on the bus, Alex was seen to consume a quarter of a capsule. About 30 minutes into the trip, she had another half a capsule, and she drank the alcohol she had prepared. About 12:30 pm, the bus arrived at the venue. Alex was seen to consume a further two capsules, before entering the *FOMO* music festival. She told her friends that because she was nervous about being caught by police, she took the two capsules at once before entering the venue.[119]

187. The day was hot and humid, with a peak temperature at 3:00 pm of 33.3 ºC.[120] A friend explained they were dripping with sweat after the five-minute walk from the mini bus to the ticket gates.

188. By 3:00 pm, Alex had spent a couple of hours dancing with her friends and had consumed about three or four vodka Red Bulls. By 3:38 pm Alex was sitting under a tree and messaged her friends asking for them to come and get her. Just before 4:00 pm, some of Alex's friends found her near stairs leading to the main stage area. She was frantic, but relieved to find her friends. She was able to walk but her breathing was irregular and she told her friends repeatedly she was "*hot*" and "*really fucked up*".[121]

189. Alex wanted to return to the tree. When they were almost there, Alex stopped following her friend and started to walk very slowly. She said "*my legs aren't working*".[122] She appeared agitated and had her arms clenched to her chest. A lady in a medical uniform approached, concerned about Alex. Alex started to walk away and bumped into some unknown patrons, falling to the ground. The lady in the medical uniform insisted on taking Alex to the medical tent, effectively dragging Alex there with the help of one of her friends. The medical tent was only about 30 seconds walk away.

190. By the time Alex presented to the medical tent on site at about 4:20 pm she was critically unwell. She was first treated by the Operations Manager at EMS that night, paramedic Mason Hoy. Mr Hoy noted that Alex was combative and had rapid, spontaneous and uncontrollable large muscle movements, signs consistent with serotonin toxicity. She had a temperature reading of above 41 ºC and he called for icepacks to initiate active cooling. Alex had a radial pulse that was rapid and irregular. She had trismus (jaw spasms) and her breathing was rapid and irregular. The medical team present to assist included an emergency physician, Dr Kavita Varshney.

191. Dr Kavita Varshney had attended *FOMO* 2019 to observe the event and the emergency operations centre and medical facilities, at the recommendation of the Disaster Manager of Western Sydney Local Health District (WSLHD). She attended in a non-clinical role and not

[119] Statement of [redacted] Exhibit 3, Vol. 17, Tab 14.
[120] Bureau of Meteorology data from Sydney Olympic Park, Exhibit 3, Vol. 18, Tab 36b.
[121] Statement of [redacted] Exhibit 3, Vol. 17, Tab 12.
[122] Statement of [redacted] Exhibit 3, Vol. 17, Tab 12.

in her capacity as an emergency medicine physician. Her attendance was intended to provide Dr Varshney with an understanding of the musical genres and mass gathering events that occur within WSLHD which can impact on their health facilities.[123]

192. Dr Varshney, as the most senior clinician present at the festival, agreed to provide assistance to EMS if required.[124] She was called over to assist Alex at about 4:30 pm, when Alex was already on a treatment bed being looked after by EMS staff and NSW Ambulance staff.

193. At the direction of Dr Varshney, Alex was administered the sedative drugs midazolam and driperidol intramuscularly to reduce the agitation. When her temperature was taken again, it was still high, indicating that she was not responding to the cooling attempts.

194. About this time, based upon Alex's extreme hyperthermia, tachycardia and agitation, Dr Varshney spoke directly with the NSW Ambulance forward commander to arrange Alex's transfer to hospital for ongoing care.[125]

195. Alex was then conveyed to Westmead Hospital under lights and sirens, arriving at 5.04 pm. In the ambulance she was unconscious. She was ventilated and monitored.

196. On arrival at hospital Alex was drowsy, with a high body temperature of 42 ºC, low blood pressure, and electrolyte derangement (hyperkalaemia with ECG changes). She was intubated, and put on a ventilator and her high body temperature was treated with ice packs.

197. Approximately ten minutes after Alex's arrival at Westmead Hospital, she went into cardiac arrest. CPR was commenced and several doses of adrenaline were administered. She continued to have a number of cardiac arrests despite the high doses of adrenaline. Alex's high potassium level (hyperkalaemia) was also treated.

198. Alex did not have a high enough blood pressure to be able to provide blood to her organs, so she was placed on a heart and lung bypass machine. To use this machine, an attempt was made to place catheters into both groins, but that was unsuccessful. Around 9:15 pm, after around four hours of attempted resuscitation, the decision was made for medical staff to stop mechanical CPR and the time of death was called.

199. Pathologist, Dr Kendall Bailey, found that the cause of death was MDMA toxicity.[126] The level of MDMA detected was in the reported lethal range1.7 mg/L.[127]

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[123] Supplementary statement of Dr Kavita Varshney, Exhibit 44, Tab 35.
[124] Statement of Dr Kavita Varshney, Exhibit 3, Vol. 18, Tab 33.
[125] Statement of Dr Kavita Varshney, Exhibit 3, Vol. 18, Tab 33.
[126] Autopsy report re Alexandra Ross King, Exhibit 3, Vol.17, Tab 6.
[127] See Associate Professor Anna Holdgate's report at Exhibit 3, Vol. 24, Tab 78: '*The blood level for those experiencing 'recreational' MDMA effects is reported to be 0.1 to 0.25 mg/L. Regarding 'toxic' levels, most fatalities reported from MDMA are with blood levels greater than 0.5mg/L but deaths have also been reported in the 0.11 to 0.55mg/L range. (Kalant H, The Pharmacology and toxicology of MDMA and related drugs. Canadian Medical Association Journal 2001;165:917-928)*'.

200. In addition, a low blood alcohol level and a low blood level of nortriptyline (antidepressant and metabolite of amitriptyline) were noted, as was the presence of delta-9-tetrahydrocannabinol and delta-9-tetrahydrocannabinolic acid (indicative of previous cannabis use). A low blood level of midazolam was also detected, documented as administered during therapeutic intervention.

The provision of medical care

201. As I have noted above, EMS was the medical provider at all five music festivals where the six deaths occurred and staff from EMS treated five of the young people after they became critically ill and before they were transported to hospitals. Tragically, Callum did not seek onsite medical care at any time before leaving the music festival so EMS was not involved in his treatment.

202. EMS is a company that provides medical services to events. The Chief Executive Officer is Mr Michael (Mike) Hammond. Including Mr Hammond, EMS has four full-time staff at present and contracts doctors, nurses, paramedics and emergency medical technicians to provide medical services at music festivals and other mass gathering events, as they are required. It should be noted that EMS, although a popular provider, is not the only company providing medical services to music festivals. However, without a direct comparison it is difficult to know how it compares to other providers in the quality of care it offered at the relevant period. Mr Hammond implied that it was a difficult industry and that in the past he had even been required to shave his profit when promoters were unwilling to pay for what was needed.[128] He indicated that his current policy was to walk away from the contract if it did not provide for adequate medical care.

203. It is important to recognise that at the time of *Defqon.1*, there were no official guidelines in place in NSW that suggested minimum medical staff levels or mandated qualifications of contracted medical practitioners. This left a heavy responsibility on providers such as Mr Hammond to accurately judge the risk. Mr Hammond gave evidence that he used his extensive experience to calculate the risk of each festival he was contracted to. He said he referred to WA Guidelines, which suggest that one doctor per 30,000 is acceptable.[129]

204. It is clear that promoters and festival owners relied upon Mr Hammond to understand and manage the medical risk for them. For example, Simon Coffey, the Director of Q-Dance which runs *Defqon*, confirmed every year he relied entirely on Mr Hammond to determine the appropriate numbers and qualifications of the doctors who would be provided.[130] Simon Beckingham, the Director of Lost Paradise Festival, confirmed that EMS was responsible for the final determination as to how many doctors, the type of qualifications, and the other staff members that would be alongside.[131]

205. Mr Hammond explained to the court that planning for *Defqon.1* had been based on extensive field experience from previous similar events over many years. He explained that he factored

[128] Michael Hammond, 11 September 2019 T1023.46-1024.4.
[129] Guidelines for concerts, events and organised gatherings – WA Department of Health, December 2009, Exhibit 34.
[130] Simon Coffey, 9 July 2019 T183.28-40.
[131] Simon Beckingham, 15 July 2019 T580.T25-28.

in an evaluation of the previous year. At *Defqon.1* 2017, where there had been up to 27 000 patrons, there were about six drug-related medical presentations. Of the four patients taken to hospital, only one was for an apparent drug overdose.[132] Mr Hammond told the court that he had certainly never encountered a requirement for rapid sequence intubation[133]and never in his 30 years of experience had he ever encountered a situation where there were two critically unwell patients presenting simultaneously.[134] He contended the staffing ratios he devised were appropriate in the circumstances.[135]

206. Mr Hammond stated that medical plans were presented to promoters and at stakeholder meetings which were held before each festival to confirm the medical arrangements, among other issues. The arrangement appears to be that EMS was contracted by the promoters to provide onsite medical treatment, and NSW Ambulance was to transport patients to hospital.[136] NSW Ambulance would have ambulances and paramedics pre-deployed to the venue.

207. In oral evidence, Mr Hammond agreed that the risks at *Defqon.1* were not correctly identified. In hindsight it appears obvious that an electronic dance music festival for 30,000 young adults, where a significant percentage were likely to have consumed drugs and/or alcohol, running all day and into the night in an Australian summer required the leadership of a senior emergency specialist. Mr Hammond's decision to contract a senior registrar and a junior general practitioner, who had no previous working relationship, was misguided. Even without knowing there would be an increase in drug presentations, there was a risk that two people would present with catastrophic injuries from falling or heat stroke or any number of other misadventures.

Was the care provided adequate?

208. In order to determine the adequacy of the care that the six young adults received both at the onsite medical centres and after transfer to hospitals, the court had the assistance of the expert opinion of Associate Professor Anna Holdgate, a Senior Staff Specialist in Emergency Medicine in Sydney with over 24 years of clinical experience as a specialist in emergency medicine. In addition to her 33 years of clinical practice in hospital-based medicine, she has

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[132] Michael Hammond 11 September 2019 T1031.
[133] Supplementary statement of Michael Hammond, Exhibit 47.
[134] Michael Hammond, 11 September 2019 T1050.
[135] There was also some evidence to suggest that Mike Hammond had a conversation with Detective Chief Inspector Gus Viera one year earlier at Knockout Circuz 2019 event to the effect that EMS had almost run out of provisions and would need to shut an hour earlier: see statement of Detective Chief Inspector Gus Viera, Exhibit 3, Vol. 11, Tab 8. Mike Hammond clarified this in his oral evidence stating that EMS had run out of blankets, sheets and possibly vomit bags, but could use Ambulance NSW supplies until the end of the event. See Michael Hammond, 11 September 2019 T1054.29-40.
[136] See, for example, oral evidence of Michael Hammond, 11 September 2019 T1035; Statement of NSW Ambulance Officer Timothy Mascorella, Exhibit 3, Vol. 3, Tab 47; Dr Andrew Beshara, 9 July 2019 T92.12-32.

extensive experience in teaching and in the examination of training doctors in emergency medicine. Associate Professor Holdgate was an extremely impressive witness and the opinions she set out in two written reports and in oral evidence were reasoned, measured and thoughtful. She was not shaken in cross examination but gave careful and appropriate concessions when, on a couple of occasions, she was supplied with new information.

209. Associate Professor Holdgate made no criticism of the way either Joshua or Alex were treated, either onsite, or while they were in transit or hospital care. Nor was there any criticism by Associate Professor Holdgate of the treatment Callum received at Sydney Olympic Park Railway Station by NSW Ambulance paramedics nor in relation to his transfer or treatment at Concord Hospital. By contrast, Associate Professor Holdgate was extremely critical of aspects of the care of both Diana and Joseph by medical staff who had been contracted by EMS, including in relation to the failure to secure a timely transfer of both patients into hospital. Further, Associate Professor Holdgate expressed some reservations about aspects of the care Nathan received at Westmead Hospital, although she was clear it unlikely affected the tragic outcome.[137] I do not intend to repeat each of her detailed criticisms of the relevant care, but her evidence has been carefully reviewed and was well tested in cross-examination.

Onsite care provided to Diana and Joseph at Defqon.1

210. In Associate Professor Holdgate's view, the EMS medical team was not adequately resourced or skilled to provide simultaneous resuscitation of multiple critically ill patients. Both the physical equipment and human resources were inadequate to manage the multiple patients who presented for treatment. NSW Ambulance (NSWA) was required to supply ad hoc support of both equipment and personnel. Associate Professor Holdgate was also critical of a number of the clinical decisions made. Faced with two critically ill patients who both required significant resuscitation and urgent hospital transfer, a decision was made to initiate many treatments onsite which could have been satisfactorily performed *en route* to hospital by the intensive care paramedics who were present at the venue. She also identified a number of gaps in treatment and knowledge.

211. Associate Professor Holdgate was particularly critical of the communication and team work between EMS and NSWA in the treatment provided on site. This resulted in a failure to transfer Joseph to hospital in a timely manner and created significant delays in Diana's treatment.

212. There were inadequacies in the way medicines and equipment were stored. A number of medicines were apparently supplied on an ad hoc basis by Dr Wing. There was only one

[137] Associate Professor Anna Holdgate's report at Exhibit 3, Vol. 24, Tab 78, p 18 and supplementary report at Exhibit 44, Tab 2, p 10.

dose of rocuronium and once this had been put aside to use for Joseph, only a sub-optimal medication was available for Diana. There should have been sufficient supplies for at least two patients since it was foreseeable that two patients would require the same level of care.

213. The lack of leadership and clear communication identified by Associate Professor Holdgate was also described by a number of NSW Ambulance officers who were present that evening. Intensive Care Paramedic Timothy Mascorella told the court, *"I found it extremely difficult to deliver care to this patient [Joseph] as there was no team leader established. The doctors were giving the patient medications during the arrest that we weren't aware of…I found the lack of leadership and crew resource management of the Event Medical Service crew to be completely abhorrent. The critical patients were managed very poorly, where there were not specific guidelines surrounding when NSWA Paramedics were to take over care or provide clinical assistance to the event medical teams".*[138]

214. Paramedic Mascorella also gave evidence that there were no specific guidelines surrounding when NSW Ambulance paramedics were to take over or provide clinical assistance to EMS.[139]

215. Ambulance Inspector Robert Ryan was also critical of the systems in place. He stated "*At the time of the presentations of the critically unwell patients, it appeared that EMS was not adequately staffed or stocked with supplies to render treatment to the patients".*[140]

216. Paramedic Michael Wood stated "*I found this environment to be flustered, no clear leader. They (EMS medical team) attempted to start the intubation check list three times, but encountered a problem on each. The communication was not clear and effective. The[y] eventually got it right, with the doctor doing the intubation*".[141]

217. Manager, State Planning Unit NSWA, Mick Bray stated that, at a NSWA debrief on 20 September 2018, the *Defqon.1* paramedics reported a number of concerns, including that EMS appeared to be overwhelmed by the situation of multiple critically ill patients presenting simultaneously, that EMS ran out of oxygen cylinders,[142] and that they considered there was an excessive delay in getting Diana and Joseph to hospital.[143]

218. Clearly any deficiencies identified by Associate Professor Holdgate in decision-making, coordination and communication are the responsibility of EMS. The NSWA were there to transport patients and support EMS doctors when directed. As it happened, there were times

[138] File note of Timothy Mascorella, Exhibit 3, Vol. 3, Tab 48; Statement of Timothy Mascorella, Exhibit 3, Vol. 3, Tab 47; Timothy Mascorella 12 July 2019, T391.20-33.
[139] File note of Timothy Mascorella, Exhibit 3, Vol. 3, Tab 48; Timothy Mascorella, 12 July 2019 T.392.25.
[140] Statement of Robert Ryan, Exhibit 3, Vol. 3, Tab 46 [14].
[141] Statement of Michael Wood, Exhibit 3, Vol. 3, Tab 52 [19].
[142] This is disputed by Mike Hammond, 11 September 2019, T1071.36-45.
[143] Statement of Michael Bray, Exhibit 49 [6] – [8].

when necessity meant they took control. This does not suggest they were responsible for the deficiencies they tried to cure.

219. Mr Hammond gave extensive evidence at the inquest and demonstrated that he had carefully reflected on many of Associate Professor Holdgate's criticisms of the care provided by EMS in relation to both Diana and Joseph. He made a number of concessions including that with hindsight there was a lack of clinical leadership with respect to the care of Joseph.[144]

220. He agreed, in hindsight, that EMS was not resourced with the relevantly skilled doctors to deal with simultaneous resuscitations on the night, nor was there a sufficient quantity of rocuronium. He accepted that the clinical decision to transfer Joseph was not activated as early as it should have been.

Findings with respect to Dr Wing

221. Dr Sean Wing's company Medical Response Australia (MRA) was subcontracted by EMS to provide medical personnel at *Defqon.1.*[145] Dr Wing was one of two onsite doctors assigned to the event and he was the most senior. Dr Wing was initially working with Dr Beshara to treat Joseph, however when Diana presented and was also critically unwell, Dr Wing assumed responsibility for her care.

222. Dr Holdgate's evidence made a number of specific criticisms of the clinical care managed by Dr Wing.[146] Given that he was the senior doctor, her criticism related to both Joseph and Diana's care.

- There were significant delays initiating some important aspects of Diana's treatment.
- The intraosseus needle, which was crucial to administering life-saving medications, was not inserted until 15 minutes after she had arrived in the medical tent.
- There was delay in establishing ECG monitoring.
- Diana did not receive any treatment for her severe hyperkalaemia until 25 minutes after she presented and treatment was inadequate. Treatment of life-threatening hyperkalaemia requires multiple doses of calcium (often a minimum of three consecutive doses) until the ECG normalises and other specific treatments such as salbutamol and insulin/dextrose to lower the potassium.
- Intubation was delayed, occurring 40 minutes after Diana's arrival.

[144] Michael Hammond, 11 September 2019 T1049.
[145] The court heard of an odd arrangement between Dr Wing and Mr Hammond's company. According to Dr Wing the arrangement was essentially altruistic, with a fee that was used only for expenses and for the business. According to Mr Hammond it was a normal contractual agreement.
[146] Statement of Associate Professor Anna Holdgate, Exhibit 3, Volume 24, Tab 78.

- Diana had been critically ill in the treatment tent, with incomplete resuscitation, for approximately 70 minutes before being transported to hospital.
- The delay in hospital transport in combination with incomplete treatment is below the expected standard of care.
- The paralysing drug that was administered, suxamethonium, was contraindicated in this clinical situation as it may worsen hyperkalaemia and precipitate cardiac arrest.
- There seemed to be poor communication and team work between EMS and NSWA in the treatment provided onsite, the timing and method of transport and care of Diana during transport.
- The treatment provided to Diana *en route* to hospital is poorly documented but appears to be below the expected standard. Dr Wing initiated inappropriate treatment (percutaneous pacing) for Diana's extremely slow pulse rate and impalpable peripheral pulses. The appropriate treatment would be to provide a bolus of intravenous adrenaline and to provide further treatment for her hyperkalaemia.
- Once she had gone into cardiac arrest, Diana was not treated according to the standard advanced life support algorithm.
- Because of the poor documentation it is not clear whether Dr Wing appropriately engaged the ambulance staff in assisting him to care for Diana.
- The treatment provided to Diana at the scene and *en route* to hospital was disorganised, delayed and incomplete and further reduced her chance of survival.
- The care provided for Joseph was poorly coordinated and indecisive. The lines of leadership were unclear. This is demonstrated by Dr Wing and Dr Beshara having different views as to what each of their roles would be in a resuscitation situation.
- The requirement for Dr Wing to supply his own drugs further undermined the coordination and leadership hierarchy.
- There was an ad hoc collection of medications provided by Dr Wing with a very limited number of doses of important resuscitation drugs, including rocuronium.
- Joseph did not have clinical features of GHB toxicity (a condition that could reverse itself) and therefore it was not reasonable to expect that his condition might spontaneously improve.

- Rather than delay Joseph's treatment at the site until they had cared for Diana, it would have been more appropriate to promptly hand over care to NSWA to expedite his transfer to hospital for ongoing care.

- Decision-making about who was taking over care at what point, and how and when Joseph would be transported to hospital was poorly coordinated.

- Dr Wing attempted to treat Diana Nguyen and Joseph Pham as if he was in a well-supported hospital environment rather than a relatively isolated facility with limited physical and human resources.

223. Dr Wing made certain very limited concessions. He described Defqon.1 2018 as "a real turning point essentially in, in the pattern of presentations that I've seen and certainly I think that broadly we've seen in the medical literature and, and even the Australian experience, to intubate two patients at an event was, as I say, previously unheard of and we've subsequently gone on this year obviously to have a number of other events where large numbers of people have required onsite intubation, but previously that was, as I say quite unheard of, and we were certainly very capable of providing the vast majority of, of emergency stabilisation and we could provide that drug facilitated intubation and while I agree it was to two patients, that was twice the number that I anticipated having to do it for".[147]

224. With hindsight, he agreed that two doctors at *Defqon.1* 2018 was not adequate, or that two doctors might have been enough if they had sufficient qualifications and experience that they could work independently, supported by appropriate numbers of appropriately skilled paramedical and nursing staff.[148]

225. With hindsight he agreed that checking with Dr Beshara before the event what drugs each doctor would supply would be a valid step and noted that post *Defqon.1* 2018 there has been more due diligence surrounding this issue.[149]

226. Nevertheless, he stated that he did not feel overwhelmed and disputed that there was a serious issue in relation to the coordination of care. He stated "*I believe the coordination of care issues potentially reflect a chaotic environment. And I, while I don't disagree that the environment was chaotic, resuscitations can be chaotic in the most controlled and the most well equipped emergency departments by their very nature because lots of people are*

[147] Dr Sean Wing, 12 July 2019 T434.20-35.
[148] Dr Sean Wing, 12 July 2019 T437.25-40, T480.25.
[149] Dr Sean Wing, 12 July 2019 T431.20.

talking, lots of people are trying to achieve things. The patient is often very sick, which makes simple procedures very challenging."[150]

227. He agreed that while "there were some lapses around the clarity of handover – I, I believe that the coordination of care was adequate. I believe that all of the parties involved, so ambulance, EMS, and my team, were, all shared a mental model of what was occurring and what was going to happen. So with respect to both patients arriving in the medical tent fairly shortly after each other, it was clear to us that Joseph would require emergent transport to hospital, and we wanted to make him stable for that."

228. While Dr Wing does not concede that he was out of his depth, in my view he clearly was. His decision to leave Dr Beshara alone also indicates his inability to understand and accept that he was leading the team, not just treating an individual patient. He says he took "*a calculated risk*" when he decided to travel with Diana in the ambulance.

229. I have carefully read the submission supplied by Dr Wing's counsel and reviewed the explanations he gave in court. I do not intend to set out in detail every aspect of the care he gave. I do not accept many of the explanations he gives. Where his medical judgement diverges from that of Associate Professor Holdgate, on reflection I prefer her evidence in all respects. In my view there were clear delays and inadequacies of treatment in relation to Diana. These include delay inserting an intraosseus needle, delay in establishing ECG monitoring, delay and inadequate treatment of her hyperkalaemia, delay in intubation and transport to hospital, use of suxamethonium which was contraindicated and a lack of understanding of standard advanced life protocols. In relation to Joseph's treatment I remain concerned that Dr Wing accepts little responsibility. He is clearly wrong to suggest Joseph's condition indicated possible GHB toxicity which could resolve without treatment. He clearly misunderstands the leadership role he needed to play. I accept Associate Professor Holdgate's opinion that as a result, Joseph's treatment was poorly coordinated and indecisive.

230. I had the opportunity to observe Dr Wing give evidence. He appeared over-confident and with a limited capacity for self-reflection. Many of his explanations were self-serving, contradictory and confused.

[150] Dr Sean Wing, 12 July 2019 T439-440.

231. I accept Associate Professor Holdgate's view that Dr Wing was faced with a very challenging situation in a somewhat unfamiliar environment with staff of mixed skills and experience. I am nevertheless troubled by how little he appeared to have learnt from the situation. As Associate Professor Holdgate told the court "…*he [Dr Wing], when asked, said he couldn't identify anything he would've done differently. I can't think of a single patient I've ever seen where I couldn't think of something I could've done a bit better. I find that a worrying lack reflection…*"[151]

232. Having listened carefully to the evidence, particularly the response of Dr Wing, I remain confident in the expert testimony of Associate Professor Holdgate. I have no doubt that Dr Wing did his best in a very stressful situation, but he did not appreciate his own limitations when trying to treat Joseph and Diana. Associate Professor Holdgate identifies a number of troubling gaps in his knowledge. I was not persuaded by the explanations Dr Wing gave.

233. Finally, I accept Associate Professor Holdgate's opinion that both Joseph and Diana were already critically ill when they came under Dr Wing's care. Whether optimal treatment would have made a difference to the outcome is unlikely, but possible.[152]

Findings with respect to Dr Beshara

234. At the time of *Defqon.1* on 15 September 2018, Dr Beshara was a registrar in his fourth postgraduate year. He had limited experience in emergency medicine, having spent fairly brief earlier rotations in emergency roles. He had only performed an intubation twice, once in theatre and once in ICU. On both occasions he had been supervised. He told the court he was not confident to do it on his own.[153] Dr Beshara told the court that he was comfortable with emergency airway management but he certainly did not expect to be called upon to perform an intubation.

235. Dr Beshara had applied to work at the music festival to EMS through an online form. He correctly disclosed his qualifications and was chosen by Mike Hammond for the role. Mike Hammond stated that he had read Dr Beshara's CV and was well aware that he had limited experience.[154] His appointment did not require any specific critical care skills. He understood that Dr Beshara was a junior doctor and would work as part of a team. This was confirmed when Dr Beshara met Dr Wing on site.

236. I accept that Dr Beshara also discussed his qualifications and experience with Dr Wing when they met on 15 December 2018. He says they agreed that Dr Wing would lead the resuscitation area and Dr Beshara would lead the other areas. Dr Beshara would be

[151] Associate Professor Anna Holdgate, 19 September 2019 T1258.5.
[152] Associate Professor Anna Holdgate, 19 September 2019, T1257.45.
[153] Dr Andrew Beshara, 9 July 2019 T79.1-33.
[154] Michael Hammond, 11 September 2019, T1037.23-32.

available to provide secondary assistance to Dr Wing in acute cases.[155] I accept Dr Beshara's account of the conversation he had with Dr Wing in this regard.

237. While it is clear that Dr Wing was the senior doctor, Dr Holdgate points out that the way the two doctors were retained may have exacerbated the poor decision-making structure. She told the court "*because Dr Beshara was employed directly by EMS and Dr Wing was employed via his role with MRA there was no unified team and the hierarchy of command was blurred*." Even after reading Dr Beshara's and Dr Wing's statements, Dr Holdgate was not entirely clear on the decision-making structure in place on the day.[156]

238. Associate Professor Holdgate was critical of the care that Joseph received when Dr Beshara was left to manage him. In summary, she gave evidence that:[157]

- EMS staff did not initiate a plan to transport Joseph to hospital until after he had progressed to cardiac arrest. Specifically for Joseph, when resources were directed towards Diana and he was seen as relatively stable, there was an opportunity to move him rapidly to hospital.[158]

- Joseph's body temperature should have been re-checked.

- By the time he progressed to cardiac arrest he was hyperthermic but no treatment for hyperthermia was initiated pre-hospital.

- The coordination of Joseph's care between EMS and NSWA was disorganised with an apparent lack of leadership and decision making by Dr Beshara or any other medical practitioner. "*It is apparent that there was no clear team leadership for Joseph's medical care and that he was managed concurrently by Dr Beshara, and NSWA paramedics with later input by Dr Wing."*[159]

- EMS staff were unable to effectively manage his airway and required assistance from NSWA but did not actively seek this when it was first offered.

- After NSWA took over Joseph's care, Dr Beshara continued to independently administer drugs to Joseph without any coordination with the ambulance crew.

- Decision-making about who was taking over care at what point, and how and when Joseph would be transported to hospital was poorly coordinated.

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[155] Dr Andrew Beshara, 9 July 2019, T84.44.
[156] Associate Professor Anna Holdgate, 19 September 2019 T1272.40-1273.5; Statement of Associate Professor Anna Holdgate, Exhibit 3, Vol. 24, Tab 78 p 3.
[157] Statement of Associate Professor Anna Holdgate, Exhibit 3, Vol. 24, Tab 78.
[158] Associate Professor Anna Holdgate, 19 September 2019, T1252.40.
[159] Statement of Associate Professor Anna Holdgate, Exhibit 3, Vol. 24 Tab 78, p 3.

239. It was to Dr Beshara's great credit that he acknowledged that he was not equipped to deal with the situation in which he found himself. Dr Beshara accepted that Joseph should have been transferred to hospital sooner than he was. It was always clear to him that Joseph would need to go to hospital.[160] Dr Beshara outlined to the court the attempts he made to arrange that transport. I accept that he told Mr Hammond "*we need to get this patient to ED*" just minutes after Joseph arrived at the medical area. Mr Hammond confirmed this request was made and produced a contemporaneous note recording that it occurred at 7.37 pm. Dr Beshara had a second conversation requesting Joseph's transfer to hospital with Mr Hammond and a NSWA paramedic at 8:18 pm. I accept Dr Beshara recognised Joseph needed to be transferred and that he communicated it to the relevant person, Mr Hammond. A more experienced practitioner may have insisted on urgent follow-up.

240. Dr Beshara acknowledges the criticism that he did not show leadership after Dr Wing went to assess Diana.[161] He was not expecting to lead a resuscitation. It is clear that Dr Wing continued to come in and out to check on Joseph's status and this may have further added to the confusion as to who was properly in charge of the patient.

241. I accept the submissions provided by Dr Beshara's counsel that it appears while Dr Beshara made the request, there was no paramedic team available at that time. It appears that Joseph remained relatively stable until at least 8.13 pm when his stats began to fall. He desaturated at 8.18 pm. By that time Dr Beshara had asked for a secondary survey, attempted to gain airway access and then accepted the assistance of paramedics to manage the airway. He had commenced drawing up the rocuronium.

242. In the circumstances of this case, I have considerable sympathy for Dr Beshara. He candidly admitted that he was out of his depth and overwhelmed. He believed, reasonably, that there would be a more senior doctor to handle a patient in these circumstances, and there should have been more support available to him. The frank acknowledgements that he made when he gave evidence showed a level of maturity and insight that is admirable. As Dr Holdgate fairly stated, Dr Beshara lacked leadership skills because of his relative lack of experience in emergency or critical care, meaning "*he hadn't been trained in doing that".*[162]

Changes made by EMS following these deaths

243. In my view Mr Hammond made a genuine attempt to review the medical care provided at *Defqon.1* prior to the inquest commencing. Nevertheless it is disappointing that there was no stakeholder meeting after the tragic deaths of Joseph and Diana that identified the problems with treatment and looked for ways to improve care. In the wake of these two deaths, given what the ambulance officers expressed in their statements, I would have expected proactive

[160] Dr Andrew Beshara, 8 July 2019, T99.35.
[161] Statement of Dr Andrew Beshara, Exhibit 3, Vol. 4, Tab 70.
[162] Associate Professor Anna Holdgate, 19 September 2019 T1272.35.

liaison with relevant service providers, including EMS.[163] It is only when there are open lines of communication and robust, forthright discussion that real improvements can be achieved.

244. Mr Hammond has a significant amount of experience in the industry and he has no doubt learnt an enormous amount as a result of these tragic deaths. It is important to note, of course, that in three of the five cases where EMS provided medical services, there were no identified problems with the specific care provided.

245. I was provided with information about a range of initiatives proposed and/or recently implemented by Mr Hammond.[164] In my view this indicates a willingness to learn from past mistakes and is to be commended. Many of the initiatives arise from deficiencies recognised in the care of Diana and Joseph. They make improvements in a range of areas including creating certainty that appropriate medical staff attend, that communication channels are enhanced, that the correct drugs and equipment are available, among others. The initiatives include:

- EMS assisted with consultation for the new NSW Health Guidelines for Music Festival Event Organisers (NSW Health Guidelines).[165]
- EMS changed procedure for early transport decisions, including clarifying their role as being to refer patients to NSWA for transfers to hospital as soon as possible.[166]
- EMS has engaged an independent agency to locate suitable qualified doctors for EMS events. The agency ensures all doctors are qualified in accordance with requirements introduced in the NSW Health Guidelines.[167]
- EMS runs monthly training and study sessions for all EMS contractors to ensure staff remain up to date with current trends and developments. The sessions are run by leaders in pre-hospital care and experts in specific fields.[168]
- Since 2018 EMS has purchased additional equipment including new oxygen kits, a new Oxylog 2000 ventilator, and new airway equipment including ETCO2 monitoring.[169]

[163] See evidence that there was no meeting between EMS and other stakeholders following the deaths of Diana and Joseph at Defqon.1: Dr Andrew Beshara, 9 July 2019 T100.1-12; Timothy Mascorella, 12 July 2019 T395.44-396.31; Dr Sean Wing, 15 July 2019 T477.33-478.12; Michael Hammond, 11 September 2019 T1066.1-15.
[164] Statement of Michael Hammond dated 9 September 2019, Exhibit 47; Michael Hammond, 11 September 2019.
[165] Statement of Michael Hammond dated 9 September 2019, Exhibit 47 [34].
[166] Statement of Michael Hammond dated 9 September 2019, Exhibit 47 [35]; Michael Hammond, 11 September 2019 T1078.45, T1086.35.
[167] Statement of Michael Hammond dated 9 September 2019, Exhibit 47 [36]; Michael Hammond, 11 September 2019 T1078.45-1079.5.
[168] Statement of Michael Hammond dated 9 September 2019, Exhibit 47 [37]; Michael Hammond, 11 September 2019 T1079.10-20.

- To prevent the Wi-Fi network failing, EMS has implemented an EMS exclusive communications network.[170]

- EMS has created a mobile phone application called 'EMS Assist' which is provided to all patrons. With the push of a button a user's location is communicated to EMS within 1.5 square metres to permit easier dispatch of teams.[171]

- EMS has created a separate mobile phone application for EMS medical staff to, *inter alia*, record patient treatment while in the field and that assists with monitoring medication supply levels by updating stock levels in real time.[172]

- EMS has engaged medical thermal imaging technology for events.[173]

- EMS has implemented new uniforms which distinguish between the different designations of EMS staff.[174]

- A standard ambulance booking form has been developed and provided to NSWA for consideration, however this has not yet been incorporated into events.[175]

- EMS has expanded the online training portal it provides to its contractors to include Harm Minimisation and Festival Drug and Alcohol Identification training.[176]

- EMS supports the licensing of onsite medical services at events.[177]

- EMS requires the senior doctor to bring drugs to events (including 40 vials of rocuronium) in accordance with list and quantities of pharmaceuticals used by the NSW Ambulance Aeromedical team.[178]

Medical care of Nathan Tran

NSW Ambulance service at Knockout Circuz

246. In her first report, Associate Professor Holdgate had queried the appropriateness of the time it took for Nathan to be transported to Westmead Hospital from Sydney Showgrounds by

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[169] Statement of Michael Hammond dated 9 September 2019, Exhibit 47 [40]; Michael Hammond, 11 September 2019 T1080.10.25.
[170] Statement of Michael Hammond dated 9 September 2019, Exhibit 47 [42]; Michael Hammond, 11 September 2019 T1080.45-1081.5.
[171] Statement of Michael Hammond dated 9 September 2019, Exhibit 47 [43]; Michael Hammond, 11 September 2019 T1081.40-1083.15.
[172] Statement of Michael Hammond dated 9 September 2019, Exhibit 47 [44].
[173] Statement of Michael Hammond dated 9 September 2019, Exhibit 47 [45]; Michael Hammond, 11 September 2019 T1083.15.
[174] Statement of Michael Hammond dated 9 September 2019, Exhibit 47 [46].
[175] Statement of Michael Hammond dated 9 September 2019, Exhibit 47 [47].
[176] Statement of Michael Hammond dated 9 September 2019, Exhibit 47 [48].
[177] Statement of Michael Hammond dated 9 September 2019, Exhibit 47 [49].
[178] List of pharmaceuticals, Exhibit 48; Michael Hammond, 11 September 2019 T1051.45-1052.15.

NSW Ambulance. After hearing from NSW Ambulance intensive care paramedic Beth Donnelly, I am satisfied the evidence now available establishes that she and her colleagues stepped in to take over care of Nathan appropriately and that the time taken to convey him to hospital was reasonable in the circumstances they faced.

247. In forming this opinion I am assisted by the findings of Associate Professor Holdgate in her supplementary report where she accepts that the 40-minute period between Nathan arriving at the medical tent and departing for hospital was probably unavoidable. Ms Donnelly outlined a number of logistical challenges which prevented earlier transport including the necessary removal of handcuffs for the initiation of treatment, initiating airway management before he could be safely transported, and the requirement for a second ambulance crew to drive as the primary crew were both actively involved in Nathan's treatment. It appears clear that Ms Donnelly demonstrated excellent clinical leadership in a stressful and uncertain environment.

248. I had the opportunity to observe Ms Donnelly give evidence and she impressed the court as a capable and honest witness. I accept Dr Holdgate's revised opinion that "*there was probably little opportunity to shorten the time spent at the scene prior to treatment*".[179]

249. Nathan Tran was extremely unwell when he was carried by NSW Police and security to the EMS medical area at *Knockout Circuz.* Associate Professor Holdgate is not critical of the subsequent care provided to Nathan by EMS. However she raised concerns with respect to the treatment of Nathan at Westmead Hospital.[180]

250. Concerns raised by Associate Professor Holdgate include that the records contain gaps in documentation, including an absence of ECG tracings. She also expressed concern about delayed treatment for hyperkalaemia.

251. Associate Professor Holdgate reviewed the medical records and notes that Nathan did not receive specific treatment for hyperkalaemia until nearly one hour after his arrival at Westmead and 38 minutes after the blood gas result which indicated an elevated potassium level. She states that he should have been treated for hyperkalemia prior to the administration of drugs for intubation.

252. Dr Cheeseman was the senior emergency physician in charge of the team which cared for Nathan after his transfer to Westmead Hospital. He was an experienced doctor and had worked at Westmead since 2010, and as a specialist (FACEM) since 2015.

253. When Nathan arrived, only limited information was available. He was tachycardic, hypoxic and unresponsive. Dr Cheeseman recognised the seriousness of his condition and took over care from the night registrar. He commenced a number of interventions including cooling and

[179] Supplementary statement of Associate Professor Anna Holdgate, Exhibit 44, Tab 2, p 3.
[180] Statement of Associate Professor Anna Holdgate, Exhibit 3, Vol. 24, Tab 78.

maintaining oxygen. Unfortunately, Dr Cheeseman states there were failures to record everything that occurred.

254. It is Dr Cheeseman's evidence that contrary to what is recorded in the medical notes treatment for hyperkalaemia commenced as soon as blood gas results were obtained showing elevated potassium. He told the court he "*very clearly recalled*" these events and was "*100% confident*"[181] that it had occurred. He described to the court the process of the registrar obtaining the drug from the trolley and administering it. He appeared to have a clear memory of the events he recounted.

255. I have given the evidence considerable thought and while I am troubled by the lack of documentation, given Dr Cheeseman's explanations, I am unable to make a firm finding that this treatment did not occur. There is a distinct possibility that the incomplete notes do not reflect the reality of the care given.

[181] Dr Christopher Cheeseman, 10 July 2019 T251-254.

Why do young people take drugs?

256. Understanding why teenagers and young adults use illicit drugs is an important foundation on which to target a harm reduction response. The court recognises that people of all ages take drugs and attend music festivals.[182] However the focus here, given the age of those who died, is on the particular characteristics of young people. I received extensive evidence from a number of experts in this regard.

257. Dr Stephen Bright[183] is the course coordinator for Addiction Studies at Edith Cowan University, Western Australia. He has worked as a clinically trained psychologist in the Alcohol and Other Drugs (AOD) field for 15 years in a range of roles including counsellor, senior clinician, manager and researcher and is a vocal advocate of harm reduction and evidence-based approaches to AOD legislation. In 2005 he completed an honours project regarding the relationship between particular cognitive distortions associated with adolescence and young adulthood (e.g. perceived invulnerability to harm due to cognitive egocentrism) and drug use behaviour.

258. His evidence is that the key developmental task for becoming a young adult involves establishing an identity that is separate to that of the parental figures. In experimenting with their own identities, young people may experiment with drugs because it provides a form of rebellion; for sensation seeking purposes; to alleviate boredom; to satisfy curiosity; facilitate social bonding; attain peer status; as an expression of solidarity; escapism; or to demarcate social boundaries. He highlighted evidence that most young people experiment with drugs, and for the most part, this pattern of drug use does not lead to drug-related harm.[184]

259. He spoke of the cognitive processes specific to young people that increase risk taking behaviours. Specifically, he gave evidence about the development of the pre-frontal cortex (a part of the brain associated with executive functioning) that is not fully consolidated until up to age 25 and oversees the complex interplay between thinking, emotion, and social judgment.[185]

260. As this part of the brain develops in adolescence, young people become increasingly concerned about the perceptions that others have about them. They significantly overestimate the degree to which others are concerned with them. This has been referred to as "*the imaginary audience*" component of "*adolescent cognitive egocentrism*". Adolescent

[182] Dr Will Tregoning spoke of drug use as a cross cultural phenomenon, unlikely to disappear. See Dr Will Tregoning, 19 July 2019 T897.33-39.

[183] Dr Bright prepared two reports for the inquest located at Exhibit 3, Vol. 21, Tab 8; Exhibit 3, Vol. 24, Tab 85; and a number of papers authored by him are included in the research volumes. I am also grateful to Dr Bright for giving evidence in person on Friday 19 July 2019.

[184] Report of Dr Stephen Bright, Exhibit 3, Vol. 24, Tab 85; see also his oral evidence regarding "maturing out:" 19 July 2019 T928.

[185] Dr Bright citing Brown, McGue, Maggs, Schulenberg, Hingson, Swartzwelder, et al., 2009, p. 43 in his report at Exhibit 3, Vol. 24, Tab 85.

cognitive egocentrism includes three interrelated personal fables (or types of cognitive distortions): uniqueness, invulnerability and omnipotence. These cognitive distortions mean that young people overestimate their perceived degree of uniqueness, which in turn reduces their perception that they will experience harm from a risky behaviour, including drug use, since they are not like other people who experience harm – they are different.

261. Significantly, Dr Bright emphasised that much of the drug education available is fraught because "unless it's tapping into a particular messaging that identifies risks that are specific for an individual it's likely that young people are going to dismiss the information that's given to them. So it's very important that we individualise information and tailor it for young people and make sure it's credible so that they're able to utilise that information".[186]

262. The inquest was also assisted by Mr Paul Dillon[187] who has been working in the area of drug education for the past 25 years. A former school teacher, he has an interest in drug trends and working with young people. He is the founder and director of Drug and Alcohol Research and Training Australia (DARTA).

263. Mr Dillon made the point that, contrary to what many believe, most young people do not take drugs because they are 'deficient' in some way, a fact reflected by the bright, happy, and responsible young people whose deaths are the subject of this inquest. Like them, most young people are experimenting and using drugs because they are curious and want to have fun. When it comes to drug safety, most young people are keen to know how to keep themselves and their friends as safe as possible. Consistent with Dr Bright's evidence, I learned from Mr Dillon that young people are receptive to credible and practical safety messages.[188]

264. Mr Dillon told the court that many young people take drugs for entertainment. Even those previously opposed to drugs can become curious when they see friends and associates apparently having a great time.[189]

265. Dr Mary Harrod is the Chief Executive Officer of the New South Wales Users and Aids Association (NUAA). She has been involved in research on harm reduction and advocates for rational, evidence-based and humane approaches to policies and services, including health and policing, that affect people who use drugs in NSW. DanceWize NSW, a peer-driven prevention and harm reduction service at music festivals, is a NUAA program.

[186] Dr Stephen Bright, 19 July 2019 T927-928.
[187] See his statements to the inquest at Exhibit 3, Vol. 21, Tab 11 (re music festivals); Exhibit 44, Tab 29 (re messaging) and his oral evidence on 9 July 2019.
[188] Statement of Paul Dillon, Exhibit 3, Vol. 21, Tab 11.
[189] Paul Dillon, 9 July 2019 T141.35-50.

266. Dr Harrod told the inquest, "*It's very important to remember that people use drugs because the experiences that result are very often and reliably enjoyable and that we need to consider the people's experience when considering harm reduction and education responses."* [190]

267. Motives for ecstasy use among festival goers were explored by a survey led by Jodie Grigg, Research Associate and PhD candidate at the National Drug Research Institute, Curtin University. Ms Griggs collected data as part of her thesis from an online survey of almost 2000 festival-goers in Western Australia and Victoria. Some of the reasons given for MDMA use were for fun (87%), to enhance the music (80%), to increase energy (71%) and to enhance social interaction (60%). In-depth interviews revealed a strong preference for the effects of ecstasy over alcohol, particularly in festival settings where the drug was perceived as better suited (in terms of psychoactive effects and practicalities/ conveniences, including avoiding lining up for drinks/toilets).[191]

268. The court also heard from a number of young drug users about their motivations for drug use particularly in the context of the festival environment. Various reasons were given including self-exploration, curiosity, pleasure, enhanced experiences,[192]energy, connection with others, mood improvement,[193] fun, enhanced visual, social and auditory experiences.[194]

[190] Statement of Dr Mary Harrod dated 9 July 2019, Exhibit 7. See also the statement of Erica Franklin, DanceWize NSW Coordinator at Exhibit 3, Vol. 24, Tab 82 and her oral testimony on 18 July 2019.
[191] Report of Jodie Grigg and Dr Simon Lenton, Exhibit 3, Vol. 22, Tab 24. It is noted in that report two key limitations to the survey: firstly, a purposive, rather than probability, sample was recruited. Consequently, the findings cannot be viewed as representative of the wider population of Australian festival-goers. Secondly, the survey ran in mid-2016 and it is possible trends in drug use at festivals have since changed.
[192] Statement of P12, Exhibit 3, Vol 24, Tab 83.
[193] Statement of P12, Exhibit 3, Vol 24, Tab 83.
[194] Statement of P12, Exhibit 3, Vol 24, Tab 83.

Estimates of illicit drug use at music festivals

269. Estimates vary as to how many young people use drugs at music festivals. While drugs are illegal, accurate information will necessarily be difficult to obtain. Anonymous surveys can be used but it can be difficult to judge their accuracy. There are many variables, including the type of music festival involved.

270. There have been various attempts to estimate the number of people using drugs at music festivals. Information recently gathered by the NSW Ministry of Health about the attitudes of festival goers aged 18–24 years indicates that the majority believe drug taking is the norm, most believe that at least 70% of patrons will take something, and often people believe it is closer to 90%.[195] Dr Mary Harrod, stated that there is anecdotal evidence suggesting that up to 95% of young festival patrons use illicit substances.[196] Other estimates are substantially lower. Jodie Grigg, reported that 62% of the cohort of festival goers she surveyed had used illicit drugs a recent festival.[197] This is similar to a 2015 national survey where 65.3% of the 2115 participants reported illicit drug use at the last music festival they attended.[198] There is some evidence that suggests electronic dance music events attract more drug users,[199] although that was rejected by the director of HSU Events Pty Ltd Peter Finley.[200]

271. Australian surveys of festival attendees consistently demonstrate that drug use is more common among attendees than in the general population. A study undertaken at a NSW festival reported that respondents were three times more likely to have used drugs in the last 12 months than the age-matched population studied in the National Drug Strategy Household Survey. The most commonly used drugs were cannabis (64%) and ecstasy (60%).[201] Patterns of drug use at festivals are an additional concern. Firstly, there is the practice of "*double dropping*", where individuals consume two (or more) pills simultaneously,

[195] Statement of Dr Kerry Chant, Exhibit 3, Vol. 20, Tab 1.
[196] Statement of Dr Mary Harrod, Exhibit 7.
[197] Report of Jodie Grigg and Professor Simon Lenton, Exhibit 3, Vol. 22, Tab 24. It is noted in that report two key limitations to the survey: firstly, a purposive, rather than probability, sample was recruited. Consequently, the findings cannot be viewed as representative of the wider population of Australian festival-goers. Secondly, the survey ran in mid-2016 and it is possible trends in drug use at festivals have since changed.
[198] 'The deterrent effects of Australian street-level drug law enforcement on illicit drug offending at outdoor music festivals,' C.E Hughes et at, *International Journal of Drug Policy* 41 (2017) 91-100, Exhibit 4, Vol. 7, Tab 106.
[199] See, for example, the statement of Dr Kerry Chant at Volume, 20, Tab 1; the evidence of Dr Hester Wilson on 16 July 2019; Hughes research paper at Exhibit 4, Vol. 7, Tab 106; and 'Nine reasons why ecstasy is not quite what it used to be', J Mounteney et al, *International Journal of Drug Policy* 51 (2018) 36-41.
[200] Statement of Peter Finley, Exhibit 25.
[201] Statement of Dr Kerry Chant, Exhibit 3, Vol. 20, Tab 1. See also the statement of Dr Hester Wilson, Exhibit 44, Tab 28; and various research articles contained within the brief.

usually two ecstasy pills. Almost half of Australian respondents who used ecstasy pills reported double dropping at the last festival they attended.[202]

272. NSW Ministry of Health social marketing research indicates MDMA capsules are the primary drug of choice, with ketamine and to a lesser extent cocaine playing a role too.[203] Jodie Grigg's 2016 survey suggests the most common illicit drug used at a music festival was ecstasy (51%), followed by cannabis (31%), ketamine (9%) and LSD (8%). New psychoactive substance (NPS) use was rare (<2%).[204] These findings are consistent with a national survey from 2015 which found ecstasy to be by far the most used drug at music festivals (85.1%), followed by cannabis (48.2%), then hallucinogens (20.8%), cocaine (14.8%), methamphetamine (10.6%), GHB (2.1%), NPS (2.0%), and other illicit drugs (9%).[205]

273. The Global Drug Survey (GDS) runs the largest annual anonymous web survey of people who use licit and/or illicit psychoactive drugs. GDS 2019 collected data in November and December 2018 from over 5000 festival goers, including 1418 in NSW. 786 festival goers answered questions about their MDMA use in the last twelve months.[206]

274. Exact numbers are difficult to estimate but it is clear that a significant proportion of young people who attend music festivals have used drugs, commonly MDMA.

275. Festivals tend to be seen by young people as more than just another night out and are often highlights of the social calendar. People may plan well in advance and travel long distances to attend.[207] Alex and her friends caught a bus from the Central Coast. Diana and her friend flew up from Melbourne and Joshua and his group drove down from Queensland. In this context drug use appears to be seen as part of the "*special occasion*". The NSW Ministry of Health provided information to suggest that young people tend to make plans in advance as to whether they will take drugs and, once purchased, it is unlikely people will change their minds about taking them.[208] However this should be balanced with the evidence from peer support workers and drug educators that young people want to stay safe and if provided with credible information indicating serious risk are likely to modify their drug use.[209] There is also

[202] 'Double dropping down under: Correlates of simultaneous consumption of two ecstasy pills in a sample of Australian outdoor music festival attendees,' Grigg, Barratt & Lenton, *Drug and Alcohol Review* (2018), Exhibit 3, Vol. 22, Tab 26.
[203] Statement of Dr Kerry Chant, Exhibit 3, Vol. 20, Tab 1.
[204] Report by Jodie Grigg and Dr Simon Lenton, Exhibit 3, Vol. 22, Tab 24.
[205] 'The deterrent effects of Australian street-level drug law enforcement on illicit drug offending at outdoor music festivals,' C.E Hughes et at, *International Journal of Drug Policy* 41 (2017) 91-100, Exhibit 4, Vol. 7, Tab 106.
[206] See DPMP Bulletin for breakdown of recent Global Drug Survey results, Exhibit 36.
[207] Statement of Dr Kerry Chant, Exhibit 3, Vol. 20, Tab 1.
[208] Statement of Dr Kerry Chant, Exhibit 3, Vol. 20, Tab 1.
[209] For example, from Paul Dillon and Erica Franklin of DanceWize NSW.

evidence from evaluations of drug checking operations which demonstrates the provision of credible information can change pre-existing plans.[210]

276. It is important to note that drug use associated with music festivals does not just occur on festival grounds. Pre-loading (that is, consuming drugs and/or alcohol prior to the event) is common, and consumption of alcohol and other drugs can continue after the festival ends.

[210] See, for example, Report on the 2nd ACT Groovin the Moo pill testing pilot prepared by Pill Testing Australia, Exhibit 44, Tab 7.

The types of drugs consumed at music festivals

3,4-methylenedioxy-N-methylamphetamine (MDMA) or 'ecstasy'

History of MDMA

277. MDMA is a ring-substituted amphetamine derivative (it is classed as an amphetamine-type stimulant or ATS). It is a derivative of a parent compound called phenethylamine from which most ATSs are derived.[211] The United Nations classes MDMA in the "ecstasy group", which includes the analogues MDA (3,4-methylenedioxyamphetamine) and MDEA (3,4-methylenedioxyethyl-amphetamine).[212]

278. MDMA began as a pharmaceutical with licit uses. It was first synthesised by the German company Merk in 1912 and was initially intended to be used as an appetite suppressant. During the Cold War, both the CIA and the US Army experimented with MDMA use for psychological warfare. It was then rediscovered by Dr Alexander Shulgin in 1965 and in the 1970s it was used by some psychiatrists and counsellors as a psychotherapeutic tool. The emotional effects of MDMA are predominantly caused by the release of serotonin in the brain. The stimulant effects of MDMA (increased energy) are thought to reflect the release of dopamine. Therefore therapists thought that MDMA made their patients more open, empathetic and willing to communicate and participate in the psychotherapy process.[213]

279. The 1980s saw the beginning of the open sale and recreational use of MDMA, first known as "empathy" and shortly after known more widely as "ecstasy". Its popularity was closely linked with the house/rave and techno music scenes that started in Chicago and quickly spread throughout Europe, and with the so-called "Second Summer of Love" in the UK in 1988.[214]

280. In 1984 MDMA was being legally marketed and sold over the counter in some states of the United States of America. However, by 1986, the USA outlawed MDMA as part of its "war on drugs". The same year MDMA was placed on Schedule I of the *United Nations Convention on Psychotropic Substances* 1971, meaning that signatories to that convention, including Australia, were obliged to criminalise the drug[215] and the UN soon recommended that member states who had signed the Convention on Psychotropic Substances follow suit. Australia complied.

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[211] Dr Jonathan Brett, Exhibit 12.
[212] See, *inter alia*, reports by Dr Jonathan Brett, Exhibit 12; Dr Amira Guirguis, Exhibit 3, Vol. 22, Tab 30; Dr Rick Doblin, Exhibit 3, Vol. 23, Tab 13, and various research articles in Exhibit 4, Research Volumes 1 – 8. See also: https://www.unharm.org/why_is_mdma_illegal_anyway
[213] See, *inter alia*, reports by Dr Jonathan Brett, Exhibit 12; Dr Amira Guirguis, Exhibit 3, Vol. 22, Tab 30; Dr Rick Doblin, Exhibit 3, Vol. 23, Tab 13, and various research articles in Exhibit 4, Research Volumes 1 – 8.
[214] Report of Dr Amira Guirguis, Exhibit 3, Vol. 22, Tab 30.
[215] Report of Dr Amira Guirguis, Exhibit 3, Vol. 22, Tab 30.citing EMCDDA, 2016.

281. The fact that MDMA was illegal did not stop its use in Australia. It was widely used at large dance parties throughout the 1980s and 1990s.[216]

282. MDMA is a schedule 9 drug (prohibited substance) in Australia. There has been a surge in quantity of MDMA seized at the Australian border in recent years. According to the Australian Criminal Intelligence Commission (ACIC), there was a 66% increase in number of MDMA detections at the Australian border between 2015–16 and 2016–17 periods, but a 529% increase in quantity of MDMA seized over the same period. There has been a decrease in the number and weight of MDMA precursors seized over the same period, and the number of domestic clandestine MDMA laboratories more than halved, suggesting that domestic MDMA consumption consists primarily of imported MDMA.[217] For these reasons, trends relating to MDMA purity and dose in countries of production (such as Belgium and the Netherlands) are likely to persist in the Australian market.[218]

283. The MDMA products that are available are commonly sold in many forms including crystals, powder and tablets.[219] As with most illicit drugs, MDMA has many street names including "molly", "pingers" and "skittles".

284. Pills are often stamped with particular transitory insignias, such as "Mercedes Benz" or "Superman" to identify a batch and potential pill constituents, although this is not always a reliable method of identification. Dr Jonathan Brett, Staff Specialist in Clinical Toxicology and Addiction Medicine at St Vincent's Hospital, gave evidence that the use of ecstasy pills is declining and crystal increasing, likely due to perceptions of increased purity of crystal MDMA compared to pills.[220]

285. Dr Kerry Chant, the NSW Chief Health Officer, reports that among regular users of ecstasy in NSW, current use is consistent with previous years, however there has been a shift towards capsules and away from tablet formulations.[221] Again this may have been driven by perceptions of increased strength of MDMA in capsule form.[222]

286. MDMA is most commonly taken orally but can be insufflated nasally or taken rectally. It is more rarely injected intravenously.[223]

287. Drugs obtained as MDMA or ecstasy may unpredictably contain a number of other compounds of variable toxicity ranging from inert starches to conventional drugs such as

[216] See, for example, oral evidence of Paul Dillon, 9 July 2019 T150.44-151.16.
[217] Report of Dr Samuel Banister, Exhibit 3, Vol. 24, Tab 84 citing Australian Criminal Intelligence Commission, *Illicit Drug Data Report* 2016-17 (2018).
[218] Report of Dr Samuel Banister, Exhibit 3, Vol. 24, Tab 84.
[219] Report of Dr Amira Guirguis, Exhibit 3, Vol. 22, Tab 30 p 12.
[220] Statement of Dr Jonathan Brett, Exhibit 12 citing the Ecstasy and Drugs Reporting System (EDRS), a national monitoring system for ecstasy and related drugs that is intended to identify emerging trends of local and national interest in the markets for these drugs.
[221] Statement of Dr Kerry Chant, Exhibit 3, Vol. 20, Tab 1, citing the Illicit Drug Reporting System, 2018.
[222] Statement of Dr Kerry Chant, Exhibit 3, Vol. 20, Tab 1, citing the Illicit Drug Reporting System, 2018.
[223] Dr Jonathan Brett, Exhibit 12.

methamphetamine or cocaine, to highly toxic novel psychoactive substances (NPSs) including cathinones such as ethylone and methylone as well as psychedelics such as 2-CB. Other NPS such as para-methoxyamphetamine (PMA) have also been found in materials obtained as MDMA and in biological samples of MDMA users.

288. MDMA is considered to have low addiction potential.[224]

What are the effects of MDMA?

289. MDMA exhibits amphetamine-type effects and entactogenic effects (closeness to others, enhancing interpersonal relationships and empathy). It is a potent releaser and/or reuptake inhibitor of presynaptic serotonin, dopamine, and norepinephrine. The reported subjective effects of MDMA include elevations in mood (euphoria), feelings of connection, emotional communion and empathy, increases in confidence, alertness, stamina and libido. There can be a reduced need for sleep, reduced appetite, insomnia. Some people experience anxiety and paranoia.

290. MDMA causes the release of a number of naturally occurring chemicals in the central nervous system (neurotransmitters) and also alters the usual metabolism of these neurotransmitters. These neurotransmitters, which include serotonin, dopamine and noradrenaline, are involved in the control of mood, sleep, appetite, body temperature and the autonomic nervous system. The autonomic nervous system controls an involuntary set of processes which affect heart rate, respiratory rate, lung function, blood pressure, pupillary size, sexual arousal and bladder control.[225]

291. The toxic effects of MDMA are also driven by these mechanisms. Disturbance of the central nervous system can cause agitation, anxiety, confusion and seizures. Loss of control of body temperature, particularly in associated with high levels of physical activity and environmental heat, can cause extreme elevation in body temperature (hyperthermia). Disturbance of the autonomic nervous system can cause an elevated heart rate, elevated respiratory rate, accumulation of fluid in the lungs and high blood pressure. This constellation of physiological effects causes high levels of acid in the body, low oxygen levels, destruction of muscle tissues (rhabdomyolysis) and ultimately multi-organ failure.

292. The toxic effects of MDMA can also be caused by other specific mechanisms including:[226]

- Life-threatening disorders of heart rhythm in susceptible individuals.
- Serotonin syndrome, a specific constellation of clinical findings related to the increase in serotonin (one of the neurotransmitters).

[224] Statement of Dr Jonathan Brett, Exhibit 12. See also Dr Jonathan Brett, 18 July 2019 T824; Dr Hester Wilson, 16 July 2019 T608.14-20.
[225] Statement of Associate Professor Anna Holdgate, Exhibit 3, Vol. 24, Tab 78.
[226] Statement of Associate Professor Anna Holdgate, Exhibit 3, Vol. 24, Tab 78.

- Low sodium levels (hyponatraemia) due to excessive water intake and elevation in the hormone which controls water excretion, with secondary brain swelling (cerebral oedema).

293. Since MDMA in Australia is manufactured on the illicit market it may be contaminated with other substances which have their own clinical profile. As Associate Professor Holdgate stated in her expert report, the spectrum of clinical effects of MDMA is unpredictable for a number of reasons. The risk of toxic effects of MDMA may be increased by some or all of the following factors:[227]

- MDMA tablets/capsules are often mixed with other substances which may interact with MDMA.
- The actual amount of MDMA in a purchased tablet is unknown, with a wide-range of purity reported in tested tablets.
- MDMA is often consumed with alcohol and other illicit drugs.
- Environmental factors such as high levels of physical activity, heat and dehydration are commonly associated with MDMA use.
- There is significant individual variation in susceptibility to toxicity.

Diagnosis of MDMA toxicity

294. Minor clinical effects of MDMA are seen in many individuals with "recreational" intake and include dilated pupils (mydriasis), an elevated heart rate (tachycardia), sweating, and high blood pressure. There may be an increase in core body temperature, with no individual awareness of that increase.[228] Although it is not common, in some circumstances individuals will progress to much more extreme toxic effects.

295. The development of MDMA toxicity becomes evident with the onset of agitation, confusion, coma, seizures, excessive sweating and marked elevation of body temperature/heart rate/respiratory rate. Diagnosis of MDMA toxicity is the presence of any or all of these features in the context of known or suspected MDMA ingestion.[229]

296. MDMA toxicity may also present with sudden cardiac arrest, signs of serotonin syndrome or signs of hyponatraemia with cerebral oedema. Serotonin syndrome is a separate clinical entity but has significant overlap with the more general signs of MDMA toxicity. Serotonin

[227] Statement of Associate Professor Anna Holdgate, Exhibit 3, Vol. 24, Tab 78.
[228] Statement of Associate Professor Anna Holdgate, Exhibit 3, Vol. 24, Tab 78 p 3; See also, Statement of Dr Jonathan Brett, Exhibit 12.
[229] Statement of Associate Professor Anna Holdgate, Exhibit 3, Vol. 24, Tab 78. .

syndrome is characteristically associated with signs of neuromuscular dysfunction (such as muscle rigidity, hyperreflexia or myoclonic jerks) in addition to other more general signs.[230]

297. Diagnosis of MDMA toxicity is made by doctors assessing these clinical criteria. There are no specific laboratory tests or blood levels which confirm the presence of acute MDMA toxicity.[231]

298. Hyperthermia (a core body temperature over 37.5 ºC) is thought to be a major cause of mortality in people who die from MDMA toxicity and it was evident in the cases before this Court. Dr Jonathon Brett gave evidence explaining exactly why MDMA may lead to hyperthermia.[232] A simplified summary of his evidence is that MDMA leads to heat production at the mitochondrial level, and impairs heat dissipation through sweating. It is also thought to impair perception of core temperatures in the user and so reduces the likelihood that someone will care for themselves by doing things to cool down.[233]

299. Contextual factors that contribute to hyperthermia in the music festival context include high ambient temperatures; prevailing weather conditions and the physical layout of the festival influencing ambient temperatures. For instance, overcrowded indoor venues, outdoor venues without access to venue exits, and lack of access to shade and 'chill out' spaces may contribute to hyperthermia.[234]

300. Once body temperatures rise above 40 °C, the body's ability to regulate its own temperature becomes severely impaired. At this point, temperatures continue to rise, leading potentially to multi-organ failure, impaired blood clotting and ultimately cerebral oedema. Mortality from drug-induced hyperthermia with temperatures above 40 °C is high, more than 50%.[235]

301. Hypernatremia (a high concentration of sodium in the blood) is another important cause of MDMA toxicity and can lead to seizures. This occurs due to a combination of (1) syndrome of inappropriate antidiuretic hormone secretion, which causes the body to retain excess water and (2) excessive water consumption. The latter is likely due to dry mouth, increased ambient temperatures and conflicting messaging around how much water to drink.[236]

What factors can contribute to having an adverse reaction to MDMA?

302. There are factors which are likely to make individuals more susceptible to adverse reactions. They include:

- Particular drug interactions: mixing MDMA with other pharmaceuticals, including antidepressants and some HIV medications.

[230] Statement of Associate Professor Anna Holdgate, Exhibit 3, Vol. 24, Tab 78.
[231] Statement of Associate Professor Anna Holdgate, Exhibit 3, Vol. 24, Tab 78.
[232] Statement of Dr Jonathan Brett, Exhibit 12.
[233] See statement of Dr Jonathan Brett, Exhibit 12 and oral evidence of Dr Brett, 18 July 2019.
[234] Statement of Dr Jonathan Brett, Exhibit 12.
[235] See statement of Dr Jonathan Brett, Exhibit 12 and oral evidence of Dr Brett, 18 July 2019.
[236] Statement of Dr Jonathan Brett, Exhibit 12.

- Ingesting MDMA with other ATSs.
- Lack of knowledge about MDMA toxicity and when to seek help.
- Risk-taking and sensation-seeking: people with these characteristics are more likely to develop toxicity related to overdose.
- Genetic factors: slower metabolism of MDMA may result in increased risk of toxicity and mutations in receptors on which MDMA acts may also predispose to toxicity.[237]

303. Increased body weight is a recognised risk factor for hyperthermia and it is likely that overweight individuals are more prone to the hyperthermic effects of MDMA particularly as it is often consumed in conjunction with vigorous physical activity and high ambient temperature.[238]

304. MDMA is predominantly metabolised (broken down for removal from the body) by a number of enzymes including CYP2C19. The court was provided with evidence that there is significant genetic inter-person variation in the activity of CYP2C19 with some individuals classified as "poor metabolisers".[239] Those who are poor metabolisers will not remove MDMA from their circulation as rapidly as those with normal metabolism. In addition, there is evidence that individuals who are poor CYP2C19 metabolisers have greater cardiovascular responses to MDMA. There is also evidence that the frequency of CYP2C19 poor metabolisers is higher in the Chinese population compared with Caucasians (13% vs 2.4%). Associate Professor Holdgate, queries whether it is possible that there may also be a higher proportion of CYP2C19 poor metabolisers among other Southeast Asian populations and whether this may have contributed to an increased risk for three of the young people whose deaths are under investigation (Nathan, Joseph and Diana) who each have Southeast Asian heritage. Although more human studies are required, there is some evidence to suggest poor metabolisers may experience increased MDMA toxicity.[240]

305. A number of factors relating to the drug itself can result in increased toxicity. That includes declining price, unpredictable purity, or the risk of contamination with unexpected drugs and New Psychoactive Substances.[241]

306. In Europe in recent years, there have been signs of increased MDMA production and availability, new online markets, reports of increased use, alerts on both high-dose and highly

[237] Statement of Dr Jonathan Brett, Exhibit 12.
[238] Statement of Associate Professor Anna Holdgate, Exhibit 3, Vol. 24, Tab 78.
[239] See, for example, the statement of Associate Professor Anna Holdgate at Exhibit 3, Vol. 24, Tab 78; Statement of Dr Jonathan Brett at Exhibit 12; Research papers by ZE Barter et al (December 2013) and P Vizeli et al (March 2017) at Exhibit 4, Vol. 4, Tabs 57 and 58.
[240] Statement of Dr Jonathan Brett, Exhibit 12. See also statement of Dr Amira Guirguis at Exhibit 3, Vol. 22, Tab 30, citing Couchman et al (2019).
[241] Statement of Dr Jonathan Brett, Exhibit 12.

adulterated MDMA products,[242] increases in tablet mass, and rising numbers of MDMA-related hospital admissions and deaths.[243] The production of high-quality and large quantities of MDMA may be due to employing sophisticated and industrial scale MDMA laboratories equipped with tabletting machinery and tabletting stamps, and increasing production expertise. There are also reports of 'hobby chemists' and other individuals who purchase MDMA crystals from the internet and produce tablets themselves.[244]

307. Evidence is clear that when supply reduction squeezes the chain in one area by limiting availability, the illicit market responds with an alternative, more accessible substance. In about 2009, there was a global “drought” of MDMA. This was a result of strict international policing and regulation of safrole, a precursor chemical to MDMA, including burning of a safrole stockpile in 2008. This “drought” continued for four to five years, and in this period many users began to consume other drugs such as methamphetamines. It was subsequently discovered that MDMA can be synthesised from PMK-glycidate. PMK-glycidate is currently being mass produced by factories in China and transported overseas to be manufactured into MDMA.[245]

308. As well as changes to the composition of substances sold as MDMA or ecstasy, there have been changes to the purity and dose of MDMA available internationally and on the Australian market. Although motivations are unclear, there has been an overall trend toward increased quantities of MDMA in pills in Australia and elsewhere. For example, we know from European intelligence that the average quantity of MDMA in ecstasy tablets in the 1990s and 2000s was approximately 50–80 mg, with the current average closer to 125 mg, and the recent emergence of ‘super pills’ containing 270–340 mg, representing a substantial increase in tablet dose.[246]

309. Dr David Caldicott made the observation that the practice of double dropping or even triple dropping may be a throwback to the mid-90s when MDMA was not of a particularly high quality. Unfortunately there is a very real risk of fatal overdose should this be done with the 300 mg pills available today.[247] Dr Will Tregoning suggests that access to the international drug market via the Internet means Australia’s drug market has substances with large discrepancies in dose and naivety among users as to how much MDMA they are ingesting.[248] Whatever the reason, double dropping is a well recognised practice. A recent

[242] Piperazine (for example mCCP and TFMPP) and procaine and methamphetamine were found as adulterants in tablets and crystals respectively: see statement of Dr Amira Guirguis, Exhibit 3, Vol 22, Tab 30 p 12.
[243] Statement of Dr Amira Guirguis, Exhibit 3, Vol 22, Tab 30 p 12.
[244] Statement of Dr Amira Guirguis, Exhibit 3, Vol 22, Tab 30 citing EMCDDA, 2016.
[245] Statement of Dr Will Tregoning, Exhibit 3, Vol. 23, Tab 40.
[246] Statement of Dr Amira Guirguis, Exhibit 3, Vol 22, Tab 30 p 12.
[247] Dr David Caldicott, 10 September 2019 T990.26-38.
[248] Statement of Dr Will Tregoning, Exhibit 3, Vol. 23, Tab 40.

study indicated that in the sample surveyed, of those who used ecstasy, almost half reported double dropping at the last festival attended.[249]

310. Data on changes in purity and dose of MDMA and ecstasy products specifically in the Australian market over time are lacking, however, trends from regions of export (i.e. the European Union and North America) are likely to hold in Australia, according to Dr Samuel Banister, Senior Research Fellow in the School of Chemistry at the University of Sydney, based on the relatively low domestic production of MDMA and ecstasy products.[250]

311. Dr Chant referred to analysis of police seizures by the NSW Forensic and Analytical Science Service (FASS), that showed there was a rapid increase in the median purity rate of MDMA capsules between 2011 and 2013, but the estimated median dose of MDMA in these capsules did not change because the median weight of capsule contents dropped in the same period (from ~0.27 grams in 2011 to ~0.09 grams in 2013), followed by a relatively stable period for purity and weight until the first quarter of 2019.[251] However, I note those results are now over five years old and the sample size was small (for example, 8 capsules in 2011; 27 capsules in 2012; and 36 capsules in 2013).[252]

Is there a toxic level of MDMA that will lead to overdose and/or fatal overdose?

312. A typical recreational dose of MDMA in one unit (capsule or pill) is difficult to determine but thought to be in the range of 75 to 125 mg. Users may "double drop" or "dose dump" in which they take two or more dosing units at once to achieve the desired effect.[253]

313. Blood concentration is only one of a multitude of factors that contribute to MDMA toxicity, making a toxic dose or concentration of MDMA difficult to determine. Blood concentrations are determined by dose ingested and individual pharmacokinetics (time course of drug concentration in the blood/metabolism).[254]

314. There is clear evidence that the higher the dose of MDMA ingested, the greater the risk to the consumer.[255]

315. As outlined in evidence by Associate Professor Holdgate, "*although higher blood levels of MDMA are associated with worse toxicity, deaths associated with MDMA have been reported in individuals with blood levels in the 'recreational' range and toxic effects are not necessarily directly related to the level of MDMA in the blood. Thus there is no specific level of ingestion which can be considered 'safe'. The blood level for those experiencing 'recreational' MDMA*

[249] 'Double dropping down under: Correlates of simultaneous consumption of two ecstasy pills in a sample of Australian outdoor music festival attendees' (2018) *Drug and Alcohol Review*, Exhibit 3, Vol 22 Tab 26.
[250] See statement of Dr Samuel Banister, Exhibit 3, Vol. 24, Tab 84.
[251] See statement of Dr Kerry Chant, Exhibit 3, Vol. 20, Tab 1(g) and oral evidence of Dr Kerry Chant, 19 September 2019.
[252] Statement of Dr Kerry Chant, Exhibit 3, Vol. 20, Tab 1(g).
[253] Statement of Dr Jonathan Brett, Exhibit 12.
[254] Statement of Dr Jonathan Brett, Exhibit 12.
[255] Dr Jonathan Brett, 18 July 2019 T836.

effects is reported to be 0.1 to 0.25 mg/L. Regarding 'toxic' levels, most fatalities reported from MDMA are with blood levels greater than 0.5 mg/L but deaths have also been reported in the 0.11 to 0.55 mg/L range."[256]

316. The release profile and dissolution rate of a sample of MDMA tablets seized over the period 2001–18 have been shown to vary within and between batches without any correlation to the physical characteristics of the tablets. If users do not know in advance whether the release profile of a tablet is slow or fast, it may lead to frequent re-dosing with prolonged release tablets, resulting to inadvertent overdoses and increased risks of harm.[257]

317. Some researchers suggest that the relationship between dose and the risk of death with MDMA is inconsistent and unpredictable.[258] Couchman et al found that people who have died from MDMA do not consistently have very high levels of MDMA in their blood and deaths may have occurred due to idiosyncratic effects.[259]

318. While there is clear evidence that most MDMA deaths occur at higher doses, the effect of the environment in which the drug is taken is particularly important in relation to deaths at summer music festivals. Mr Gary Christian, Research Director at Drug Free Australia, cited[260] a 2014 study examining the effects of MDMA on temperature homeostasis in male rats as evidence that a recreational dose, about 75 mg, of MDMA might, in some circumstances, prove lethal. The study may be relevant in that it demonstrates that a recreational dose of MDMA can be fatal when combined with specific environmental and individual factors. However, I also note the limitation identified by the authors of the study in applying their findings to humans, given rats differ in their thermo-effector mechanisms. The authors also seem to accept that dose is a major factor in drug-induced toxicity.[261]

319. On the evidence I have seen, I accept that there is a relationship between MDMA concentrations and toxic effects such as hyperthermia, but this relationship is not entirely clear. There appears to be a degree of tolerance that develops after initial doses which means that on repeated dosing (after two and four hours in one study), doubling of concentrations lead to much less than doubling of toxic effects. However, there is likely to be

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[256] Statement of Associate Professor Anna Holdgate, Exhibit 3, Vol. 24, Tab 78 citing Kalant H, 'The Pharmacology and toxicology of MDMA and related drugs' (2001) 165 *Canadian Medical Association Journal* 917-928, Exhibit 30.

[257] Statement of Dr Amira Guirguis, Exhibit 3, Vol 22, Tab 30 p 13 citing Couchman et al (2019).

[258] Statement of Dr Amira Guirguis, Exhibit 3, Vol 22, Tab 30 p 13.

[259] Couchman et al, 'Variability in content and dissolution profiles of MDMA tablets collected in the UK between 2001 and 2018 – a potential risk to users? Drug testing and analysis,' (2019) cited in statement of Dr Amira Guirguis, Exhibit 3, Vol. 22, Tab 30 p 13.

[260] Kiyatkin et al, 'Critical role of peripheral vasoconstriction in fatal brain hyperthermia induced by MDMA (Ecstasy) under conditions that mimic human drug use' (2014) 34 *The Journal of Neuroscience* 23 7752, Exhibit 61. Mr Gary Christian gave evidence in person on 12 September 2019. He also provided a report located at Exhibit 3, Vol. 22, Tab 15.

[261] Kiyatkin et al, 'Critical role of peripheral vasoconstriction in fatal brain hyperthermia induced by MDMA (Ecstasy) under conditions that mimic human drug use' (2014) 34 *The Journal of Neuroscience* 23 7752, Exhibit 61.

significant variability between users in the development of this tolerance.[262] More research in this area is required.

Treatment of MDMA toxicity

320. Unfortunately, there is no single antidote for MDMA toxicity, as there is with opiate -based drugs.[263] Treatment requires supportive care directed at controlling the physical and physiological derangements.[264] Associate Professor Holdgate, who has treated many individuals in emergency departments suffering from adverse drug reactions, sets out the steps to follow.

321. Depending on the severity of the signs and symptoms, supportive care includes any or all of the following:

- Control of agitation or seizures with sedatives administered orally, intramuscular or intravenously.
- Support of airway and breathing with supplemental oxygen, endotracheal intubation and mechanical ventilation. This may require administration of anaesthetic drugs and paralysing drugs to facilitate insertion of an endotracheal tube and mechanical ventilation.
- Control of elevated blood pressure with specific medications.
- Treatment of hyperthermia using external and internal cooling techniques to lower the body temperature.
- Administration of intravenous fluids to treat dehydration and rhabdomyolysis.
- Correction of electrolyte abnormalities such as hyponatraemia and hyperkalaemia.

322. In patients with severe MDMA toxicity who progress to cardiac arrest, prolonged cardiopulmonary resuscitation and advance cardiac life support should be attempted while the above measures are being instituted.

323. The effectiveness of treatment for MDMA toxicity is largely dependent on the clinical state of the individual when they first present for medical care. The more extreme the physiological derangement at the time of initial presentation, the greater the likelihood of death.[265]

324. Patients who have MDMA toxicity associated with severe hyperthermia, seizures, rhabdomyolysis or significant hyponatraemia are at risk of progression to multi-organ failure

[262] Statement of Dr Jonathan Brett, Exhibit 12.
[263] In the case of an opiate overdose, the timely administration of Naloxone will reverse the effects, as I explored in an inquest into the deaths of six opiate users*: Inquest into the deaths of DB, JD, DC, RG, AH, and AB*, findings delivered on 1 March 2019 pp 24-30.
[264] Statement of Associate Professor Anna Holdgate, Exhibit 3, Vol. 24, Tab 78.
[265] Statement of Associate Professor Anna Holdgate, Exhibit 3, Vol. 24, Tab 78 p 5.

and cardiac arrest even with immediate active treatment. Once cardiac arrest has occurred, the likelihood of survival is very low, particularly if cardiac arrest has occurred pre-hospital.[266]

Other drugs taken at music festivals

325. For obvious reasons this inquest has focused on the risks involved with the use of MDMA in the context of music festivals. It is nevertheless important to remember that alcohol is responsible for more documented harm if measured on hospital admissions. Dr Caldicott stated that "*alcohol, if you talk to any emergency physician, is probably one of the most significant primary problems within the festival environment*".[267]

326. Dr Kerry Chant cites research that polysubstance use, i.e. the mixing of different drugs alongside tobacco, alcohol and energy drinks, is also a higher risk practice and is more likely to occur in festival and rave settings.[268] Data from Jodie Grigg's survey, excluding tobacco, demonstrates polydrug use is a majority behaviour among drug users (68%). The most commonly identified drug combinations were (1) alcohol and ecstasy; (2) alcohol, ecstasy and cannabis; and (3) alcohol and cannabis. Alcohol was almost always involved (90% of illicit drug users reported alcohol use).[269]

327. The evidence heard in this inquest demonstrates that, while it is true that any individual can have an idiosyncratic reaction to a so called "recreational" dose of MDMA, the cause of death in each of these cases was from the consumption of the drug MDMA at toxic levels, way above that required to produce the desired euphoric effect. These were not "idiosyncratic reactions;" their levels fall within a range that experts identify as toxic or potentially lethal.

328. While these deaths were the result of MDMA, overseas experience, where stronger monitoring systems are in place, indicates that patrons looking to buy MDMA have often purchased adulterated substances. The international nature of the illicit drug market means that this is cause for concern, particularly when the toxicological results related to one of the deaths before me indicated the presence of PMMA. PMMA is certainly implicated in a significant number of deaths in Europe and carries significant risk.[270]

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[266] Statement of Associate Professor Anna Holdgate, Exhibit 3, Vol. 24, Tab 78 p 5.
[267] Dr David Caldicott, 10 September 2019 T984.21-50.
[268] Statement of Dr Kerry Chant, Exhibit 3, Vol. 20, Tab 1.
[269] Report of Jodie Grigg and Dr Simon Lenton, Exhibit 3, Vol. 22, Tab 24.
[270] *In Europe in recent years, all EMCDDA alerts of adulterants found in MDMA tablets were related to PMMA, including 11 alerts of PMMA-associated deaths between 2011 and 2015. In June 2015, in Switzerland, an alert of tablets containing 81 mg PMMA, a pink round tablet with a crown logo was issued. In July 2015, three deaths associated with tablets containing PMMA were reported in Poland (orange triangular tablets with a Superman logo). Reports from law enforcement indicated that 4-methoxy-PMK was sold instead of PMK to unsuspecting MOMA producers, who then produced PMMA instead of MDMA (EMCDDA, 2016):* cited in statement of Dr Amira Guirguis, Exhibit 3, Vol. 22, Tab 30.

329. The court is also aware of deaths in Australia where other drugs have been implicated and for completeness it is useful to briefly examine other drugs used in the music festival context.

Cocaine and established stimulants

330. Cocaine (benzoylmethylecgonine hydrochloride) is a stimulant, meaning that it increases nerve signals in the brain and between the brain and body. It increases energy, alertness and confidence and decreases appetite. It also increases body temperature, heart rate and blood pressure. Effects of long-term use can include anxiety, depression and paranoia as well as irritability and insomnia. Cocaine is usually snorted, but can also be injected.[271]

331. The Court was presented with evidence that cocaine consumption is high among festival goers, with 69.1% of survey respondents reporting use of cocaine in the GSD data set.[272] Responses indicated the typical dose was 0.5 g.

332. Combining cocaine with alcohol increases the effect of cocaine, while reducing the effect of the alcohol. This can lead to binge drinking. The Court heard that combining cocaine with MDMA was particularly dangerous as it can place the heart under strain, increasing the risk of cardiac arrest.[273] Callum's toxicology results indicate that he had likely ingested cocaine in the 48 hours prior to his death, along with the MDMA that proved fatal. His friend told the Court that among their peer group, use of cocaine alongside MDMA did occur.[274] Diana also had a low cocaine level. DanceWize specifically warns consumers about polydrug interactions, using a chart that shows the level of potential harm based if you combine two substances together. Dr Kerry Chant explained the dangers of poly-drug use because of the fact of you have to be careful about the interactions of drugs, like cocaine and MDMA, that work along the same pathways or have the same propensity to increase core body temperature.

333. I also heard evidence about patients becoming critically unwell after they consumed a drug they thought was cocaine, but in fact turned out to be hyoscine.[275]

LSD, ketamine and established hallucinogens

334. LSD (d-lysergic acid diethylamide) enhances the senses, causing auditory and visual hallucinations and sometimes inducing a feeling of euphoria. It can also result in increased sweating and difficulty regulating body temperature, increased heart rate, confusion, anxiety and paranoia. As LSD is so powerful, it is generally sold as drops, on blotter paper ('tabs') or on sugar cubes.[276]

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[271] Statement of Dr Mary Harrod, Exhibit 7, p 33.
[272] Caitlin Hughes et al, 'Australian music festival attendees: A national overview of demographics, drug user patterns, poicing experiences and help-seeking behaviour,' Exhibit 36.
[273] Dr Hester Wilson, 16 July 2019 T613.9-18; Statement of Dr Mary Harrod, Exhibit 7, p 33.
[274] [redacted] 16 July 2019 T646.29-31.
[275] Dr Jessamine Soderstrom, 10 September 2019 T1010.
[276] Statement of Dr Mary Harrod, Exhibit 7, p 48.

335. As one of the most commonly used psychedelic substances, LSD is popular at music festivals. 38.1% of the Global Drug Survey (GDS) respondents reported using LSD at a music festival in the last 12 months, with one tab being the typical amount consumed.[277] When used alongside stimulants or cannabis, the risk of psychosis is increased. Using LSD with ketamine can increase the intensity of the experience, which can overwhelm the user.[278]

336. Ketamine ('Special K') is used in human and animal medicine as an anesthetic. It is also used recreationally in smaller doses. People who use ketamine may experience a feeling of happiness and relaxation as well as auditory and visual hallucinations. It can also create a feeling of detachment from the body, which can cause anxiety and panic in some. The physical effects include increased heart rate and blood pressure. When consumed in toxic levels, ketamine can cause hyperthermia and convulsions.[279]

337. Use of ketamine at music festivals is common with 38.6% of GDS respondents reporting using ketamine at a music festival in the last 12 months.[280] The typical amount used per day was 0.3 g. Mixing stimulants such as MDMA or cocaine with depressants like Ketamine can have a sedating effect on the nervous system.[281]

338. Other popular psychedelic substances include psilocybin or "magic" mushrooms and n,n-dimethyltryptamine (DMT).

Amyl nitrate and the inhalants

339. Amyl nitrate (also known by a variety of names such as "poppers" or in this inquest "Jungle Juice") is an inhalant that relaxes muscle tissue around blood vessels, causing the blood vessels to dilate. It affects the heart and blood circulatory system.[282]

340. Amyl was historically used to enhance sexual experiences. It is now used at music festivals, raves and dance parties to produce a powerful but short-lived high. It produces a rush of euphoria and warming sensations, as well as increased blood pressure and increased heart rate. It is considered to be relatively low risk and is short acting.[283]

341. Use at music festivals is widespread. Dr Hester Wilson commented that at a recent Sydney music festival she attended, she could smell amyl nitrate in the air.[284] The Court heard evidence that Alex Ross-King inhaled some amyl nitrate on the bus prior to arriving at the

[277] Statement of Dr Mary Harrod, Exhibit 7, p 48.
[278] Statement of Dr Mary Harrod, Exhibit 7, p 48
[279] Alcohol and Drug Foundation (ADF), Fact sheet re ketamine available at https://adf.org.au/drug-facts/ketamine/.
[280] Caitlin Hughes et al, 'Australian music festival attendees: A national overview of demographics, drug user patterns, poicing experiences and help-seeking behaviour,' Exhibit 36 p 5.
[281] Dr Jonathan Brett, 18 July 2019 T837.25-27.
[282] Statement of Dr Mary Harrod, Exhibit 7, p 28.
[283] Dr William Tregoning, 19 July 2019 T911.50-912.7.
[284] Dr Hester Wilson, 16 July 2019 T610.34-36.

music festival. After she did so, she purportedly stated "*my head hurts*".[285] According to Alex's friend, the "Jungle Juice" produced a quick high, and it was common for people in their peer group to use it at the same time as MDMA and alcohol.[286] DanceWize advise that this combination increases the risk of hypotension and cardiovascular collapse. Combining amyl nitrate with amphetamines and other stimulants, such as MDMA, increases strain on the heart and places the body under excess stress.[287]

342. Although it is usually referred to as amyl or amyl nitrate in Australia, some types of inhalants are actually other forms of alkyl nitrates, such as isobutyl nitrate and butyl nitrate.[288]

New psychoactive substances (NPS)

343. The term novel or new psychoactive substances (NPS) is used to describe psychoactive substances that mimic the effects of traditional drugs of abuse like heroin, cocaine, cannabis or MDMA, and in some circumstances, may be so novel that they are not yet controlled by legislation.[289] Some of these substances, such as PMA, have been circulating on the illicit market since the mid 2000's while many others are yet to be identified.

344. Minimising the risk caused by an ever-increasing number of NPS on the illicit market presents an enormous challenge. The Court heard evidence from Dr Amira Giurgius, a pharmacist and Senior Lecturer at Swansea University Medical School in the UK with a PhD in the identification and classification of NPS. A number of experts referred to evidence that from 2008 to 2019, 119 countries reported a cumulative total of approximately 900 individual NPS.[290] A total of 62 synthetic opioids were reported to the United Nations Organisation for Drugs and Crime ('UNODC') Early Warning System ('EWS') by 2019, a 110% increase in three years.

345. Reports of Synthetic Cannabinoid Receptor Agonists (SCRAs) have decreased since 2014 but remain associated with the highest rates of fatalities. The UNODC also released toxicology data reported from post-mortem, clinical and other casework from 29 countries.[291] This allowed an overview of the NPS landscape: 31 % stimulants, 27% SCRAs, 23% opioids, 8% sedatives/hypnotics, 8% dissociatives, 3% hallucinogens. The data highlighted that poly-drug use plays a significant role in NPS fatalities.[292]

346. At a European level, despite the continuous decline in the number of NPS reported for the first time to the EU EWS since 2015, availability is still high and is even increasing in some

[285] Detective Senior Constable Adam Page, 17 July 2019 T763.45-50.
[286] [redacted] 17 July 2019 T776.1-3.
[287] Statement of Dr Mary Harrod, Exhibit 7, p 28.
[288] Statement of Dr Mary Harrod, Exhibit 7, p 28.
[289] Report of Dr Amira Guirguis, Exhibit 3, Vol 22, Tab 30, p 8.
[290] Statement of Dr Amira Guirguis, Exhibit 3, Vol 22, Tab 30, p 8; Dr Amira Guirguis, 19 September 2019 T1385.49-1386.5; Dr Jonathan Brett, 20 September 2019 T1406.9-15.
[291] Dr Amira Guirguis, 19 September 2019 T1386.7-15.
[292] Statement of Dr Amira Guirguis, Exhibit 3, Vol 22, Tab 30, p 8.

member states. The list of substances appearing on the drug market for the first time continues to grow, with about one new NPS being reported to the EWS every week.[293]

347. Access to drugs on the darknet has introduced further challenges, opening up a new international chain of supply that is extremely difficult to monitor, regulate and police.

Synthetic cathinones

348. Synthetic cathinones are psychostimulants which share some physical, chemical, and pharmacological characteristics with MDMA, thereby allowing them to be misrepresented as 3,4-methylenedioxy-N-methylamphetamine (MDMA) or 'ecstasy' products.[294]

349. Since the UNODC began monitoring NPS in 2009, 148 synthetic cathinones in the form of smoking mixtures, powders, crystals, tablets and liquids had been reported to the agency. The synthetic cathinones most commonly mislabeled and sold as 'ecstasy' historically include mephedrone, methylone, ethylone, 4-MEC, and MDPV. In response to legislative controls on these substances in various jurisdictions, newer cathinones have emerged to replace them, including dibutylone, N-ethylpentylone (also known as ephylone), and N-ethylhexedrone.

350. Symptoms of acute intoxication from these substances include agitation, nausea and an abnormally fast, racing heartbeat. Synthetic cathinones have been shown to induce psychoactive effects such as excited delirium syndrome which may lead to hallucinations, violent aggression, self-injury, mood disturbance and paranoid ideation. They also reportedly induce tolerance, dependence and withdrawal symptoms. Physiological effects caused by the consumption of cathinones include tachycardia, hypertension, dilated pupils, hyperthermia, rhabdomyolysis, renal failure and seizures all conditions which may give the appearance of being related to MDMA toxicity.[295]

351. Australia is known to follow many of the trends first seen in the UK and Europe. Intelligence UK reported that samples of cathinones seized by law enforcement in 2018 were mostly made of two or more ingredients including active components including MDMA. The most common cathinone seized in this period was methylenedioxypyrrolidinohexanophenone (MDPHP) also known as "Monkey Dust".

352. Given the Australian experience of high purity, high strength MDMA following the UK example, trends in Europe are of particular concern to Australian health and law enforcement authorities. In Europe, Russia and the Americas, synthetic cannabinoids have been increasingly linked to acute intoxications, deaths and mass poisoning events.[296]

[293] Statement of Dr Amira Guirguis, Exhibit 3, Vol 22, Tab 30, p 8 citing EMCDDA, 2018a.
[294] Statement of Dr Samuel Banister, Exhibit 3, Vol. 24 Tab 84.
[295] Statement of Dr Amira Guirguis, Exhibit 3, Vol 22, Tab 30, p 10.
[296] Statement of Dr Amira Guirguis, Exhibit 3, Vol 22, Tab 30, p 9.

Ethylone

353. Ethylone or bk-MDEA ((RS)-1-(1,3-benzodioxol-5-yl)-2-(ethylamino)propan-l-one (aka, 3,4-methylenedioxy-N-ethylcathinone)) is the cathinone analogue of the amphetamine type stimulant known as MDEA.[297] The acute effects following ethylone administration are reportedly similar to methylone, but less potent with slower onset.[298] It is ingested orally and typically users experience an increase in energy and feeling of euphoria within around one hour. Users reported that the desire to re-dose once the effects wore off was common and persistent.

354. In Europe from 2008 to 2017, ethylone was encountered as a mixture with other cathinones in various colours and forms, including brown coloured powder, brown crystals, white powders, beige crystals, round tablet with a monkey logo (also containing MDMA and caffeine), powder (also containing methylone), white powder (also containing MPPP, a-PVP and MBPBP), clear capsules containing beige powder (also containing 5-Meo-DALT and AMT), pale yellow powder (also containing pentylone) (EDND, 2019) and tablets (also containing 4-CMA, 4-CA, PMMA, PMA).[299]

355. There is evidence of ethylone toxicity resulting in death in NSW. In 2015, Anne Nguyen died at *Dragon Dreaming* festival in Canberra after consuming a tab or "sugar cube" of what she believed to be LSD. The cause of her death was later found to be ethylone toxicity. Anne's death was the subject of an investigation, an inquest was dispensed with by the former State Coroner.

Ephylone (N-ethypentylone)

356. Ephylone or N-ethylpentylone is a newer, N-ethyl form of methylone, a synthetic cathinone. It was identified as a new drug for the first time in the US in 2014 and in the EU in 2016, and by 2017 it was the most common cathinone drug in the US, making up more than half of all seizures.[300]

357. Ephylone has been widely detected at music festivals since 2017 by drug checking services in countries including the United Kingdom and New Zealand. There is limited data available regarding the prevalence of ephylone (N-ethylpentylone) in Australia, however it was detected on two occasions at *Groovin the Moo* in Canberra, April 2018.[301] In testing conducted at the same festival one year later, seven substances were found to contain ephylone.[302]

[297] Statement of Dr Amira Guirguis, Exhibit 3, Vol 22, Tab 30, p 14-15.
[298] Statement of Dr Amira Guirguis, Exhibit 3, Vol 22, Tab 30, p 15.
[299] Statement of Dr Amira Guirguis, Exhibit 3, Vol 22, Tab 30 p 15, citing Blankeart et al, 2019.
[300] Statement of Dr Samuel Banister, Exhibit 3, Vol. 24, Tab 84.
[301] Statement of Dr David Caldicott, Exhibit 3, Vol. 24, Tab 76, p 9.
[302] Statement of Dr David Caldicott, Exhibit 3, Vol. 24, Tab 76, p 9.

NBOMe (N-methoxybenzyl)

358. NBOMe (N-methoxybenzyl) is the name for a series of drugs that are designed to mimic or produce similar effects to common illicit drugs such as LSD. Unlike LSD, however, drugs in the NBOMe series have significant sympathomimetic effects and can result in acute toxicity. It is rarely consumed knowingly, with users believing they have purchased LSD.[303]

359. NBOMe causes harm by thickening the blood and thinning the blood vessels, which can be the catalyst behind ventricular fibrillation, heart attack, renal failure and stroke.[304] Those presenting to hospital have exhibited cardiovascular complications, agitation, seizures, hyperthermia, metabolic acidosis and organ failure. Numerous deaths are reported.[305]

360. With the introduction of ExpressTox by FASS, NSW laboratories will now be able to detect a range of NBOMe preparations including 25B-NBOMe, 25C-NBOMe, 25H-NBOMe and 251-NBOMe.[306] In drug checking conducted at a festival in Portugal in 2014, 245 alleged LSD substances were tested. Twenty-four samples (9.8%) were found to contain a compound from the NBOMe series.[307]

Paramethoxyamphetamine (PMA) and paramethoxymethamphetamine (PMMA)

361. Paramethoxyamphetamine (PMA) and paramethoxymethamphetamine (PMMA) are related in chemical structure and pharmacological properties to MDMA. PMA and PMMA are part of a group of drugs also known as ring-substituted amphetamines or amphetamine derivatives. The effects of PMA are similar to those exhibited following MDMA use, however it is known to have stronger hallucinogenic properties.[308] PMA preparations are widely sold under the moniker "Dr. Death."

362. The Court heard evidence that PMA is frequently sold as MDMA, particularly in circumstances where MDMA producers encounter shortages in key ingredients used in MDMA production.[309] By comparison, the precursors required for the production of PMA are cheaper and more readily available than those of related compounds.[310]

363. In recent years, all EMCDDA alerts of adulterants found in MDMA products related to the detection of PMA.[311] Numerous deaths have been reported, with most occurring following

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[303] Statement of Helena Valente, Annexure 2, Exhibit 3, Vol. 23, Tab 45, p 2.
[304] Julian Morgan, 'NBOMe in Australia: Everything we know about the drug and why it's killing people,' Exhibit 4, Vol. 4, Tab 55, p 4.
[305] Dr David Caldicott et al, 'NBOMe: A very different kettle of fish,' Exhibit 4, Vol. 6, Tab 87.
[306] Dr Jonathon Brett, 20 September 2019 T1410.26-33.
[307] Statement of Helea Valente, Annexure 2, Exhibit 3, Vol. 23, Tab 45, 3.
[308] Dr David Caldicott et al, 'Dancing with "Death: P-Methodyamphetamine Overdose and Its Acute Management,' Exhibit 32, p 144.
[309] Dr Amira Guirguis, 19 September 2019 T1387.7-24.
[310] Dr David Caldicott et al, 'Dancing with "Death: P-Methodyamphetamine Overdose and Its Acute Management,' Exhibit 32, p 145.
[311] Statement of Dr Amira Guirguis, Exhibit 3, Vol. 22, Tab 30 p 13; Dr Amira Guirguis, 19 September 2019 T1387.26-36.

inadvertent consumption rather than deliberate and knowing use.[312] According to Dr Caldicott, a review of the literature indicates that, when compared with other NPS, PMA has an unusually high incidence of morbidity and mortality associated with overdose.[313] Along with being more toxic than MDMA, the onset of PMA is delayed in comparison to MDMA. In some cases, users have assumed their purchases substance was low-purity or weak MDMA and consumed additional doses.[314]

364. ChemCentre WA analysed Nathan's toxicological sample and detected trace levels of PMA along with toxic levels of MDMA, although this was not detected by FASS.[315]

Novel fentanyls

365. The emergence of novel fentanyls in European and the Americas presents a serious health threat and sounds a timely warning for Australia. In Europe those substances are available in novel forms including nasal sprays and have been concealed as adulterants in traditional drugs such as heroin and cocaine or in counterfeit medicines such as Xanax. Synthetic Fentanyl and its derivatives include methoxyacetyl fentanyl, fluoro-isobutyrylfentanyl and N-methylnorfentanyl.[316]

366. Novel fentanyls are easy to transport and conceal in small volumes, which can subsequently be divided into hundreds of thousands of doses. Users are generally unaware of the presence of these substances in the mixture being consumed. They cause respiratory depression, dramatically increasing the risk of overdose when combined with other substances.[317]

[312] Dr David Caldicott et al, 'Dancing with "Death: P-Methodyamphetamine Overdose and Its Acute Management,' Exhibit 32, p 147; Dr David Caldicott, 12 July 2019 T370.5-10.
[313] Dr David Caldicott et al, 'Dancing with "Death: P-Methodyamphetamine Overdose and Its Acute Management,' Exhibit 32, 143.
[314] Dr Jonathan Brett, 18 July 2019 T832.45-833.9.
[315] Toxicology report from ChemCentre WA re Nathan Tran, Exhibit 44, Tab 19.
[316] Statement of Dr Amira Guirguis, Exhibit 3, Vol. 22, Tab 30, p 10.
[317] Statement of Dr Amira Guirguis, Exhibit 3, Vol. 22, Tab 30, p 10.

What has been already been done in relation to the identified risk of drug death at music festivals?

367. Before moving towards examining areas where it may be possible to make changes that could reduce the risk of drug deaths at music festivals, it is important to acknowledge that since these six deaths, there have already been numerous efforts to identify the dangers and strengthen harm reduction responses by both government and promoters, festival owners and organisers.

The response of NSW Health

368. NSW Chief Health Officer and Deputy Secretary of Population and Public Health at the NSW Ministry of Health, Dr Kerry Chant, gave evidence about the response of NSW Health to these tragedies.

369. Dr Chant was part of an expert panel convened by the NSW Premier after the deaths of Diana and Joseph at *Defqon.1*. The expert panel reported to the NSW Government in October 2018 recommending, *inter alia*, the development of a guide for health services and harm reduction services at music festivals and a new licensing system for music festivals.[318]

370. Dr Chant's evidence was that NSW Health had responded rapidly with the introduction of a number of new harm reduction strategies since September 2018 to reduce drug-related harm including developing guidelines (consistent with the expert panel's recommendation), a new social media campaign and support for event organisers.[319]

Emergency medical response at festivals

371. The expert panel which convened post *Defqon.1* acknowledged in its report that the existing regulation applied to music festivals in NSW was largely *ad hoc*, with different approaches taken depending on where the festival is held.[320] For example, there had been no regulatory requirement for event organisers to work with NSW Health. However, NSW Health has in the past directly approached organisers planning to hold events on land managed by the Office of the Environment and Heritage. Some individual Local Health Districts (LHDs) would also actively participate in local council meetings on pre-event planning and risk management, however this was not consistent nor done on a regular basis. NSW Ambulance would engage directly with some event organisers.[321]

372. It was recognised that the deaths of Diana, Joseph, Callum, Joshua and Alex between September 2018 and January 2019, in addition to a number of people who attended music festivals who developed serious medical illness requiring hospital admission for drug-related

[318] Keeping People Safe at Music Festivals – Expert Panel Report, Exhibit 4, Vol. 1, Tab 21.
[319] Statement of Dr Kerry Chant, Exhibit 3, Vol. 20, Tab 1 [58].
[320] Keeping People Safe at Music Festivals – Expert Panel Report, Exhibit 4, Vol. 1, Tab 21 p 7.
[321] Keeping People Safe at Music Festivals – Expert Panel Report, Exhibit 4, Vol. 1, Tab 21 p 6.

toxicity in roughly the same period, represented a recent, substantial increase in drug-related harms associated with music festivals in NSW. The number of deaths represents an unexpectedly marked increase within a short period.[322]

373. Dr Chant told the court where there is a higher probability of simultaneous serious medical presentations, more medical service capacity support is needed to identify serious illness, regularly monitor patients who are unwell, and continuously prioritise care according to clinical need. Presentations related to MDMA toxicity and serotonergic syndrome (with clinical features including severe hyperthermia, aggression, agitation and confusion, decreased level of consciousness, seizures, cardiac arrhythmias and cardiac arrest) are very complex to manage, and may require a number of senior clinicians to provide urgent chemical sedation, rapid sequence intubation and ventilation, active cooling and urgent transfer to a tertiary facility.[323]

374. Due to the predictability of drug-related presentations at electronic dance music events, dedicated onsite medical care is essential, with an increasing recognition that basic first aid should be supplemented with multidisciplinary critical care teams capable of providing a higher level of care.[324] Distance to a tertiary health facility of more than one hour by road may increase risk of drug-related harm at a music festival.[325]

375. Guidelines exist in other jurisdictions. In Ireland, for example, national guidelines require approval of appropriate onsite medical services by the health department as part of licensing processes, to ensure that event organisers engage private health providers with the capacity to manage their event-specific anticipated risk profile and patient complexity.[326] Compliance with their guidelines has been linked with alcohol licensing approval.[327]

Guidelines for music festival organisers

376. NSW Ministry of Health has produced *Guidelines for Music Festival Organisers: Music Festival Harm Reduction* (Guidelines) to support event organisers to deliver safer music festivals. A set of interim guidelines were published in December 2018 to ensure advice was available during the peak summer festival period. The interim guidelines were subsequently revised and updated, and published as Guidelines in February 2019. Another iteration has been published in September 2019.[328]

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[322] Statement of Dr Kerry Chant, Exhibit 3, Vol. 20, Tab 1 [2] – [3].
[323] Statement of Dr Kerry Chant, Exhibit 3, Vol. 20, Tab 1 [19] – [20].
[324] Statement of Dr Kerry Chant, Exhibit 3, Vol. 20, Tab 1 [45] citing Lund & Turris, 2015.
[325] Guidelines for Music Festival Organisers: Music Festival Harm Reduction dated February 2019, Exhibit 4, Vol. 1, Tab 19 p 5.
[326] Statement of Dr Kerry Chant, Exhibit 3, Vol. 20, Tab 1 [46].
[327] Statement of Dr Kerry Chant, Exhibit 3, Vol. 20, Tab 1 [48]. I note from Dr Chant's statement that the Western Australian and Victorian governments have also produced guidelines in 2009 and 2011, respectively. The WA guidelines are at Exhibit 34[a].
[328] Statement of Dr Kerry Chant, Exhibit 3, Vol. 20, Tab 1 [60] – [64]; and see attachment 'C' to the supplementary statement of Dr Kerry Chant, Exhibit 50.

377. The Guidelines combine existing event planning guidance with harm reduction strategies. These harm reductions strategies are based on information obtained from events where a number of festival patrons have presented with serious drug-related illness requiring transfer to hospital.[329]

378. Music festival organisers are encouraged to use the Guidelines to plan their events. They codify expectations of service delivery by music festival organisers and onsite medical providers through best practice guidelines, for example at page 23 of the September 2019 Guidelines: "*When the risk of a serious medical presentation, including serious drug and alcohol toxicity, is considered at least likely, the private onsite medical team should include at least one resuscitation doctor for the duration of the onsite medical service.*

When the risk of multiple serious medical presentations is considered at least likely, the onsite medical service should also include a senior doctor and a team of registered nurses and/or paramedics dedicated to resuscitation and critical care for the duration of the onsite medical service."[330]

379. Specific topics covered by the Guidelines include emergency vehicle access, sanitation, water provision, cooling measures and sun safety, chill out spaces, and prevention and management of sexual assault.[331]

380. I note the September 2019 Guidelines refer extensively to the new music festival licensing regime that came into effect in February 2019, however these regulations were subsequently disallowed by parliament[332] and their future is uncertain.[333] Dr Chant gave evidence that she thought the Guidelines will remain in place despite what happens to the regulations as they are a useful source document, and would continue to be seen as a living document that undergoes regular review.[334] There was evidence before the court that the guidelines have been well received by many in the industry.

Other guidelines

381. NSW Health has also prepared four Prehospital Clinical Guidelines as well as a prehospital assessment form to guide clinical management and decision-making in the music festival context. They are directed at healthcare professionals and are intended to support the early identification of substance-induced toxicity, together with the initiation of appropriate prehospital care and early transfer to tertiary health facilities:

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[329] Supplementary statement of Dr Kerry Chant, Exhibit 50.

[330] Guidelines for Music Festival Organisers: Music Festival Harm Reduction dated September 2019, attachment 'C' to the supplementary statement of Dr Kerry Chant, Exhibit 50.

[331] Guidelines for Music Festival Organisers: Music Festival Harm Reduction dated September 2019, attachment 'C' to the supplementary statement of Dr Kerry Chant, Exhibit 50.

[332] *Festival industry urges Berejiklian government to hold 'immediate' safety roundtable*, Sydney Morning Herald, 11 October 2019

[333] *Splendour in the Grass, Falls Festival threaten to leave NSW over lack of government consultation*, Sydney Morning Herald, 22 October 2019

[334] Dr Kerry Chant, 19 September 2019; Statement of Dr Kerry Chant, Exhibit 3, Vol. 20, Tab 1 [64].

- Prehospital Guideline: Illicit Substance-Induced Hyperthermia.
- Prehospital Guideline: Illicit Substance-Induced Decreased Level of Consciousness.
- Prehospital Guideline: Illicit Substance-Induced Aggression and Behavioural Disturbance.
- Prehospital Guideline: Illicit Substance-Induced Dehydration.[335]

382. This commitment to developing these guidelines is commended. The court received information from festival medics in the USA that was also worthy of review as part of this ongoing commitment to guiding best practice.[336]

Social media campaign

383. Dr Chant gave evidence about a targeted and strategic social media campaign developed by NSW Health. This involved four 15-second advertisements on youth-orientated online platforms such as Spotify, Instagram and Facebook. The campaign was informed by rapid e-consultation with 603 young people who had recently attended a festival. A key message was encouraging early help seeking. Festival organisers have been provided with the advertisements to use on their own social media platforms and display during their events. An evaluation of these campaign messages reports 77% of survey respondents had seen or heard drug-related messaging at the relevant music festivals and "*know the signs and get help*" was broadly appreciated for being simple and direct.[337]

384. The 2019–20 music festival campaign will continue to use existing broad harm reduction messaging to festival attendees. The campaign will also increase awareness of medical and peer-based services and provide more explicit advice on identifying the signs and symptoms of acute drug toxicity. Enhanced drug-specific harm reduction messaging will focus on safer drug consumption, including reducing dose and avoiding mixing drugs, especially stimulants. The campaign has been informed by research with music festival patrons and has been developed in collaboration with key stakeholders including festival promoters and peer-based support organisations.[338]

Support for event organisers: advice, predeployment of medical teams and peer-based harm reduction services

385. NSW Health continues to actively review event plans and provide advice to event organisers on how to strengthen harm reduction strategies and risk management approaches. To support communication and coordination between onsite medical staff, NSW Health facilities,

[335] Supplementary statement of Dr Kerry Chant, Exhibit 50 [10] – [11], see also https://www.health.nsw.gov.au/aod/Pages/default.aspx
[336] Statement of Dr Dorothy Habrat, Exhibit 62.
[337] Statement of Dr Kerry Chant statement, Volume 20, Tab 1 at [86] – [87].
[338] Supplementary statement of Dr Kerry Chant, Exhibit 50 [18] – [20].

NSW Ambulance and the Ministry of Health, the Ministry of Health has coordinated prebrief meetings to support discussions about harm reduction, managing serious illness, clarifying roles and responsibilities, emergency response protocols and escalation pathways. Formal NSW Health debriefs have been conducted where appropriate, to identify issues and make improvements to the NSW Health response.[339]

386. Between 26 January 2019 and 15 June 2019, NSW Health predeployed 11 Medical Retrieval Teams, in addition to eight LHD Response Teams to 11 music festivals that were considered to be at a higher risk of drug-related harm. These teams are multidisciplinary critical care teams including retrieval and emergency medical specialists, emergency nurses and intensive care paramedics. Their role is to supplement private onsite health providers and undertake the management of critically ill patients, rather than manage first aid or general medical presentations, which remain the responsibility of the private onsite health provider.[340] Going forward, it appears this will be a user-pays service where necessary.[341]

387. Another component of the NSW Health harm reduction response at music festivals is the funding of additional peer-based harm reduction services. Funding as at September 2019 supports the engagement of DanceWize NSW and Save a Mate (an Australian Red Cross program) to provide peer-based services at music festivals.[342] At 28 music festivals over September 2018 to 31 May 2019, these peer-based services provided over 95,000 peer interactions, over 14,000 brief interventions and over 1500 care interventions.[343]

388. A peer interaction may include providing information or basic supplies such as water and sunscreen. A peer-based brief intervention may include a discussion with a patron in relation to strategies to reduce their risk of harm by modifying their behaviour and options for further support in relation to drug and alcohol use. A care intervention includes providing support and care for patrons in a supervised care space and facilitating referral or transfer of unwell patrons to the onside medical service.[344]

389. The funding has provided additional chill out spaces, fans to help cool down the crowd during extreme weather events, electronic screens to display harm reduction messages, extra signage directing patrons to medical tents, and provision of free bottles of chilled water and electrolyte drinks.[345]

[339] Statement of Dr Kerry Chant, Exhibit 3, Vol. 20, Tab 1 [66]– [68]; Supplementary statement of Dr Kerry Chant, exhibit 50(c).
[340] See statements of Dr Kerry Chant at Exhibit 3, Vol. 20, Tab 1 [74] – [79] and Exhibit 50 [5].
[341] Dr Kerry Chant, 19 September 2019 T1335.20.
[342] The court also heard of the peer organisation known as “Red Frogs” working in this space.
[343] See statements of Dr Kerry Chant at Exhibit 3, Vol. 20, Tab 1 [84] and Exhibit 50 [12] – [14].
[344] Statement of Dr Kerry Chant, Exhibit 50 [14].
[345] Statement of Dr Kerry Chant, Exhibit 3, Vol. 20, Tab 1 [84].

Responses from Australian Festivals Association and promoters

390. A number of festival owners and promoters provided evidence to the inquest about improvements they had made in recognition of the environmental factors which can impact on the severity of drug-related harm.

391. The court heard that a number of the relevant festivals took place on particularly hot days and there was evidence that many festivalgoers at these events were severely heat affected. Friends of Alexandra Ross-King stated that at *FOMO* festival, held in Western Sydney in January, the area in front of the stage was covered in black plastic and in full sun. The dance floor was "*like an oven*."[346] Similarly, attendees of *Lost Paradise* told the court the temperature climbed to around 40°C on the day of Josh's death.[347]

392. While water was available at the festivals, some described it as difficult to access. In many cases, the water available was hot from being placed in the sun. [redacted] gave evidence that he and Joshua went looking for showers to wet their hair after setting up their campsite. The water in the showers was "*boiling hot*" and hurt their hands.[348]

393. Each of the five festivals appear to have made use of some of the harm reduction strategies available at the time, for example peer based harm reduction groups, chill out spaces, and harm reduction messaging. However, as the court heard, there is room for improvement in this sphere. To their credit, the festivals owners struck me as genuinely engaged with this process and each provided the court with information about harm reduction strategies to be implemented at their next event.

394. Mr Simon Coffey, director of Q-Dance Australia, told the Court that the deaths of Diana and Joseph led to conversations about how to improve their model at *Defqon.1* so as to limit the risk of further deaths.[349] One example he gave was that *Defqon.1* 2018 saw unusually high temperatures and gusty conditions, up to 40 knots.[350] To counteract this, *Defqon.1* events in future will be scaled down in duration and dancing will start later to avoid the heat of the day.[351] Other initiatives include selling only mid-strength alcohol; increased and dedicated chill out zones in large tents with comfortable seating, massages and food; additional roving medical officers and peer -based harm reduction crews; and a mental wellbeing zone which

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346 [redacted] 17 July 2019 T791.48-792.8.
347 [redacted] 15 July 2019 T512.29-35.
348 [redacted], 15 July 2019 T6-14.
349 Simon Coffey, 10 July 2019 T193.25-30.
350 Harm Reduction Response from Q-Dance Australia, Exhibit 3, Vol. 5, Tab 97; Affirmed 10 July 2019 T193.26-40.
351 Harm Reduction Response from Q-Dance Australia, Exhibit 3, Vol. 5, Tab 97; Affirmed 10 July 2019 T193.26-40.

will be a quiet and relaxing space where patrons can offload stress and discuss concerns with a health professional.[352] Mr Coffey expressed support for drug amnesty bins.[353]

395. Mr Peter Finley is the director of HSU Events Pty Ltd (HSU) which promoted the events *Knockout Circuz*, attended by Nathan, and *Knockout Games of Destiny*, attended by Callum. Since 2017. HSU have now provided a chill out zone near the medical tent and in a cooler part of the venue.[354] Since December 2018, in response to the deaths at *Defqon.1*, HSU added DanceWize NSW at all their events and began distributing free bottles of water to supplement the pre-existing water stations. Items such as ear plugs and sunscreen are also distributed.[355] Mr Finley confirmed HSU would facilitate drug checking services at its events should they be sanctioned.[356]

396. Mr Simon Beckingham is a co-director and founder of the *Lost Paradise* music festival. He gave evidence that Joshua's death has spurred him and all those who run *Lost Paradise* to continue working on strategies to reduce harm to their patrons.[357] Some of the initiatives being considered for this year's event include extending DanceWize NSW into the camp grounds; access to cool water and a mobile hydration facility; increasing patron connectivity within the festival site; increasing shade and cooling methods; ways to increase patron trust and a sense of community; expanding the Shambhala Fields program to include programs directed at mental health, wellness and discussion about sensitive issues including drugs; and the construction of a central command unit for all communications.[358] Technology was being explored to better enable festivals to provide free chilled water to patrons. Mr Beckingham was supportive of drug checking.[359].

397. I received comprehensive evidence from the directors of *FOMO* Festival Pty Ltd (*FOMO*) about harm reduction strategies already implemented or under consideration.[360] For example, at the 2020 event *FOMO* intends to erect more shade structures and increase the scope and capacity of designated chill out areas; all volunteers and key event staff will receive mandatory harm minimisation training to create more "eyes" trained in harm minimisation on the ground; and an additional dedicated hydration station will be installed at

[352] Harm Reduction Response from Q-Dance Australia, Exhibit 3, Vol. 5, Tab 97; affirmed 10 July 2019 T193.26-40. Other initiatives were detailed in the document 'Keeping People Safe at Defqon.1', Exhibit 5, Vol. 5, Tab 98 and expanded on in Mr Coffey's oral evidence on 10 July 2019.
[353] Mr Simon Coffey, 10 July 2019 T201.25; See also 'Keeping People Safe at Defqon.1', Exhibit 3, Vol. 5, Tab 98, p 8.
[354] Statement of Peter Finley, Exhibit 25 [27].
[355] Statement of Peter Finley, Exhibit 25 [28] and [30].
[356] Statement of Peter Finley, Exhibit 25 [32].
[357] Supplementary statement of Simon Beckingham, Exhibit 23 [82].
[358] Supplementary statement of Simon Beckingham, Exhibit 23 [81]; Affirmed in oral evidence 15 July 2019 T594.50-596.30.
[359] Simon Beckingham, 15 July 2019 T596.31-50.
[360] See table at 'FOMO – Summary of harm reduction measures and improvements,' Exhibit 37; see also the statement of Holly Gazal, Exhibit 3, Vol. 19, Tab 37 [46]; See also oral evidence of Holly Gazal, 18 July 2019.

the entrance to the venue. Measures being explored include ambient temperature control methods including misting tents and water jets; body temperature monitoring through thermal and other non-obtrusive technology; the possibility of providing chilled water throughout the event; and CCTV systems across the site.

398. The court also heard that promoters and event organisers are exploring other means of delivering harm minimisation messaging to young people, including through the engagement of local and international artists. Peter Finley told the Court heard that in the lead up to *Knockout Games of Destiny* 2018, Hardstyles United ("HSU") engaged one of their headline acts to produce a video in the lead up to the event. Psycho Punkz, aka Wietse Amersfoot, a Dutch hardstyle DJ, advised people to look after their friends and "party safe."[361] The video was distributed through the event's social media pages in the lead up to the festival. The Court heard that other festival organisers were also considering engaging artists in messaging for future events.[362]

399. The Australian Festival Association (AFA) was also represented throughout the inquest.[363] The AFA is the peak body for music festivals across Australia. It is a not-for-profit, member-run industry association which represents a wide range of shared interests within the festival industry. It has shown a willingness to engage with the issues before this court which was refreshing and its assistance was greatly appreciated.

400. The Association demonstrated a substantial commitment to developing industry best practice and supported a regulatory roundtable to ensure an effective way forward. I note one of the suggestions made by the AFA was that it may be useful to develop training for police wishing to perform police operations at music festivals in a manner not dissimilar to the Gay and Lesbian Liaison (GLLO) program.[364] This could help build better trust between festival goers and the police tasked with attending these events. It is an idea worthy of consideration. Any attempt to breakdown an "us and them" mentality has the capacity to reduce harm.

401. It was clear to me that these five festivals are being run by music event professionals with great knowledge of the industry and a willingness to evolve and respond to their audience and the health risks they may face. It is crucial that any regulation of this dynamic industry must involve roundtable consultations with these providers if it is to achieve appropriate and meaningful results.

[361] Peter Finley, 16 July 2019 T693.42-694.36.
[362] Holly Gazal, 18 July 2019 T812.23-25; Simon Beckingham, 15 July 2019 T596.14-18.
[363] A statement provided by Adelle Robinson set out the Association's structure and purpose, Exhibit 9.
[364] Submissions of the Australian Festival Association (AFA).

Responses from peer support organisations

402. The court was greatly impressed by the work undertaken by peer-based organisations. This work is critical to the overall success of any harm reductions strategies. Some of these organisations have grown out of earlier models. Peer support in a Gay and Lesbian dance party context, for example, has a long history of success. Peer outreach programs have been operating the under the auspices of ACON and the Sydney Gay and Lesbian Mardi Gras for many years to reduce drug-related harm. One of the best-known examples is the ACON Rovers who wander parties offering friendly, non-judgmental assistance.[365] A number of witnesses spoke of the importance of building a "culture of care" at music festivals in a similar way.[366]

403. Mr Parkhill, the Chief Executive Officer of ACON explained the role of the ACON Rovers "*is to act as the eyes and ears of medical. Rovers do not provide first aid services and only work at events with trained medical staff. Rovers monitor dance floors, toilets and chill out spaces to identify patrons who need assistance – but they do not police drug use or manage presentations of problematic or aggressive behaviour*."[367] The importance of this kind of approach is obvious.

404. The court received evidence that the annual Sydney Gay and Lesbian Mardi Gras Parade and associated after party has not seen a death in its 40-year history, despite parties reaching up to 19 000 in earlier years. This undoubtedly has much to do with the strength of community building which has taken place and the system of ACON Rovers associated with the strong medical teams.[368]

405. Organisations such as DanceWize already provide an invaluable service in the music festival context. As well as providing peer support services, these organisations assist in providing additional care spaces, fans to help cool down the crowd during extreme weather events, electronic screens to display harm reduction messages, extra signage directing patrons to medical tents, chilled water, electrolyte drinks, fruit and snacks.

406. DanceWize NSW operates a "care space" located within the medical precinct of the festival grounds. Patrons who might be experiencing an adverse reaction to drugs can brought into the care space to receive care and monitoring. Patients are triaged by DanceWize staff using a monitoring system that has been previously assessed by NSW Health. Medical staff will be

[365] See 'Harm reduction in Process; the ACON Rovers, GHB and the Art of Paying Attention,' Exhibit 3, Vol. 24, Tab 79.
[366] See discussion of peer support in this context in the statement of Professor Kane Race, Exhibit 3, Vol. 24, Tab 79; Statement of Nicolas Parkhill, Tab 3, Vol. 22, Tab 36; Paul Dillon, 9 July 2019 T149.150.
[367] Statement of Nicolas Parkhill, Exhibit 3, Vol. 22, Tab 36, p 6.
[368] Statement of Nicolas Parkhill, Exhibit 3, Vol. 22, Tab 36, p 4.

called into the space if a patient is of moderate or higher acuity. Lower acuity patients will be monitored and given the opportunity to rest and rehydrate.[369]

407. Erica Franklin of DanceWize NSW, gave evidence regarding the role of DanceWize at music festivals. She explained that paid employees and volunteers within the organisation identify as people with lived experience of drug and alcohol use. This lived experience lends legitimacy to their messaging.[370] The court heard that people with lived experience of drug use can sometimes have the best understanding of why taking drugs might not be the best option.[371]

408. Ms Franklin also spoke of the benefit of a "*roving team*" which is able to monitor patrons and identify anyone having an adverse drug reaction. Rovers engaged by DanceWize also carry water and advise people of their care and education spaces.[372]

409. Peer support encourages young people to learn from other young people who attend the same events, like the same music and wear the same clothes. Dr Monica Barratt and others emphasised the importance of organisations like DanceWize in her oral evidence, stating that peer support workers can be seen as "*allies*" to drug users. This fosters a trusting relationship that makes young people more receptive to listening to their messages and changing their behaviors.[373] The court heard evidence that the involvement of young people in conveying drug safety and harm minimisation messaging and services to other young people is extremely valuable, with peer-based education leading to a higher level of engagement among young people.[374]

410. By the time each of the six young people who are the subject of this inquest sought medical help they were already experiencing severe symptoms of MDMA toxicity. The progression of their illness was already so advanced that many were hyperthermic, aggressive, experiencing delusions and in some cases already *in extremis* by the time they first entered the medical space.

411. Dr Christopher Cheeseman told the Court that in Nathan's case, he appeared on CCTV at 10:15 pm to be developing quite late signs of serotonergic syndrome.[375] Accordingly, by the time he came into contact with security personnel his illness was well advanced.

412. The Court heard that identifying MDMA intoxication at its earliest stages is critical for improving patient outcomes. In each of the six cases explored by the inquest, the young people attended the event with close friends who cared about them. In Josh's case, he

[369] Erica Franklin, 18 July 2019 T873.16-38.
[370] Erica Franklin, 18 July 2019 T866.25-34.
[371] Erica Franklin, 18 July 2019 T868.31-35.
[372] Erica Franklin, 18 July 2019 T870.27-28.
[373] Dr Monica Barratt, 17 July 2019 T727.3-9
[374] Statement of Dr Hester Wilson, Exhibit 8, p 8.
[375] Dr Christopher Cheeseman, 10 July 2019 T254.28-37.

became separated from friends before he began showing signs of being critically ill. In Alex's case, many of her friends were themselves experiencing the effects of drug and alcohol use. When Callum became confused and disoriented, his friend did not think anything serious was happening.[376] In each of the six cases, the young people's companions did not have the awareness or the knowledge necessary to recognise the seriousness of their friend's condition.[377]

413. It follows that educating festival patrons and young people about the symptoms of advanced MDMA intoxication would assist in identifying patients earlier and improving outcomes.[378] The work of organisations such as DanceWize needs to be expanded and the increased presence of "rovers" in the music festival context needs to be further supported.

Responses from the families

414. While only one family produced a written submission, each family has been involved in the investigative part of the inquest. Some families attended court every day and listened, as I did, to the available experts. Others contributed family statements, and in so doing explained their views.

415. John and Julie Tam have spent considerable time in the study of harm minimisation principles in the music festival sphere and drug education more broadly. They have been actively sharing their knowledge with others through their not-for-profit organisation, *Just Mossin'*, set up in honour of their son. Julie eloquently told the Court that the impact of Josh's death on his friends and their decision-making has inspired Josh's family to make a difference to others.[379]

416. The Tams shared with the Court a submission[380] outlining ideas from Josh's friends that they believe might have made a difference to his fate.[381] Their thoughtful submission is predicated on two ideas: that more nuanced drug education is vital where abstinence fails, and that drug-related deaths are often multi-factorial, including environmental factors.[382]

417. Key issues for music festivals the Tams identify include a trial of drug checking,[383] improved mobile phone and WiFi reception,[384] wearable technology for patrons to measure body temperature and track location,[385] the scheduling of music festivals during summer,[386]

[376] [redacted] 16 July 2019 T656.9-10.
[377] Dr Jonathan Brett, 18 July 2019 T838.16-37.
[378] Dr Christopher Cheeseman, 10 July 2010 T254.22-37.
[379] Julie Tam, 8 July 2019 T47.10.
[380] Submission to the Coroner on behalf of the Tam family, MFI-C.
[381] Submission to the Coroner on behalf of the Tam family, MFI-C, p 2.
[382] Submission to the Coroner on behalf of the Tam family, MFI-C, p 2.
[383] Submission to the Coroner on behalf of the Tam family, MFI-C, p 3.
[384] Submission to the Coroner on behalf of the Tam family, MFI-C, p 4.
[385] Submission to the Coroner on behalf of the Tam family, MFI-C, p 5.
[386] Submission to the Coroner on behalf of the Tam family, MFI-C, p 7.

plentiful shade and free or cost-price water,[387] education at festivals on appropriate water intake levels,[388] proximity of festival site to the nearest hospital,[389] provision of amnesty bins,[390] a centralised authority governing music festival approvals,[391] and the decriminalisation of drugs for personal use.[392]

[387] Submission to the Coroner on behalf of the Tam family, MFI-C, p 8.
[388] Submission to the Coroner on behalf of the Tam family, MFI-C, p 2.
[389] Submission to the Coroner on behalf of the Tam family, MFI-C, p 10.
[390] Submission to the Coroner on behalf of the Tam family, MFI-C, p 11.
[391] Submission to the Coroner on behalf of the Tam family, MFI-C, pp 15-16.
[392] Submission to the Coroner on behalf of the Tam family, MFI-C, p 16.

What further interventions to save lives can be identified ?

418. While a number of specific health and environmental measures have already been adopted, it is necessary to look at the broader picture to gauge the adequacy of government and industry response. Deaths at music festivals must be understood within our broader drug policy. Since the 1985 launch of the National Campaign against Drug Abuse (NCADA) (now the National Drug Strategy (NDS)) Australia has adopted a harm minimisation approach addressing a range of issues associated with the use of tobacco, alcohol and other drugs.[393] The approach recognises that drug use is a complex phenomenon that will never be entirely eliminated. People who use drugs should be supported to progressively reduce harms to themselves and the wider community. The three pillars of the strategy are demand reduction, supply reduction and harm reduction.

419. During the inquest there were witnesses who urged the court to consider recommendations strengthening prohibitionist policies as the best response to the current rise in MDMA related death.[394] Ideas included strengthening "Just Say No" messaging in schools, promoting public danger messages with mass "grim reaper"-like advertising campaigns,[395] and maintaining high levels of drug detection operations at music festivals. In other words, it was suggested that prohibition was the only credible way to grapple with this issue. This approach prioritises supply reduction, but also suggests demand reduction can be achieved by focusing on fear-based campaigns.

420. The approach does not acknowledge that the current method of regulating drugs, where these types of strategies are already in place, is not working if it is measured either by its ability to prevent drug use or its ability to reduce drug-related death. The evidence before this court is that prohibition and the reliance on a single message, "Just Say No", does not work. Well-funded and well-supported attempts at drug prohibition based on strong law enforcement have not stopped our citizens experimenting with drugs.

421. The court examined some of the ways that have been suggested by experts to strengthen our harm minimisation approach and save lives. These include changes to our policing strategies, the introduction of drug checking or pill testing, the need for better monitoring and sharing of information about the drug market and the need to provide better drug education to our young people.

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[393] For a discussion of this shift towards a more pragmatic approach see statement of Dr Andrew Groves, Exhibit 3, Vol. 22, Tab 27, p 2.

[394] See, for example, statement of Gary Christian of Drug Free Australia, Exhibit 3, Vol. 22, Tab 15 and oral evidence, 12 September 2019; Statement of Dr Russ and Ian Scott, Exhibit 3, Vol.23, Tab 38 and oral evidence of Dr Russ Scott, 12 September 2019.

[395] Dr Russ Scott, 12 September 2019 T1141.4-30.

Changes to policing at music festivals

422. Traditionally police have led the supply reduction strand of the government's harm minimisation response to drug use. In practical terms in the context of music festivals, this has meant that their role has been to disrupt supply by arresting those in possession of drugs or found to be involved in street level supply. They have also had a role in removing people who appear to be overly intoxicated.

423. There is a need to examine what effect the current methods of policing NSW music festivals may have on drug-related harm. Methods of policing are not fixed and different jurisdictions adopt different methods and strategies. In the face of fatalities such as those currently under investigation, it is a legitimate exercise to try to understand if the methods currently employed are sufficiently aimed towards harm minimisation or whether they could exacerbate harm.

424. In NSW the main strategies employed by NSW Police have been involvement in pre-event planning, providing a heavy police presence to deter drug use and supply at the event, the use of sniffer dogs to locate offenders and the extensive use of personal and strip searching and arrest or the issuing of infringement notices to those found with drugs.

425. Superintendent Jason Weinstein, Operations Manager, South West Region, has had extensive experience leading police operations at music festivals. He outlined the kind of planning involved prior to an event. He told the court he would attend pre-event stakeholder meetings and in consultation determine an appropriate police response, taking into account a variety of factors including the history of adverse events, number of people attending, current policing environment and any relevant terrorism threats. On the day of an event he oversees police and monitors the crowd.

426. Superintendent Weinstein gave evidence that police use a number of strategies including "*high visibility policing, messaging, licensing and covert operations to detect various types of criminal activity*".[396] He also acknowledged that drug dogs are an important part of the overall police strategy. He stated that they are not used at all festivals, their use is "*intelligence based*".

427. He stated that NSWPF support the continued use of dogs as they [redacted].[397] In his view they also have a deterrent effect. While it is clear most people found in possession of drugs are dealt with for possession, he gave seven specific examples where a person was charged with a supply offence as a result of a drug

[396] Statement of Superintendent Jason Weinstein, Exhibit 60 [55].
[397] Statement of Superintendent Jason Weinstein, Exhibit 60 [54].

dog detection at a recent music festival.[398] None of the examples appeared to indicate the detection of anyone more than a street level supplier.

428. Superintendent Weinstein acknowledged that "*there is no way for a drug detection dog to determine a supplier versus a person who possesses illicit drugs for personal use*".[399] However, he stated there are benefits to police in identifying persons who possess for their own use. He stated "*While the NSWPF understands a person who possesses a drug for personal use may not themselves be part of an organised crime network, these individuals are contributing to the facilitation of organised crime".*[400] He went on to say that in his personal experience of conducting criminal investigations it can be important to identify street level users. He stated, "*it is common for persons arrested in possession of small amounts of drugs, by employing investigation and intelligence led policing methods, for police to track the purchase of that small amount of drug to an upline supplier*".[401]

429. Superintendent Weinstein also discussed the importance of lawful search in the overall strategy. He noted that strip search does not follow every drug dog detection. Officers must turn their minds to the criteria set out in *Law Enforcement (Powers and Responsibilities) Act* 2001 (LEPRA). For reason to which I will return, I do not share his confidence that this actually occurs or that it is sufficient.

430. It became clear during the course of the inquest that the current NSW approach is not the only option available to police at music festivals. NSW was the first state to introduce drug detection dogs for general duties in 1995 and subsequently made a specific legislative basis for their deployment.[402] The program has grown and expanded despite significant criticism from a range of sources. Its stated aim was "*targeting drug supply*" and "*attacking the root causes of drugs in society*".[403] Nevertheless it is clear that on any analysis of the statistics the program overwhelmingly detects young people for possession-type offences.[404]

431. Historically different approaches have been favoured. During the 1980s large scale dance parties were policed without dogs. However, since their introduction there has been an ongoing element of concern by those communities most affected. Dr Race reports "*that early reports of their use at large scale dance parties and outdoor music events in Sydney began to appear in 2007 and 2009 in the gay community press when the deployment of this strategy became to subject of controversy and consternation among partygoers and*

[398] Statement of Superintendent Jason Weinstein, Exhibit 60 [60].
[399] Statement of Superintendent Jason Weinstein, Exhibit 60 [59].
[400] Statement of Superintendent Jason Weinstein, Exhibit 60 [63].
[401] Statement of Superintendent Jason Weinstein, Exhibit 60 [64].
[402] Hughes et al, 'Understanding Policy Persistence – The case of police drug detection dog policy in NSW, Australia,' Exhibit 28.
[403] Statement of Professor Alison Ritter, Exhibit 3, Vol. 23, Tab 37.
[404] The most recent analysis is Agnew-Pauley, W E & Hughes C E 'Trends and offending circumstances in the police use of drug detection dogs in NSW 2008-2018' (2019) 31 Current Issues in Criminal Justice 1 4-23, Exhibit 4, Vol. 6, Tab 104.

organisers of events held as part of the Sydney Gay and Lesbian Mardi Gras festival."[405] This dissatisfaction has continued and there is evidence that it has had a negative effect on an already tense relationship.[406]

432. Policing music festivals can be approached in a variety of ways, even if we are operating within a framework where the possession of drugs remains a criminal offence. There was evidence that many large European festivals have little or no obvious police presence and certainly no sniffer dogs.[407] In contrast, encountering police at NSW music festivals is common.[408] Research shows Australia has one of the highest rates of policing of people who use drugs, particularly one of the highest rates of policing using drug detection dogs. Our rate is notably higher than like countries such as New Zealand.[409]

433. Evidence from the ACT made it clear however that even very close to home, large events can work smoothly without a dog presence. Detective Superintendent Rohan Smith travelled from the ACT to give evidence at this inquest. Detective Superintendent Smith indicated that the focus of policing at ACT music festivals was on harm minimisation. Bag checking is done by security staff. He stated "*our engagement at the venue is to support the security teams that are actually doing the baggage search and those sorts of things and if they do have an adverse outcome or if they find illicit substances, being there to do that, if we are there, in a highly visible presence in very hi-vis gear, it does have an effect upon people but we're talking to them at the same time. We're engaging with them. Not just standing there as a wall to them but actually talking to them and taking selfies with them, for instance. Just things that create a positive environment between the police and the community to actually engage with them that we're there to provide a supportive, safe, community environment for them.*"[410] It was evidence of a different approach in an Australian jurisdiction.

434. Detective Superintendent Smith was asked about the fact that ACT Police do not use dogs before or during music festivals as part of the overall policing strategy. He stated that ACT police recognised that in some instances there were negative outcomes with the use of dogs.[411] One of those negative outcomes he identified was "*we've…seen the potential harm of people consuming what they have in their pocket or whatever upon sighting a dog that could actually have an adverse effect upon their immediate wellbeing.*"[412]

[405] Statement of Professor Kane Race, Exhibit 3, Vol. 24, Tab 79.
[406] For discussion of these and related issues see Statement of Professor Kane Race, Exhibit 3, Vol. 24, Tab 79.
[407] Simon Coffey, 10 July 2019 T187.4-24; [redacted] T288.14-289.30.
[408] Dr Caitlin Hughes's recent research reports in the sample she was working with 71% reported encountering police: Statement of Dr Caitlin Hughes, Exhibit 3, Vol.24, Tab 70.
[409] Statement of Dr Caitlin Hughes, Exhibit 3, Vol.24, Tab 70.
[410] Detective Superintendent Rohan Smith, 19 September 2019 T1342.49-1343.9.
[411] Detective Superintendent Rohan Smith, 19 September 2019 T1342.34.
[412] Detective Superintendent Rohan Smith, 19 September 2019 T1342.40-43.

435. Detective Superintendent Smith also commented on the role of police during the *Groovin' in the Moo* pill testing trial. He stated "*I believe that the co-existence of pill testing and ACT policing at the two Groovin' in the Moo festivals has been a success.*"[413] He said that police "*were briefed on the existence of the pill testing capability and the police protocols surrounding being in the vicinity of and entering the Health Precinct*.[414] No legislative change was required. There was no evidence before me to suggest that the ACT method would not work in NSW.

436. It appears that some prominent former and current police have come to doubt the efficacy of the strategies we currently employ in NSW. Mick Palmer, former Commissioner of the Federal Police, was concerned about the efficacy of the strategy when he gave evidence to the inquest. He stated that even the extended use of sniffer dogs and very strong police presence as music festivals "*hasn't made a difference…at the end of the day young people will do what young people do*".[415] He raised concern about judging success in relation to policing these events by the number of seizures made. He made the point that most arrests are for possession, not supply and that they hardly touch the tip of the iceberg. "*I just think there are better ways of doing business…I think part of the problem is…determining our success by arrests and by seizures. If the focus of our presence at those sort of festivals was to minimise harm, reduce the possibility or the likelihood that anybody was going to become seriously ill or die of either an overdose or an adverse reaction to a tablet, anything we can do to reduce that should be the whole aim of our exercise and the whole aim of police presence.*" [416]

437. Mr Palmer spoke of a need to refocus the purpose of police presence. He stressed that police should be there to protect young people. He stated "*there are better ways to safeguard the health of the young people who go to those festivals, who are going for a great time and for that reason are going to take drugs whether we like it or not, than look for a few to arrest and seize drugs from. That is not the smartest way to do business and the evidence, I think, screams out at us."* He gave compelling evidence.

438. Researchers who had some experience in analysing broader policing strategy also pointed to the past failure of intensive and punitive strategies in the area of policing drugs. The court accepts that there is significant evidence that intensive and punitive drug policing operations targeting users and low-level dealers generally work to increase, rather than decrease drug-related risks and harms. There is strong evidence that rather than deterring or stopping use,

[413] Statement of Detective Superintendent Smith, Exhibit 3, Vol. 24, Tab 80 [34].
[414] Statement of Detective Superintendent Smith, Exhibit 3, Vol. 24, Tab 80 [36].
[415] Mick Palmer AO, 12 September 2019 T1188.27.
[416] Mick Palmer AO, 12 September 2019 T1188.35-50.

it tends to displace use to more hidden and potentially dangerous areas.[417] This has been seen time and again in relation to the policing of heroin use.[418]

439. There is significant evidence that the current methods of policing are damaging young people's perception of the police. It may be that along with other changes, we need to consider providing training for police who attend music festivals.

The use of drug detection dogs at music festivals

440. Drug detection dogs were introduced in NSW to assist police in relation to a number of tasks. Specifically, they have application in the search for missing persons and in the recovery of human remains. Dogs have also been trained to find explosives. At the time of their introduction, while it was clear that they could be used at festivals, their stated primary purpose in relation to illicit drugs was "*to assist in identifying persons involved in the illicit drug trade and particularly those supplying prohibited drugs"*.[419] As it has turned out, their use mostly results in arrests for possession.

441. There has now been a substantial body of research on the effects and efficacy of the drug dog detection program generally and its use in the context of music festivals.[420] I do not intend to review each of the articles and pieces of research with which I was supplied. I accept the opinion expressed by Professor Alison Ritter, Professor Director of the Drug Policy Modelling Program at Social Policy Research Centre, University of New South Wales, who has reviewed the literature, that "*there is sound evidence that high visibility policing and the use of drug detection dogs at festivals is a harmful intervention*".[421] I find the available evidence establishes that there are inherent dangers and few if any benefits of the use of drug dogs in music festivals.[422]

442. Broad questions about drug dog policing were raised officially as early as 2006 by the NSW Ombudsman.[423] Reviewing the first two years of the operation of the program, the Ombudsman found that "*there is little or no evidence to support claims that drug detection dogs operations deter drug use, reduce drug-related crime or increase perceptions of public*

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[417] For discussion of this issue see statement of Dr Peta Malins, Exhibit 3, Vol. 24, Tab 72. See also Dr Peta Malins, 'Drug Dog Affects: Accounting for the broad social, emotional and health impacts of general drug detection dog operations in Australia' (2019) 67 *International Journal of Drug Policy* 63-71, Exhibit 4, Vol. 7, Tab 109.

[418] Local changes in the way NSW Police the area adjacent to the MSIC are relevant for consideration.

[419] See second reading speech of the Hon Michael Costa, Minister of Police dated 6 December 2001, Exhibit 4, Vol. 8, Tab 135.

[420] The court heard from the prominent experts in this field, including Dr Barrat and Dr Malins.

[421] Statement of Professor Alison Ritter, Exhibit 3, Vol. 23, Tab 37.

[422] In my view there is significant evidence supporting this view. See for example Dunn and Degenhardt, 'The use of drug detection dogs in Sydney, Australia' (2009) *Drug and Alcohol Review* 658-662, Exhibit 43; Grigg, Barratt and Lenton, 'Drug detection dogs at Australian Outdoor Music Festivals; Deterrent, detection and iatrogenic effects' (2018) 60 *IJDP* 89-95, Exhibit 3, Vol. 22, Tab 25.

[423] Review of the *Police Powers (Drug Detection Dogs) Act 2001*, Exhibit 4, Vol. 8, Tab 137.

safety". Within the scope of this inquest, my focus is on their operation in the music festival environment. There is a wealth of more recent research looking at this specific deployment.

443. The research of Dr Peta Malins and others[424] supported earlier research that indicates people who use illicit drugs at music festivals do not avoid consuming them in response to the presence or potential presence of drug detection dogs, but instead choose to adapt their drug use or drug carrying behaviours in an attempt to evade detection. This can take a variety of methods. Dr Malins summarised the response of most of the participants in her study: "*While one or two participants…talked about sometimes carrying their drugs through drug dog operations as normal, bluffing their way past the dogs by looking confident, most participants described deploying one or more of the following adaptations to avoid detection while still being able to consume drugs: 1) consuming all their drugs at once upon seeing the dogs (panicked ingestion) 2) consuming all their drugs before arriving (preloading) 3) transporting their drugs past operations in internal anal, vaginal and mouth cavities (packing) 4) buying drugs from unknown suppliers inside a festival (buying inside) or 5) carrying or consuming different drugs that were thought to be less detectible (changing drugs). All of these adaptations carry risk with them increased risks of drug poisoning or overdose*."[425]

444. Recent research conducted by Jodie Grigg and Professor Simon Lenton identifies similar concerns. Their research, based on a large data sample obtained from an online survey,[426] found that the expected presence of drug dogs did not deter the vast majority (96%) of festival goers from using illicit drugs at the last festival they attended. Rather the threat of drug dogs appeared to result in a variety of alternative responses to avoid detection. There was evidence that a significant number (10%) who had drugs on them at the time of seeing a dog, consumed the drugs in response. Panic ingestion is a known and significant risk of serious harm or death.[427]

445. There is also research which indicates purchasing from an unknown source is similarly risky.[428] Increased presence of police may encourage users to buy their drugs within festivals, from random, unfamiliar sources, which is widely accepted to represent much greater risks to users.[429]

446. Dr Jonathan Brett, consultant in clinical toxicology, clinical pharmacology and addiction medicine, gave evidence including that one of the probable factors causing users to take

[424] Statement of Dr Caitlin Hughes, Exhibit 3, Vol 24, Tab 72.
[425] Statement of Dr Peta Malins, Exhibit 3, Vol. 24, Tab 72.
[426] Statement of Jodie Grigg and Professor Simon Lenton, Exhibit 3, Vol. 22, Tab 24.
[427] See Statement of Dr Caitlin Hughes, Exhibit 3, Vol. 24, Tab 70 and the annexed articles.
[428] Statement of Dr Monica Barratt, Exhibit 3, Vol. 21, Tab 2.
[429] See, for example, Dr Caitlin Hughes, cited in the statement of Dr Andrew Groves, Exhibit 3, Vol. 22, Tab 27; and Grigg, Barratt and Lenton's article at Exhibit 3, Vol. 22, Tab 25.

large doses[430] of MDMA in a single session was potentially police and police dog presence.[431] Dr Brett gave oral evidence that the sentiment in online forums, supported conclusions in the work of researchers such as Dr Monica Barratt. He stated that police use of drug detection dogs:

"…doesn't really deter people from taking drugs into festivals, and there's some evidence that it can make people engage in more risky drug-taking behaviours, such as dumping all the drugs at once outside the venue.

One of the issues is drugs are pretty expensive for young people. If they were cheaper they may even throw them away, but you know if you've been saving up for an extremely long time to go to a dance festival and this is the highlight of your social calendar and you spent a lot of money on your drugs then you're not going to throw them away. You're going to take them all at once.

And so you know it's a real, getting your head around harm reduction, it's a real double think, because you know you're trying to encourage don't do drugs, but also how can we, you know how can we help you be safer if you do drugs. And so on balance my opinion is that I think police presence and police dogs in generally unhelpful at festivals, and it's one of the things that repeatedly we hear from people, you know causing people to take more drugs."[432]

447. In my view there is strong evidence that the operation of drug dog detection programs may cause significant harm in the music festival environment. Risky ingestion and secretion, trauma especially when coupled with strip search and the destruction of trust between young people and police are all serious concerns. There is also evidence that the program does not in any event, deter drug users from consuming drugs.

448. There are also real questions about the reliability of the program. There is no independent analysis of reliability available.[433] During the inquest NSW Police asserted "*that drug detection dogs are about 80% accurate*".[434] It is not clear in the material provided whether this figure purports to relate to drug searching in the community generally or if it relates specifically to the music festival environment. Nevertheless, it is apparently deducted from information taken from the COPS database and combines figures for people found with drugs with figures for people who "*admitted to having been in recent contact with drugs*".

[430] See Statement of Dr Jonathan Brett, Exhibit 12: A typical recreational dose of MDMA in one unit (capsule or pill) is difficult to determine but thought to be in the range of 75 to 125mg. Other reasons may include prior experience with drug taking; perceived purity; lack of engagement/knowledge of harm reduction techniques; sensation seeking.

[431] Other reasons may include prior experience with drug taking, perceived lack of purity, lack of engagement/knowledge of harm reduction techniques and sensation seeking

[432] See statement of Dr Jonathan Brett, Exhibit 12; affirmed in Dr Jonathan Brett's oral evidence on 18 July 2019.

[433] One commentator quoted in the Ombudsman's report suggested the statistics "may not be much better than chance" Exhibit 4, Vol. 8, Tab 137, p 47.

[434] Statement of Superintendent Weinstein, Exhibit 60 [58].

Having reviewed what was provided I do not accept it gives an accurate picture of the capabilities of a drug dog. What the raw material seems to show is that some people who were searched and who, after being specifically questioned by police, admitted recent contact with drugs, were not found to be in possession of drugs at the time of search. Police assert that the failure to recover drugs following an indication in these circumstances does not reflect a potential false positive, it somehow reflects the accuracy of the dog. Police appear to assert that it may reflect that the dog is able to detect recent ingestion or contact, recent handling of drugs, drugs hidden internally or perhaps there has just been an ineffective search. Without more information it is impossible to know, but it is ludicrous to suggest that it is evidence of an 80% success rate, given the variables involved. The fact is that in 2018–19 police figures supplied show that in personal searches after drug dog indication, drugs were found in 23.8% of cases. During the same period in strip searches after drug dog indication, drugs were found in 28.3% of cases.

449. Having reviewed the evidence, I remain extremely concerned about the practice of drug dog operations at music festivals. In my view the evidence establishes that panic ingestion or preloading was a factor in some of the deaths under review. Certainly, there is strong evidence that Alex changed her consumption as a result of her fear of detection. It is also possible that Josh preloaded in the camping ground prior to entering the festival proper. It is difficult to know how the conduct of police affected the help that was sought in each case, but in my view, it is unlikely to have strengthened the relationship and trust between young people and police.

Practice of strip searching

450. Closely tied to the issue of drug dog detection is the issue of strip searching. While not all drug dog detections end in strip search, the two are closely linked. Many who fear drug dogs, fear it because a dog indication may lead to the possibility of a strip search.

451. There has been a rapid increase in the numbers of people strip searched in NSW.[435] In the financial year 2018–19 the reason given in 91% per cent of searches was "*suspicion that a person possesses drugs*".[436] While it is clear that Parliament's intent was that strip searches were to be used as a last resort and in exceptional circumstances, the reality is far from that.

452. The power to strip search a person is set out in the *Law Enforcement Powers and Responsibilities) Act* 2002 (NSW) (LEPRA). The only specific guidance the statute provides to police in the field is that an officer must have reasonable grounds to suspect that a strip search is necessary for the purpose of the search and that serious and urgent circumstances make it necessary. Given the number of times that searches occur when there is no

[435] Dr Michael Grewcock and Dr Vicki Sentas, 'Rethinking Strip Searches by NSW Police,' Exhibit 56.
[436] Dr Michael Grewcock and Dr Vicki Sentas, 'Rethinking Strip Searches by NSW Police,' Exhibit 56, p 4.

emergency or risk of serious harm, one can only assume that many searches are conducted unlawfully including many which occur at music festivals.

453. In the music festival context, many are searched because there is a suspicion they possess drugs after an indication by a drug dog. The court heard poignant testimony of the emotional effect of an unsuccessful search. [redacted] told the court that she was taken for a strip search after indication by a drug dog. She felt nervous. She was told to remove her clothing while the officer demanded "*tell me where the drugs are*."[437] She was told to "*cough and squat*" and later she reported the officer said "*if you don't tell me where the drugs are, I'm going to make this nice and slow"* [redacted] described an experience that was distressing and humiliating. It affected the rest of her night and stayed with her after the event. When she recounted her experience in court her distress was palpable and disturbing.

454. [redacted] contrasted her experience at music festivals in NSW with her experience in the Netherands, where she did not experience drug detection dogs or strip searches and while security did conduct some searches, it was "*really friendly*" and she never felt intimidated. She described a community of patrons who looked out for one another and she would have felt comfortable approaching security if she was in trouble.[438]

455. It appears that [redacted] experience in NSW festivals may not be an isolated one. The court was greatly assisted by the research of Dr Grewcock and Dr Sentas.[439] One of the case studies in their report tells the story of another young woman who was also searched at a music festival. Although nothing was found, she was ejected from the premises. Her experience made her feel very vulnerable and embarrassed. It brought back feelings she had experienced after an earlier sexual assault.[440]

456. I accept Dr Grewcock and Dr Sentas's view that the law should be clearer on what a strip search is. [redacted] evidence of having been told to cough and squat was disturbing and the legality of it should be carefully reviewed. I agree that there should be limitations to the practice in the field, specifically for our purposes at music festivals. The wholesale practice of searching young people for the possible offence of possession is of grave concern and out of line with the purpose set out in the second reading speech.

457. While the Commissioner fought to have consideration of this issue excluded from the inquest, it became a legitimate concern. It is clear that there is growing community concern

[437] [redacted] 11 July 2019 T290.25.
[438] [redacted] 11 July 2019 T288.25-289.21.
[439] Dr Michael Grewcock and Dr Vicki Sentas, 'Rethinking Strip Searches by NSW Police,' Exhibit 56.
[440] Dr Michael Grewcock and Dr Vicki Sentas, 'Rethinking Strip Searches by NSW Police,' Exhibit 56.

about the issue.[441] Dr Race noted that this is demonstrated by the level of interest in social media.[442]

458. The court was also presented with numerous media articles which indicated wide concern. A media report of the NSW Police Force's internal report prepared by the Lessons Learnt Unit (LLU) indicates poor understanding of current strip search legislation by some officers. The court is concerned about the reported lack of compliance stemming from inconsistent practices.[443]

[441] After evidence closed there was considerable concern reported in the media about non-compliance with strip searching legislation that arose out of public LECC hearings. This included concern where searches were non-compliant and occurring on children without supervision.

[442] For example, the "Sniff Off" campaign has 62 000 followers on social media: see statement of Professor Kane Race, Exhibit 3, Vol. 24, Tab 79.

[443] Angus Thompson, 'NSW Police admit breaking strip-search laws,' 23 June 2019, Exhibit 4, Vol. 8, Tab 134.

Drug checking

459. One of the strategies that has been used throughout the world to reduce potential harm at music festivals, and more widely, is the use of drug checking or pill testing.[444] Drug checking would seem to fall squarely within the government's harm reduction policy framework and requires close consideration. The court heard extensive evidence about this practice which operates in numerous countries worldwide. It is clear from the academic literature on this subject and the number of media reports available that the Australian public has a genuine interest in understanding this issue.[445] It is not possible to report in any detail on the numerous studies and research papers the court was directed to. However, I have reviewed them carefully, considering both positive and negative opinions.[446]

460. Proponents of drug checking point to a number of benefits, including that it provides harm reduction information to the individual and useful data to public health officials who otherwise have few reliable ways to monitor the illicit drug market. It has the capacity to prompt positive behavioural change. Opponents suggest the practice "*gives the green light to drugs*", tacitly condones drug use and provides a false sense of security.[447]

Methods of testing

461. The court took extensive evidence about the range and efficacy of testing methods currently available. At the simplest level substances can be tested at home using a colour reagent test purchased from a pharmacist or sourced on the internet. These tests can be used by anyone and give only the most basic information. These tests can identify a major ingredient. However, as a number of experts pointed out they are very rudimentary and are not reliable with mixtures of substances or with identifying toxic additives.[448] What is interesting is their current popularity. A number of witnesses gave evidence that they are widely used.[449] This appears to indicate a real interest in consumers to find out more about the substance they are planning on taking.

462. Beyond these rudimentary tests are a range of methods that have much higher levels of accuracy and may require considerable expertise. The court heard evidence about high

[444] In the literature, the terms drug checking, substance testing and pill testing are often used interchangeably.
[445] There are numerous media reports and documentaries in the 8 volume Research Brief (Exhibit 4). See for example Exhibit 4, Vol. 1, Tabs1-8.
[446] An interesting summary of the arguments for and against pill testing is annexed to Professor Ritter's statement. It shows there are a range of views and concerns across the Australian public: Exhibit 3, Vol. 23, Tab 2.
[447] Many of these concerns are raised in Gary Christian's statement: Exhibit 3, Vol. 22, Tab 15.
[448] Statement of Dr John Lewis, Exhibit 3, Vol. 22, Tab 33, p 2. .
[449] See for example Jodie Grigg, 13 September 2019 T1293.18-39; Paul Dillon, 9 July 2019 T133.39-41.

performance liquid chromatography, infrared spectrometry and mass spectrometry.[450] Most commonly used at music festivals onsite in the United Kingdom and in the recent ACT trials is Fourier Transform Infrared Spectrometry (FTIR).[451]

463. FTIR utilises a small portable unit that can be easily transported to a festival environment. Using only a few milligrams of powder, it can analyse the major compound in a short period of time. It has some limitations and may fail to identify minor components of the substance under examination.[452] If the testing takes place from a pill scraping or a small amount of powder taken from a larger batch, it will be impossible to know if the portion is indicative of what remains. It may not identify a trace of a dangerous substance.

464. One of the oft repeated criticisms of drug checking at music festivals is that purity cannot be tested for. Clearly this is incorrect. There are methods for testing for purity. Usually this is done in a fixed laboratory setting using a form of spectrometry. However, the court heard that there has been testing for purity in a music festival setting in parts of Europe for many years. It requires some commitment to set up, as expensive equipment must be transported carefully and efficiently. Dr Caldicott told the court that drug checking in Switzerland regularly uses HPLC technology which can identify and quantitate drugs of interest.[453]

465. Dr Caldicott stated that testing for purity is considered an important and achievable goal for Australian drug checking organisations, such as the one he is connected with, Pill testing Australia. He agreed that in the current environment testing for purity, while not the only goal of pill testing, is an important one. He said, "*we are pushing very hard for the technology, the technology is available, there's no shortage of technology available in Australia, it's the willingness to set up in such a way that would facilitate that."*[454]

466. Purity testing was to be trialled this year at the *Groovin' in the Moo* (GTM) festival. In 2018, only FTIR technology was available, however in 2019, a Gas Chromatography Mass Spectrometry (GCMS) was added. Unfortunately, the machine, which is delicate and had

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[450] The court received considerable information about the range of methods available for the analysis of drugs either at a festival site or within a fixed site laboratory. Each of these methods has assets and limitations. Some offer greater speed, some offer great accuracy. Often gold standard testing might use more than one method. The court heard evidence about reagent testing, Thin Layer Chromatography (TLC), Ramen Spectroscopy, Fourier transform spectroscopy (FTIR), High Performance Liquid Chromatography (HPLC), Gas Chromatography Mass Spectrometry (GCMS), Liquid Chromatography, Mass Spectrometry (LCMS) and Time of Flight (ToF) High Resolution Mass Spectrometry. For discussion of the limitations and strengths of each see the statement of Dr Michelle Williams, Exhibit 3, Vol. 23, Tab 56. Dr Williams also gave evidence in relation to the limitations of some of these methods during an expert conclave on 12 September 2019. See also statement of Dr Andrew Leibe, Exhibit 3, Vol. 24, Tab 75.

[451] Statement of Dr John Lewis, Exhibit 3, Vol. 22, Tab 33, p 2. See also the statement of Dr Gavin Reid, Exhibit 11

[452] Statement of Dr John Lewis, Exhibit 3, Vol. 22, Tab 33, p 2.

[453] Dr David Caldicott, 10 September 2019 T972. See also the statement of Dr Michelle Williams, Exhibit 3, Vol. 23, Tab 56.

[454] Dr David Caldicott, 10 September 2019 T974.

been recently brought from the United States of America, did not function throughout the event. Nevertheless, there is a clear goal to incorporate purity testing in future trials.

467. One can hardly expect the technological side of onsite pill testing in this country to have already reached world class gold standard when only two small trials have ever been sanctioned, one of which was approved only days before the festival commenced.[455] What was clear from the evidence is that there is an enormous commitment to best practice among those in the field. Gino Vambuca, also from Pill testing Australia gave evidence about the GTM trial conducted in the ACT in relation to this issue. He told the court that Pill Testing Australia was deeply committed to best practice and had partnerships with the Australian National University and the Forensic and Clinical Toxicology Association (FACTA). It was about "*gradually improving our services*" through experience and partnering with experts in the field.

468. Having reviewed the evidence I am satisfied that a NSW drug checking trial should not be rejected on the basis of the available technology.

Types of services

469. There are a range of models currently used to provide drug checking services. These include,

- **fixed site services** which can be standalone facilities or those based within another health or drug and alcohol service. These units provide testing on an ongoing basis.

- **onsite testing**, where a mobile unit sets up at a music festival or other location for a short period of time and provides a drug checking service. This can be a service provided directly to festival goers, or if that is not sanctioned, "back of house" testing can occur on drugs seized or placed in amnesty bins. The obvious benefit of providing the service directly to the festival goer is that there is an opportunity for a direct health intervention. Nevertheless "back of house testing" has some benefit and can provide useful information to medical providers.

470. The court learnt that these models each serve different purposes and may be complementary or even connected where a fixed service is the base for an outreach service that provides interventions from time to time. One benefit of onsite testing is that it has the potential to reach someone who would be loathe or fearful to contact a health service in the community.

[455] Gino Vumbaca, 12 September 2019 T1154.21-50.

Fixed site testing

471. One of the best-known examples of fixed site drug checking is the Drug Information and Monitoring System (DIMS). It grew out of earlier drug checking operations which had been operating in the Netherlands since the late 1980s.[456] DIMS was established in 1992 and is now funded by the Dutch Ministry of Health (VWS). It is embedded within the Trimbos Institute in Utrecht.[457] Its main aims are monitoring the market in illicit recreational drugs and harm reduction for people using these drugs. DIMS is part of the Early Warning System by the European Monitoring Center for Drugs and Drug Addiction (EMCDDA). DIMS is involved in research projects and has a crucial and leading role in issuing alerts relating to drug harm.[458]

472. DIMS coordinates drug checking in the Netherlands. Currently there are 31 drug checking locations in 29 cities.[459] Annually around 12 000 samples are submitted to DIMS locations. Since 2002, there has been no on-site testing or festival testing.[460] The service operates by providing fixed point drug analysis to users that is anonymous, discrete and does not carry the risk of arrest or prosecution.[461]

473. Specifically, users are allowed to bring three tablets, capsules or blotters, one gram of powder or 10 ml of liquid for testing. Budgetary constraints mean that only one sample per person is sent for full laboratory testing.[462] A range of testing methods is available. Results are communicated directly back to the drug user. However, the information is also used as a basis for monitoring the drug market and if necessary, as a basis for issuing warnings if particularly dangerous or unknown substances are found. If "extra hazardous" drugs are found to be in circulation a "Red Alert" is issued as a national, regional or local warning. This in turn triggers further investigation. The information is also shared through the EMCDDA's early warning system.

474. This red alert system has had demonstrated success. In 2014, a pink tablet with a superman logo, sold as MDMA was identified. The tablet was found to contain a potentially lethal dose of para-methoxymethamphetamine (PMMA). An immediate red alert issued and there were no deaths reported in the Netherlands. Tragically, in the United Kingdom there were a number of deaths over the next fortnight.[463]

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[456] Drug Information and Monitoring system (DIMS) factsheet, Exhibit 3, Vol. 23, Tab 51.
[457] Statement of Daan Van der Gouwe, Exhibit 3, Vol. 23, Tab 48.
[458] Statement of Daan Van der Gouwe, Exhibit 3, Vol. 23, Tab 48. See also DIMS 2017 Annual Report, Exhibit 4, Vol. 7, Tab 114.
[459] Statement of Daan Van der Gouwe, Exhibit 3, Vol. 23, Tab 48.
[460] Statement of Daan Van der Gouwe, Exhibit 3, Vol. 23, Tab 48.
[461] Drug Information and Monitoring system (DIMS) factsheet, Exhibit 3, Vol. 23, Tab 51.
[462] Drug Information and Monitoring system (DIMS) factsheet, Exhibit 3, Vol. 23, Tab 51.
[463] Drug Information and Monitoring system (DIMS) factsheet, Exhibit 3, Vol. 23, Tab 51.

475. DIMS has shown the benefits of a fixed site service which can provide consistent monitoring of the market over time. The capacity for high level analysis is achieved without the time and environmental pressures that can exist at an event.

476. Earlier this year the first Home Office sanctioned drug checking service in the United Kingdom was piloted in partnership with drug and alcohol service Addaction, with some training support from the LOOP UK. It was a limited trial, operating for four days over a four-week period between February to March 2019. The testing was performed on-site by pharmacist Dr Amira Guirguis, and her small team. Following identification of the sample content, the pharmacist and a health worker from the Addaction team would carry out a tailored harm reduction advice and undertake necessary interventions.[464] Dr Amira Guirguis gave evidence that by undertaking drug checking in an existing drug and alcohol service, it attracted a broad range of people and a much wider level of support. Appropriate referrals were possible. Addaction staff could link people up with local support groups and tell them about the different activities and services that Addaction offers. People were able to get support from other organisations like mental health, housing, employment and social care because the staff are familiar with the area and what is available.[465]

477. I note there was only a small sample size tested, reflecting perhaps the short duration of the program, the limited advertisement of the service and some logistical challenges. Nevertheless, Dr Guirguis gave evidence that she felt the concept worked well and was well received: *"We were able to convince a few not to use the sample at all, and not to use, not to buy from the dealer, this dealer at all. I think that it was very, very positive, and if we would have continued we could have had more people come in to us."*[466]

478. The court received further evidence about other fixed site services operating throughout the world,[467] including WEDINOS in Wales,[468] Kosmicare in Portugal,[469] the Drugs Information and Monitoring System (DIMS) in the Netherlands,[470] Energy Control in Spain,[471] DrugsData

[464] Statement of Dr Amira Guirguis, Exhibit 3, Vol. 22, Tab 30, p 7.
[465] Statement of Dr Amira Guirguis, Exhibit 3, Vol. 22, Tab 30, p 7.
[466] Dr Amira Guirguis, 19 September 2019 T1392.40-46. See also her report at Exhibit 3, Vol. 22, Tab 30, p 6.
[467] See 'Profiles of drug checking services in 2017,' National Drug & Alcohol Research Centre (NDARC), Exhibit 3, Vol. 21, Tab 6.
[468] In the UK, WEDINOS is the only year-round drug submission and testing facility. According to Dr Amira Guirguis, the Cardiff-based laboratory has a unique insight into the UK's drug habits, because it invites users from all over the UK to submit samples. The service uses chromatography and spectrometry laboratory-based techniques and reports results to clients via online reports: see report of Dr Amira Guirguis, Exhibit 3, Vol. 22, Tab 30 p 16.
[469] Kosmicare Association has been running drug checking services at festivals in Portugal since 2016 and in March 2019 received public funding to open a drop-in centre in Lisbon: see statement of Dr Helena Valente, Exhibit 3, Vol. 23, Tab 43, pp 3-5.
[470] DIMS has been funded by the Dutch Ministry of Health since 1999. There are currently 31 drug checking locations in 29 cities. Annually, around 12,000 samples are submitted to DIMS locations: see statement of Daan Van Der Gouwe, Exhibit 3, Vol. 23, Tab 48, p 1.

in the United States of America,[472] ANKORS in Canada,[473] Saferparty.ch in Switzerland,[474] Substance Analysis Service in Colombia,[475] and Drogenarbeit Z6 Drug Checking in Austria.[476]

479. There appears to be considerable interest in trialing a fixed site testing facility in NSW. The court heard from the Medical Director and Executive Director of Uniting Medically Supervised Injecting Centre in this regard.[477] The Medically Supervised Injecting Centre is well placed to be involved in these discussions. I note that the organisation has indicated to government its willingness to convene a meeting of key stakeholders and experts in the sector to create a roadmap towards a pill testing pilot.[478] I note Uniting would be willing to consider a request to be involved in any future community-based trial by providing premises.[479]

Onsite testing at music festivals

480. The court also examined a number of examples where drug checking takes place onsite at a music festival or like event. The court received evidence about this kind of testing in Austria, Switzerland, Portugal, the United Kingdom and elsewhere.[480]

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[471] As at 2017 Energy Control operates four fixed-sites which accept national and international postal submissions, as well as operating on-site facilities at nightclubs, festivals and other events: see 'Profiles of drug checking services in 2017', National Drug & Alcohol Research Centre (NDARC), Exhibit 3, Vol. 21, Tab 6. See also the statement of Mireia Ventura, Exhibit 3, Vol. 24, Tab 73 for more information about Energy Control services. Energy Control's fixed site model is supported by Dr Samuel Banister in his statement at Exhibit 3, Vol. 24, Tab 84.

[472] DrugsData, formerly known as EcstasyData was founded in 2001, as a program of the nonprofit organisation, Erowid Center. DrugsData operates as a fixed site, which accepts domestic as well as international submissions via postal mail: see 'Profiles of drug checking services in 2017', National Drug & Alcohol Research Centre (NDARC), Exhibit 3, Vol. 21, Tab 6.

[473] ANKORS are a long-term community-led harm reduction organisation, which added drug checking to their other services in 2002. ANKORS operate a fixed-site which is open to the public on Mondays, Tuesdays and Wednesdays from 10am-4pm; as well as on-site at festivals: see 'Profiles of drug checking services in 2017', National Drug & Alcohol Research Centre (NDARC), Exhibit 3, Vol. 21, Tab 6.

[474] Saferparty.ch started with on-site drug checking at nightclubs in 2001. It currently visits 8 events per year, collecting 35 samples per event. In 2006 it opened a fixed-site office with additional facilities (DIZ) on a weekly basis: see 'Profiles of drug checking services in 2017', National Drug & Alcohol Research Centre (NDARC), Exhibit 3, Vol. 21, Tab 6.

[475] This service has offered qualitative and quantitative substance analysis since 2013, operating on-site at nightclubs, festivals, and events, as well as at a fixed-site location. The service was formed by Energy Control (Spain): see 'Profiles of drug checking services in 2017', National Drug & Alcohol Research Centre (NDARC), Exhibit 3, Vol. 21, Tab 6.

[476] Drogernarbeit Z6 in was founded in 2014 in Innsbruck as a drug checking service, accepting drug samples from Western Austria, Germany, and Italy, and analysing them at the forensics institute of Innsbruck: see 'Profiles of drug checking services in 2017', National Drug & Alcohol Research Centre (NDARC), Exhibit 3, Vol. 21, Tab 6.

[477] Joint statement of Tracey Burton and Marianne Jauncey, Exhibit 3, Vol. 23, Tab 41.

[478] See correspondence at Exhibit 3, Vol. 23. Tab 41.

[479] Joint statement of Tracey Burton and Marianne Jauncey, Exhibit 3, Vol. 23, Tab 41.

[480] Other European onsite drug checking services include Checkit! in Austria, Saferparty.ch in Switzerland, Kosmicare in Portugal, Technoplus in France, and Energy Control in Spain. Elsewhere, onsite drug checking services are offered by DanceSafe in the United States and KnowYourStuffNZ in New Zealand: see 'Profiles of drug checking services in 2017', National Drug & Alcohol Research Centre (NDARC), Exhibit 3, Vol. 21, Tab 6.

481. The court heard from Professor Fiona Measham[481] about her extensive involvement in drug checking operations in the United Kingdom. Professor Measham is the co-founder and co-director of The Loop, established in the UK in 2013 and in Australia in 2018. The Loop UK introduced drug checking to the UK, initially through event-based drug safety testing at festivals in 2016 and then through community-based drug safety testing in city centres in 2018.[482]

482. The Loop UK's drug checking service involves substances of concern being submitted by members of the public or any onsite services (police, security, paramedics, welfare and general staff) to be forensically tested using a range of analytical processes by teams of chemists in mobile laboratories that may be located within festivals, nightclubs, drug services, community centres, churches or other community--based venues. Test results are shared daily with all onsite agencies, as well as offsite to stakeholder agencies and directly to individual drug users. Individualised healthcare consultations by healthcare staff take place. The project aims to monitor local drug markets, inform health service provision and positively influence drug using patterns and practices, with the overarching aim of harm reduction.[483]

483. The service began with a 'halfway house' model of testing delivered from 2013 – 2016. It was so characterised by Professor Measham because they were neither testing exclusively for police evidential and intelligence purposes behind the scenes ('back of house') nor were they providing a publicly accessible ('front of house') drug checking service at that point. Distinct from both back of house and front of house testing, the Loop UK's 'halfway house' testing service brought a mobile laboratory to an event and tested any substances of concern obtained from any onsite agencies, with the clearly specified aim of harm reduction.[484]

484. In 2016, the Loop UK's program introduced drug checking for the general public ('front of house' drug checking) at two English summer music festivals, *Secret Garden Party* in Cambridgeshire and *Kendall Calling* in Cumbria. The Loop UK's service involves patrons submitting substances of concern for content and strength analysis and receiving results about an hour later as part of a confidential, individually tailored harm reduction package delivered by trained, qualified and experienced healthcare professionals. Professor Measham explained this allows it to be an effective public health intervention, while simultaneously enabling a greater insight into local drug markets. Where appropriate, targeted public alerts can be issued through The Loop UK social media and other channels

[481] Chair in Criminology in the Department of Sociology, Social Policy and Criminology at the University of Liverpool, UK and Honorary Professor at RMIT University in Melbourne, Australia.
[482] Statement of Professor Fiona Measham, Exhibit 55, Tab 4, p 2.
[483] Statement of Professor Fiona Measham, Exhibit 55, Tab 4, p 2.
[484] Statement of Professor Fiona Measham, Exhibit 55, Tab 4, p 3. See also her oral evidence on 19 September 2019, T1360-1361.

(including festivals apps) to reduce drug-related harm onsite and to minimise the possibility of a major public health and safety incident.[485]

485. In 2018, The Loop UK conducted 'front of house' and 'halfway house' testing at a total of 12 UK summer music festivals with approximately 5,000 service users. In May 2018 the Loop UK introduced the UK's first community--based drug checking service, with a pop-up lab within a city centre drugs service, a youth and community centre and a city centre church.[486] In 2019, The Loop UK assisted with a pilot community--based drug checking service located within the Addaction drug and alcohol service.[487]

486. Professor Measham gave evidence that data from The Loop UK's 2016 pilot demonstrates that drug checking could impact on drug taking behaviour (e.g. disposal of substances of concern or taking smaller quantities) and that the *Secret Garden* festival reported a 95% reduction in festival-goers being taken to hospital in 2016 compared with the previous year. She cited possible explanations for this decline to include drug checking raising awareness of contaminants in circulation via social media alerts and word-of-mouth, and onsite medical staff having greater confidence in dealing with medical incidents onsite.[488]

487. Evaluative data has been collected since that festival which is currently being prepared for publication. According to Professor Measham, the findings in subsequent years have been similar to the 2016 pilot.[489]

The Australian pilot

488. While drug testing at music festivals has been in operation for many years overseas, the first officially sanctioned pilot of drug checking in the context of an Australian music festival occurred in April 2018 at the *Groovin' in the Moo* (GTM) music festival in the ACT. The pilot was run by an organisation now known as Pill Testing Australia.[490] The pilot, which ran again in 2019, trialled a medically supervised model, where testing was co-situated within the medical facility and the service was provided by senior chemists and physicians, as well as highly trained peers.[491]

489. Dr Caldicott, Emergency Consultant at the Calvary Hospital and member of Pill Testing Australia, described the aim was "*to ensure that festival goers are not harmed or killed consuming drugs. We can identify harmful substances and, with that information, we can*

[485] Statement of Professor Fiona Measham, Exhibit 55, Tab 4, pp 4-5. See also her oral evidence on 19 September 2019, T1361-1362.
[486] Statement of Professor Fiona Measham, Exhibit 55, Tab 4, pp 5-6.
[487] See statement of Professor Fiona Measham, Exhibit 55, Tab 4, p 6; Statement of Dr Amira Guirguis, Exhibit 3, Vol. 22, Tab 30 and her oral evidence on 19 September 2019.
[488] Statement of Professor Fiona Measham, Exhibit 55, Tab 4, pp 11-12.
[489] Professor Fiona Measham, 19 September 2019 T1368.20-26.
[490] See also statement of Gino Vumbaca in relation to his involvement in the trial: Exhibit 3, Vol. 23, Tab 54. Mr Vumbaca is the president and co-founder of Harm Reduction Australia (HRA).
[491] Statement of Dr David Caldicott, Exhibit 3, Vol. 24 Tab 76, p 3.

change the way potential consumers use their drugs or, in some cases, deter them from taking drugs altogether. By doing so, it follows that we can reduce the incidence of overdose at festivals."[492] Dr Caldicott stressed the model was about reducing harm by education. He stated the analysis is a "*currency of interest*" for young consumers and a way of starting a conversation with young people who are likely to have never spoken to anyone but their peers about drugs. As part of the process, young people are given information which they can use to make informed decisions about risk and recognising the possibility of adverse outcome.

490. Dr Caldicott stated the trials demonstrated that drug checking can reduce the quantity of drugs consumed by individuals and the number of drugs consumed in a session, both of which are risk factors for overdose and death. In keeping with the overseas experience Dr Caldicott stated that the Australian pilots were demonstrating that there can be behavioural change when people are provided with accurate advice.

491. Dr Caldicott explained the way in which testing worked at the *GIT* festival. The pill testing area was placed adjacent to the medical area. Patrons wanting to use the service were initially seen by a peer worker, "*somebody who is recognisably of their generation and of their tribe*".[493] They were asked what they were there for and told what could be provided. They were given a waiver. They were told "*if you don't want to be hurt by drugs today you probably shouldn't use any drugs today. That's the only 100% way of not being harmed".*[494] The limitations of the technology were explained. Patrons surrendered part of a pill or a portion of powder, "*it depends on the individual on how much they offer*". The drug is analysed, weighed, photographed. Chemists are on hand and can explain that the more that is available to analyse, the better the analysis will be.[495] After the testing comes the medical discussion with Dr Caldicott and then another chance to speak with the peer worker. He described the way drugs are categorised and the use of a "red alert". He described the interaction as a holistic experience, that many young people use to ask all kinds of questions they have never had a chance to ask. Sometimes it leads to a change in behavior. He stressed that in line with every drug checking organisation he had ever been aware of, patrons were never advised, "*your drug is safe.*"

492. It is important to stress that, contrary to the suggestion of some opponents to drug checking, no facility ever advises patrons that their drugs are safe. Mr Dillon also gave evidence in this

[492] Statement of Dr David Caldicott, Exhibit 3, Vol. 24, Tab 76 p 3. See also the account given by Gino Vumbaca in relation to his involvement in the trial: Exhibit 3, Vol. 23, Tab 54.
[493] Dr David Caldicott, 10 September 2019 T967.7-8.
[494] Dr David Caldicott, 10 September 2019 T967.15.
[495] Dr David Caldicott, 10 September 2019 T967.25.

regard. He said he had been to pill testing in Austria, Switzerland and the Netherlands and "*no user is ever told that the drug is safe.*"[496]

493. I have read the available reports on the first GTM pill testing pilot in 2018 and the subsequent trial in 2019[497] and note the GTM trial is currently under review by an independent evaluation team from the Australian National University. The preliminary results indicate that there was evidence that harmful substances were identified and that some festival goers made behavioural change as a result of their interactions with the service.

494. The court heard that in 2018 there were 128 participants and 85 samples were tested, exceeding organisers' expectations. Two samples were "red-flagged" for their harmful profile. N-Ethylpentylone (ephylone) was identified. This drug is responsible for a number of deaths worldwide. Half the drugs tested had no psychoactive ingredients but were made of other substances such as toothpaste, milk, glue or paint. Dr Caldicott reported that 42% of patrons reported that their drug consumption would change as a result of the interaction.[498]

495. In 2019, 171 samples were tested on behalf of 234 participants. There were queues to use the service. MDMA was the most common substance identified, followed by cocaine, ketamine and methamphetamines. A number of patrons abandoned their drugs when they were informed that their pills contained N-Ethylpentylone. The trial was well supported by the local medical community, with 35 volunteer doctors, chemists and counsellors working on shifts throughout the event.

496. The court has also been referred to research into the kind of service that would be acceptable to Australian drug users at an onsite setting in an attempt to model best practice.[499]

The importance of the brief intervention

497. It became clear listening to the evidence that one of the most important aspects of drug checking, as it is conducted all over the world, is the possibility of providing a brief harm reduction intervention to the person who is intending to use drugs. The importance of this opportunity is recognised almost universally by those involved in testing.

498. The court heard from Cameron Francis, an experienced drug and alcohol worker who shared his experiences working in drug checking with The Loop in the United Kingdom. He had been involved as a harm reduction worker at *Boom Town Fair* in August 2018. He explained that

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[496] Paul Dillon, 9 July 2019 T136.
[497] Report on the ACT GTM Pill Testing Pilot: A Harm Reduction Service, Exhibit 4, Vol.1, Tab 26.; Report on the Second ACT Groovin the Moo Pill Testing Pilot, Exhibit 44, Tab 7. See also 'Media Release' after 2019 trial, Exhibit 4, Vol. 6, Tab 103.
[498] Dr David Caldicott, 10 September 2019 T975.42.
[499] See Dr Monica Barratt et al, 'Pill testing or Drug Checking in Australia; Acceptability of service design features,' Exhibit 3, Vol. 21, Tab 3.

the vast majority of the young people he spoke to had "*no real concept of the risks of the drugs they were using. They were very skeptical about previous messages they had heard, particularly through government or through school education…they had discarded most of what they had heard as being not true. So they valued instead what they'd heard off their friends, which in many cases was not correct."*[500] Mr Francis explained the power of the interaction given in these circumstances of trust, where interest had been piqued.

499. As we have seen, many people who use drugs at a music festival will never have spoken to a health professional about their drug use. Many have limited or unrealistic ideas about the risk they may face. Drug checking provides an opportunity to discuss risk and to make sure that drug users understand the potential dangers and the signs of toxicity. A positive health intervention, no matter how brief may predispose someone who later finds themselves in trouble to seek help.

500. Festival goers such as Nathan, Joseph, Diana, Callum, Joshua and Alex are likely to have never had a health interaction which discussed drug use. It appears clear to me that the benefit of reaching young people like this even for a short interaction cannot be underestimated.

Concerns that it gives a green light or "normalises" drug use

501. Various opponents of pill testing assert that the introduction of pill testing will contribute to the "normalisation" of drugs. Dr Russ Scott, for example asserts that the *imprimatur* of government and the cooperation of the police essentially send the wrong message to young people.[501] There was also concern that it would create an aura of acceptability and safety.[502] Others say it is "*an admission of defeat*". Proponents of pill testing responded that the comments fail to recognise the high levels of drug use that already exist at music festivals. In other words, drug use is already, to some degree, considered normal among patrons. On the other hand, Dr Caldicott explained that in his view drug checking signaled the opposite to "safety". It was an intervention, the very purpose of which is to signal the existence of risk.[503] He said it is the only time of year he wears a lab coat, to help signal his scientific authority. He stated "*this is the opportunity to reiterate to young consumers the hazardous nature of the undertaking what they're about to embark upon. The idea that is frequently put to us that this is in some way a green light or reassuring, we're still puzzled as to how that is translated in that way*."[504] He explained that there is nothing particularly reassuring about the need to have

[500] Cameron Francis, 12 September 2019 T1148.26-50.
[501] Statement of Dr Russ and Ian Scott, Exhibit 3, Vol. 23, Tab 38.
[502] See statement of Gary Christian, Exhibit 3, Vol 23, Tab 15.
[503] Dr David Caldicott, 10 September 2019 T985.36-40.
[504] Dr David Caldicott, 10 September 2019 T969.45-46.

doctors and chemists on site to test substances. It indicates risk, even to those who don't use the service.

502. Mr Vumbaca personalised the issue. He asked, once you accept the reality that that your child has already purchased drugs to use in a music festival context, who is the last person you want them to talk to before they use the drug? He said "*for me it's people like David Caldicott or Steph and Penny from Dancewize or Mal and his team.*" I would prefer them to get their information from these sources rather than "*the person they just bought the drug off or someone they bumped into at the festival*."[505]

The evidence basis for the intervention

503. One of the criticisms of drug checking the court heard is that there is no evidence that it works or that it will save lives. This was the position put by the NSW Commissioner of Police in submissions and is a concern raised by witnesses such as Gary Christian and Dr Russ Scott. Dr Scott asserted "*there is no evidence that pill testing reduces harm, and…there is in fact no research from the Netherlands that either front or back of house testing has reduced harms".*[506]

504. I have taken these kinds of concerns seriously as any recommendation must be evidence - based. However, in my view they demonstrate a lack of understanding of the way qualitative evaluation in health promotion is assessed.

505. These criticisms fail to understand the way these kinds of health interventions can be evaluated. I was struck by compelling evidence given by Professor Alex Wodak in this regard. He pointed out that pill testing takes place in an environment that cannot be controlled. He explained that because of those variables, from a *scientific* perspective, the kind of evaluation that can take place is necessarily limited. Nevertheless it can produce useful information. What this means is that we cannot evaluate an environmental intervention, like pill testing, in the same way that we can evaluate a clinical intervention like giving someone with an infection an antibiotic. He said "*that can be tested with randomised control trials and other techniques that have a high degree of accuracy and specificity. That's not possible in the world of environmental interventions like needle and syringe programs and medically supervised injecting centres and in this case pill testing*."[507] That does not mean there is "no evidence".

506. A number of other senior experts took similar views. Professor Fiona Measham, a supporter of drug checking acknowledged "*it's very difficult to say whether it would save a life because it's so tricky to prove a causal relationship and to know why somebody does or doesn't die.*

[505] Gino Vumbaca, 12 September 2019 T1175.40-50.
[506] Gino Vumbaca, 12 September 2019 T1135.24-28.`
[507] Dr Russ Scott, 12 September 2019 T1001.

It's very difficult to unpick all of the different factors…I think the evidence base is building in relation to drug safety testing reducing drug-related harm and we would expect that to follow through in terms of it also reducing drug-related deaths, but we don't have yet a solid evidence base. It's emerging."[508]

507. Professor Measham's careful evidence in this regard is to be commended. Nevertheless her recently published review of onsite drug checking in the United Kingdom[509] indicates the kind of behavioural change that appears to be indicated in the emerging in the literature. 20% of service users disposed of substances when drug checking revealed the substance was not what they believed they had purchased. While it may not be possible to point to a particular person and say "that life has been saved". There is evidence of behavioural change, with the potential to reduce harm or death.

508. Professor Nicole Lee also addressed the question of evidence. She stated "*Although pill testing has been in operation in Europe for more than two decades, the research is still relatively limited. This type of research in a naturalistic setting is difficult to apply controlled research methods to. However, the lack of research should not be considered a lack of effect. It is more likely to reflect a lack of opportunity and funding. Research that has been conducted consistently shows harm reduction impact. In Australia, the two small trials of pill testing conducted in the ACT were only able to produce data on what was identified in the drugs surrendered for testing and on intentions of festival goers who use the service*." She recognises that further evaluation is forthcoming.

509. Tracey Burton and Dr Marianne Jauncey and others place the issue of "evidence" in the longer history of harm minimisation strategies. They write *"sometimes innovation is needed to create new evidence. When the MSIC opened there was no high level published evidence to prove the idea."*[510] Subsequent evaluations, over 20 years, have all been positive.

Concerns raised by the Commissioner of Police

510. The only interested party who indicated opposition to a drug checking trial was the Commissioner of Police.[511] The Commissioner's opposition was raised in submissions and was sustained and vehement, ranging from an assertion "*that there is no evidence of the evaluation of the effectiveness of drug checking services at music festivals*" to concerns about its viability and cost. The Commissioner's concerns included:

[508] Professor Fiona Measham, 19 December 2019, T1368.31-46.
[509] Professor Fiona Measham, 'Drug Safety testing, disposals and dealing in an English field; exploring the operational and behavioural outcomes of the UK's first onsite "drug checking" service,' Exhibit 3, Vol. 22, Tab 21.
[510] Joint statement of Tracey Burton and Dr Marianne Jauncey, Exhibit 3, Vol. 23, Tab 41.
[511] It should be noted that not all parties addressed the issue, including NSW Health.

511. No evidence of the evaluation of effectiveness. The Commissioner asserts that there is a lack of scientific evidence to prove that drug checking will reduce harm or change behaviour. As I have already stated, there is evidence of behavioural modification. As Dr Caldicott explained, the evaluation of the recent trial in the ACT shows us that drug checking can reduce the amount of drugs consumed by an individual, and that it can reduce the variety of drugs consumed in a session, both of which are risk factors for overdose and death.

512. **Lack of interest in uptake**. The Commissioner submitted that the indications in Europe and from the two pilots in the ACT are that an insignificant number of people use these kinds of services. The Commissioner pointed to the fact that in the first trial in Australia just over 100 people presented drugs to be checked, out of a possible 20,000 attendees. It should be noted that it was a pilot that was only approved in the days before the event. The second year experienced greater success with numbers doubling. More than 230 festival goers used the service, with 7 substances found to contain the potentially lethal N-Ethylpentylone. In many cases purity levels were unexpectedly high. All but one of those who was told their drug contained an unexpected and highly dangerous compound disposed of it. Similarly, the Commissioner suggested that 900 out of 25,000 patrons at a UK festival attending for pill testing is a small figure. It is actually a meaningful proportion of people likely to be using drugs. A much wider number of patrons were reached once highly lethal substances were found and results communicated widely.

513. **There has been no cost assessment**. The Commissioner's submissions are critical of the court for not including a cost assessment for drug checking. The criticism fails to recognise that Pill Testing Australia and the Loop have amassed many volunteers from all over Australia who have offered their time and skills for free. This is to be commended. There is no serious argument that the cost of a drug checking pilot would make it impractical. In any event, drug checking would take a tiny proportion of the overall harm reduction budget, most of which goes to law enforcement.[512]

514. **False sense of security.** It was suggested on behalf of the Commissioner that drug checking "*creates a false sense of safety*" and normalises drug use. That argument ignores the consistent and repeated evidence of every witness involved in drug checking to the effect that the service in no way condones, or encourages drug use and constantly reaffirms to users that the safest way to avoid drug-related harm is not to take anything.

515. **No validity in results**. The Commissioner submits there are significant concerns about the validity of drug checking because drugs "*vary in composition and purity*" and "*there is never a guarantee that a person may not have an idiosyncratic reaction to the substance."* Of course there is no guarantee of purity in an inherently dangerous illegal market. This is part of the

[512] Dr Alex Wodak, 10 September 2019 T999.42-1000.8.

problem. This is addressed in the education which goes along with the testing service. It is the beauty of the individual intervention. These matters can be discussed directly with the person planning on using the drug along with results from the available analysis. While it is accepted that a person may have an idiosyncratic reaction to a drug, it should be remembered that the deaths before this court relate to MDMA toxicity well into the toxic or lethal range. These kinds of issues can be discussed with a chemist or doctor during the brief intervention.

516. **Intervention occurs too late** The Commissioner has submitted that the drug checking intervention occurs too late, when a patron is already committed to taking drugs. This criticism misses the point that drug checking is only one of a number of interventions that are important to minimise the risk of serious harm and death. Drug education should be multi layered.

The way forward

517. During the course of this inquest I have listened to opposing views in relation to the possible benefits or harms of introducing drug checking in NSW. I have reviewed hundreds of pages of reports and peer reviewed articles from Australia and overseas. I have listened carefully to hours of oral testimony, attended a pill testing demonstration and watched numerous documentary reports.[513] I have taken into account the opinions of experts I consider to be at the top of their professions.[514] I have listened to the views of young people and drug users, police, parents and doctors. I have sat quietly and given this matter my most serious attention. At the end of my reflection, I am in no doubt whatsoever that there is sufficient evidence to support a drug checking trial in this state (both on-site and fixed). In my view the evidence is compelling. Of course drug checking is not a magic solution to these tragic deaths. Of course its introduction will not guarantee further deaths will not occur. Drug checking is simply an evidence -based harm reduction strategy that should be trialed as soon as possible in NSW.

518. It is no surprise to me that so many organisations representing medical and pharmaceutical professional support the trialing of medically supervised drug checking. The list includes the Australian Medical Association (AMA),[515] Royal Australian and New Zealand College of Psychiatrists,[516] the Royal Australian College of General Practitioners (RACGP), the

[513] See, for example, 'Q&A on Drugs' and 'Insight: The Pill Gamble' (Exhibit 4, Vol. 1, Tabs 17 and 18); Foreign Correspondent episode, 'Testing Times,' Exhibit 55, Tab 10.
[514] I note for example that Professor Alison Ritter, Professor Director of the Drug Policy Modelling Program at the Social Policy Research Centre, University of New South Wales conducted a recent analysis of the last 12 months of pill testing policy debate, which involved reviewing arguments both for and against. Having reviewed that material she expresses no reservations about pill testing.
[515] See, for example, AMA Media Release, Exhibit 4, Vol. 1, Tab 24.
[516] RANZCP Media Release, Exhibit 4, Vol. 8, Tab 140.

Forensic and Clinical Association (FACTA), the Royal Australian College of Physicians, the Australasian College for Emergency Medicine, the Rural Doctors Association of Australia, the Australian Nursing Midwifery Association, the Pharmaceutical Society of Australia, and the Public Health Association of Australia. Pill testing Australia publishes an impressive list of signatories to the Trans-Tasman Charter for Pill Testing, which includes the Centre for Law Enforcement and Public Health, Family Drug Support Australia and the College of Emergency Nursing Australasia.

519. I note that a trial was also supported by the AFA.[517]

520. On the evidence before me it appears that drug checking should take place on-site at music festivals and also at a community-based service. The best available technology should be sourced and if necessary, made available by government. All client interaction should prioritise the brief intervention of a health professional. All results should be shared widely and provided to a well-integrated "early warning system."

[517] Submissions of Australian Festival Association.

Drug amnesty bins

521. The court heard that amnesty bins were provided at the *Defqon.1* music festival in 2013. The evidence around that was scant, however it appears to have been a spontaneous, joint decision between one Local Area Command and the promoters.[518]

522. If possession of drugs remains illegal consideration should be given to trialing the provision of amnesty bins, to give people an opportunity to surrender drugs, should they wish to.[519] There would need to be tight protocols about where bins were placed and how they were policed.

523. The benefit of this approach is that if drug checking is not introduced, there is still the possibility of retaining discarded substances and testing them. The more information that is available for the assistance of health providers the better.

524. I note that the Commissioner of Police does not oppose amnesty bins.

[518] Simon Coffey, 10 July 2019 T201.4-202.25.

[519] Amnesty bins have been used in relation to quarantine issues and their operation is apparently smooth: see, for example, the evidence about amnesty bins at airports from Dr Michelle Williams, 12 September 2019 T.1171.23-27.

Information sharing, early warning systems and monitoring

525. Collecting and sharing information about the drug market, drug-related medical harm and drug death is an essential part of any overall harm reduction strategy. Understanding new patterns of drug use and the emergence of new substances can assist emergency doctors at ground level, faced with patients suffering from some kind of drug toxicity.

526. An "early warning system" involves the identification of new or emerging substances and the provision of information to all relevant parties. These substances can be difficult to track as they are often taken inadvertently, and a user may self-report having taken a different substance which they believed they had bought. Highly developed early warning systems exist in Europe and while it is beyond the scope of these findings to review in detail what they have learnt, the court has had the benefit of extensive information in this regard.[520]

527. There is a clear need to share information from a variety of sources including academic survey, waste water monitoring, hospital emergency departments, law enforcement seizures and coronial autopsies. The results of drug checking operations, if available, would of course be an important part of the picture.

528. The court heard about a variety of systems operating in Europe to detect NPS and prevent harm. While it is beyond the scope of these findings to review the material in detail, Dr Chant referred the court to some international surveillance models that are supported by drug checking services. Others are national systems that receive information primarily from samples of substances collected through law enforcement seizures, poisoning information or death investigations. Well established networking and reporting systems make sure the information is available to for public health alerts.

Australian systems

529. While there are a number of initiatives of this sort already operating in Australia, the sharing between groups that occurs is sometimes ad hoc and dependent on private relationships. It can lack transparency and reach.

530. Dr Chant, for example spoke of developing protocols between the Ministry of Health and NSW Police about information relating to seized product, but said they were in "*very early phases*" of working through feasibility issues.[521]

531. Ms Cullinan, a senior forensic analyst from the Illicit Drug Analysis Unit of FASS gave evidence about their process when an unknown substance was discovered. She said they

[520] See, for example, 'Early Warning System (National Profiles)' European Monitoring Centre for Drugs and Drug Addiction, Exhibit 4, Vol. 3, Tab 46.
[521] Dr Kerry Chant, 19 September 2019, T1319.

would send it first to other states and "sometimes" they gave police "Intel information". The channels were "informal".[522]

532. There are of course certain official channels. Professor Ezard, for example, gave evidence of the Australian Federal Drug Monitoring System which collates and shares information on NPS, but this service is only for registered personnel and is largely focused on analytical information identifying new substances.[523] She gave evidence about a new initiative known as the Primary Response Network and outlined the way in which "*it aims to allow for rapid, flexible and collaborative responses to emerging substances that are having prevalent, persistent and harmful health and community impacts*".[524]

533. The court heard about a number of other initiatives, for example the Western Australian Illicit Substance Evaluation project (WISE). WISE is described as an early warning system for emerging drugs of concern in the emergency department. Patients presenting to the Emergency Department with symptoms consistent with consumption of an intoxicating stimulant, hallucinogenic or cannabinoid drug are identified by physicians and enrolled in the project. WISE have developed a standardised method of blood collection, sampling and storage resulting in the quick identification of any psychoactive drugs involved in the presentation. This information can then be linked back to the clinical effects of the substance and compared with what the patient thought they were taking.[525] Appropriate messaging about the substance can then be disseminated to law enforcement, health and consumers.

534. Dr Jessamine Soderstorm, a clinical toxicologist and emergency physician at Royal Perth Hospital, told the Court that prior to the WISE project, emergency room physicians were simply treating the symptoms of patients presenting with adverse reactions to unknown substances. They are now able to draw a parallel between patients' symptoms with the substance and identify what drugs are actually causing emergency presentations.[526]

535. Similar to the WISE project,[527] and arising from these deaths, Dr Kerry Chant gave evidence that NSW Health has identified the opportunity to enhance a state wide public health surveillance system for acute, severe drug toxicity presentations to emergency departments and in the intensive care setting.[528] The aim of the enhanced surveillance system is to enable

[522] Una Callinan, 18 September 2019, T887.15.
[523] Statement of Professor Nadine Ezard, Exhibit 3, Vol. 22, Tab 17.
[524] Statement of Professor Nadine Ezard, Exhibit 3, Vol. 22, Tab 17.
[525] Statement of Dr David McCutcheon and Dr Jessamine Soderstrom, Exhibit 3, Vol. 24, Tab 81; David McCrucheon et al, 'An early warning system for emerging drugs of concern in the emergency department: Protocol for the West Australian Illicit Substance Evaluation (WISE) study' (2018) Exhibit 4, Vol. 2, Tab 44.
[526] Dr Jessamine Soderstrom, 10 September 2019 T1008.3-16.
[527] Statement of Dr David McCutcheon and Dr Jessamine Soderstrom, Exhibit 3, Vol. 24, Tab 81 p 11.
[528] Statement of Dr Kerry Chant, Exhibit 3, Vol. 20, Tab 1 [103]. See also her oral evidence on 19 September 2019 T1317-1319.

rapid, routine toxicological testing by FASS of a broader range of substances[529] than is currently being analysed for a larger number of patient samples. It is intended the data will inform clinical management of patients along with the public health response.[530] The NSW Ministry of Health and the NSW Poisons Information Centre are establishing a formal partnership to develop the surveillance framework.[531]

536. NSW Health will be sharing the information obtained through its enhanced surveillance system with the Emerging Drugs Network of Australia (EDNA).[532] EDNA is a national project which fosters collaboration between hospitals, forensic laboratories, public health departments, ambulance and user groups across Australia. The aim of the project is to share information in relation to patient drug-related toxicology results in Australia to create a national system that will inform the community about the illicit drugs that are causing harm.[533]

537. Dr Santiago Vazquez confirmed in his evidence that FASS is developing a 'whole of system' response to the changing pattern of drug use in the community, including the rapidly evolving NPS market and resultant drug-use trends.[534] These developments include the ExpressTox screening method, which will be able to more rapidly detect and analyse over 300 drugs including NPS,[535] and referred to by Dr Chant as part of the NSW Health enhanced surveillance system.[536] A practicing clinical toxicologist was engaged to select the drugs and medications for this list which was constructed on the basis of their association with or propensity for adverse events.[537] The list includes PMMA, 25B-NBOMe, 25C-NBOMe, 25H-NBOMe, and 25I-NBOMe.[538] Dr Vazquez told the Court the list of drugs and medications screened for will be dynamic and adaptable, so that compounds can be added or removed as they emerge or leave the community.[539]

538. Resources have also been dedicated to enhancing FASS's instrumentation and introducing a digitised drug library that will allow software initiated searching of multiple drug libraries, heightening the ability of the laboratory to detect drugs that are not routinely targeted.[540]

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[529] Including a screen for over 300 substances: see statement of Dr Kerry Chant, Exhibit 3, Vol. 20, Tab 1 [104].
[530] Supplementary statement of Dr Kerry Chant, Exhibit 50, [23].
[531] Statement of Dr Kerry Chant, Exhibit 3, Vol. 20, Tab 1 [104].
[532] Supplementary statement of Dr Kerry Chant, Exhibit 50 [25].
[533] Supplementary statement of Dr Kerry Chant, Exhibit 50 [24]. Statement of Dr David McCutcheon and Dr Jessamine Soderstrom, Exhibit 3, Vol. 24, Tab 81, pp 9 – 12.
[534] Statement of Dr Santiago Vazquez, Exhibit 3, Vol. 24, Tab 65 p 5.
[535] Statement of Dr Santiago Vazquez, Exhibit 3, Vol. 24, Tab 65 p 6. See also supplementary statement of Dr Kerry Chant, Exhibit 50 [30] and attachment 'E'; and their respective oral evidence on 20 and 19 September 2019.
[536] See statement of Dr Kerry Chant, Exhibit 3, Vol. 20, Tab 1 [104]; Dr Kerry Chant, 19 September 2019 T1318–1319.
[537] Statement of Dr Santiago Vazquez, Exhibit 3, Vol. 24, Tab 65, p 5.
[538] Dr Santiago Vazquez, 20 September 2019, T1410.10-35.
[539] Dr Santiago Vazquez, 20 September 2019 T1408.25-40.
[540] Statement of Dr Santiago Vazquez, Exhibit 3, Vol. 24, Tab 65, p 5.

539. Dr Vazquez and Dr Chant both acknowledged the importance of engagement between their organisations and others to enhance drug surveillance.[541] Developing a protocol between NSW Health and NSW Police for improved screening of substances seized by police is also important in understanding what drugs are available in the community.[542]

540. It is clear that there is considerable activity in this space. It is desirable that information collected is available widely so that it may inform further research and treatment.

[541] Statement of Dr Santiago Vazquez, Exhibit 3, Vol. 24, Tab 65 p 6; Dr Santiago Vazquez, 20 September 2019 T1411.1-10; Dr Kerry Chant, 19 September 2019 T1317.25-45.
[542] Dr Kerry Chant, 19 September 2019 T1319.15-1320.15.

Wider law enforcement changes

541. There is a need to closely examine decriminalising the personal use of drugs as a mechanism to reduce harm. The evidence revealed the many contradictions in our current limited approach. The NSW Commissioner, for example, supports the use of the Drug Criminal Infringement Notice (CIN) system at music festivals as a harm reduction measure.[543] This allows for on-the spot fines for small quantities of drugs,[544] which may divert young people from the criminal justice system. At the same time the Commissioner also supports an approach which mandates large numbers of young people being inspected by dogs, strip searched and questioned for a possible transgression which, even if confirmed, can be treated less seriously than some minor traffic offences.[545] This is just one of the contradictions of the current partial approach.

542. There is a wealth of evidence that demonstrates the benefits of alternatives to arrest for use and possession offences.[546] NSW already has a number of existing forms of decriminalisation. This includes *de facto* decriminalisation of use and possession of cannabis through the police cannabis programs, available in certain limited circumstances and a new *de jure* decriminalisation scheme, for the use and possession of other drugs.[547] However, these diversion programs, like the scheme operating at music festivals, are piecemeal and partial. They often have strict eligibility requirements and other barriers to participation. What is required is a more holistic approach. Clearly designing an overall decriminalisation model for NSW is not easy, but significant work has been done by eminent experts and it is worthy of consideration.[548]

543. The resolution of issues such as these goes well beyond the scope of these findings. However it is clear that there is a public benefit in continuing these debates. The benefit of holding another Drug Summit was supported by a number of witnesses who gave evidence.[549] The problem of the potential ongoing harm of drug use at music festivals cannot be solved without placing the issue in its broader context – that is by examining how we regulate and approach drug use more widely in the community. A number of experts spoke of a need to reframe the use of drugs as a health and social issue, rather than focusing predominantly on law enforcement. These debates should best take place away from the

[543] Submissions of NSW Commissioner of Police, page 2.
[544] 0.25 grams of MDMA (when in capsule form) or 0.75 grams (when in other forms eg pulls) or 1 gram of other substances other than cannabis (eg methylamphetamine).
[545] Pursuant to the CIN scheme, police can issue a $400 on the spot fine for possession of a prohibited drug (excluding cannabis leaf) in certain circumstances: see statement of Superintendent Jason Weinstein, Exhibit 60.
[546] Statement of Professor Alison Ritter, Exhibit 3, Vol. 23, Tab 37.
[547] For discussion of these issues see statement of Professor Alison Ritter, Exhibit 3, Vol. 23, Tab 37.
[548] Statement of Professor Alison Ritter, Exhibit 3, Vol. 23, Tab 37.
[549] Dr Marianne Jauncey, 19 September 2019 T1382.6-44; Mick Palmer, 12 September 2019, T1194.47-1195.8.

restrictions of day to day politics. It is for this reason I have once again recommended a Drug Summit to develop broad drug policy that is evidence-based. The Drug Summit, held in 1999 brought together experts, community members, politicians, drug users and family members. It is widely credited as having played an important role in strengthening our harm reduction response to a wide range of drug issues.

544. When examining the harm that may be an intrinsic part of our current regulatory framework, it is necessary to acknowledge that the dangerous effect of prohibition goes well beyond stigmatising users caught up in the criminal process. What prohibition leaves the community with is an unregulated black market with an inherently dangerous supply of substances. The court heard that the medical administration of well controlled doses of pharmaceutical MDMA has a low risk profile.[550] However, in an unregulated market we have no quality control and no dose assurance. We have unsupervised ingestion and sometimes dangerous environmental factors at play. As we have seen, drug taking frequently takes place in a context where young users lack accurate information about the specific dangers which may exist in relation to drug combinations and drug dosage. It is time to start talking about the risk we create when we favour prohibition, but in actuality have no ability to achieve it.

545. One of the issues worthy of consideration is envisaging a different approach to the regulation of popular drugs. Dr Monica Barratt, for example, expressed the benefit of considering a "*complete rethink*". She told the court "*we could envisage a different regulatory approach to currently illegal drugs, whereby a subset of drug types (eg MDMA, cannabis) were supplied through regulated markets and legally available for consumption"*.[551] She notes that MDMA is currently in phase three trials as a medicine for post-traumatic stress disorder in the United States of America. It is possible that if pure MDMA were available from a regulated source that some of the dangers we have seen with the proliferation of more dangerous novel substances could be reduced, as the pure substance may be preferred by consumers. Dr Alex Wodak also spoke of the need to discuss enhanced regulation of drugs. He agreed that there would still be risks with a regulated MDMA product, but those risks would be lower than with a unregulated supply.[552] He reminded the court that New Zealand will have a referendum in 2020 in relation to the regulation of recreational cannabis. He suggested that from a harm reduction perspective it was "sensible" to consider these kinds of options and something we could think about in this country. Dr Wodak stated that we need to acknowledge that demand is the problem. "*there will always be demand for this substance or others like it and nobody knows how we can turn that off. We can't. But what we can do, if we can bring ourselves to do this as a community and if our politicians make it happen, is we*

[550] Dr Monica Barratt, 17 July 2019 T729.21-26; Professor Fiona Measham, 19 September 2019 T1358.40-1359.10. See also Dr Rick Doblin, Exhibit 3, Vol. 21, Tabs 12-14; Dr Will Tregoning, Exhibit 3, Vol. 23, Tab 40.

[552] Dr Alex Wodak, 10 September 2019 T1004.40.

can make arrangements far less dangerous than they are at present. There will always be some risk, but we can reduce those risks substantially".[553]

546. Of course it would be inappropriate to recommend expanding the regulation of currently illegal drugs on the basis of evidence heard at this inquest. Nevertheless it is clearly worthy of wider discussion and reflection.

[553] Dr Alex Wodak, 10 September 2019 T1005.13.

Drug education for young people and parents

547. The evidence in this inquest also demonstrated that the production of a single message "Just Say No" is dangerous in itself. While it may be a starting point for young children, it has little or no effect on those who seriously contemplate drug use or who have already had a drug event that they have experienced as positive.[554] This is especially the case in relation to young people, such as those whose deaths are the subject of this inquest. What is needed is more nuanced messaging that provides accurate information about risk. We need to talk more openly about how to provide correct and credible information about drugs to young people.

548. Paul Dillon spoke eloquently about the real challenges of school-based drug education in relation to MDMA. If it is done too early, the reality is most young people will have no experience of it. However *"if you leave it too late and you hit year 12, we then have – it's now one in six 17-year-old boys and one in ten 17-year-old girls who have tried ecstasy."*[555] The difficulties of explaining risk to a young person who has already had a positive experience of MDMA can be daunting. Pitching this kind of education at the right spot is the challenge. What is needed is a credible and nuanced message. A simple "don't do drugs" is unlikely to have any traction with this group.

549. The court heard limited evidence from young people about the drug education they had received at school. Those that addressed the issue from both public, independent and Catholic schools appeared to have little recollection of the content. Callum's friend, [redacted] explained to the court that he had received drug and alcohol education during a year 11 camp. The education appeared to have been provided by an external provider. He remembered wearing goggles to simulate alcohol intoxication. In relation to drugs he remembered the message as "just don't do it."[556] He certainly received no information about MDMA or the particular risks and dangers which might exist relating to purity or mixing drugs.[557]

550. The court was informed that the NSW Education Standards Authority NESA has the responsibility for the development of the NSW syllabus including the Physical Development, Health and Physical Education (PDHPE) syllabus.[558] Drug education in NSW government schools is set by NESA and is part of its PDHPE syllabus.

551. NESA informed the court that the new PDHPE K–10 syllabus that was released and is currently being implemented provides opportunities from Kindergarten to year 10 to learn

[554] Paul Dillon, 9 September 2019, T143.11-21.
[555] Paul Dillon, 9 September 2019, T142.30.
[556] [redacted], 16 July 2019 T647.27.
[557] [redacted], 16 July 2019 T649.39.
[558] Correspondence from Margaret Baker, Principal Legal Officer at the NSW Department of Education dated 4 October 2019, Exhibit 64.

about illicit and non-illicit drugs.[559] "*It aims to prevent or reduce harm associated with drug use in the broader context of personal health choices and individual and community harm.*"[560]

552. The focus for years nine and ten is to give students skills to manage a variety of unsafe and challenging situations. There is information about the cost and impact of drug use to the community, strategies to support individual health and safety, influences on risk taking and decision making and the impact this has on individual health, safety and well-being. The court was informed that there was no specific content relating to drug use at music festivals. However "*there was scope to assess the impact of drug use on young people's decisions and behaviours in various contexts.*"[561]

553. The court was informed that the focus on drug education in both primary and secondary schools is on age appropriate learning. In years 11 and 12 students will participate in the Life Ready course, which is designed to prepare and support senior students as they encounter situations related to health and safety and become more independent. I have received little information about this program, which is relatively new.

554. This course deals with drug education. Each school is free to develop a program that is relevant for the senior students at that school. This gives individual schools some flexibility. If a particular school identified MDMA as an issue, it could be dealt with in this context. Outside providers can also assist in the delivery of drug education in schools.[562] The course is not compulsory in non-government schools. There appears to be no control over which outside providers are used.

555. A number of experts acknowledged the difficulties for teachers tasked with teaching young people about drugs. Some may have limited knowledge themselves. The more vexing issue is the fear that by talking openly to young people about drugs there is a possibility of increasing use. Dr Barratt, for example acknowledged that there may be "*a few more young people who use a bit of ecstasy that wouldn't have before, but most of them hopefully will stay alive. You know, to me, that's the better option than sticking fast to this idea that we have to privilege the prevention of use over the prevention of harm.*"[563]

556. Erica Franklin from DanceWize expressed the view that some of the messaging has been well intentioned but fails to reflect the lived experience of people who actually consume illicit drugs so that it can be scoffed at or considered a bit of a joke. She gave two examples. – the first was the "Stoner Sloth" an anti-cannabis advertisement that featured a human in a sloth costume falling asleep at school and being constantly lethargic. That appeared to have been

[559] NESA Response to questions for the inquest into deaths arising at music festivals, Exhibit 63
[560] NESA Response to questions for the inquest into deaths arising at music festivals, Exhibit 63
[561] NESA Response to questions for the inquest into deaths arising at music festivals, Exhibit 63
[562] Correspondence form Margaret Baker, Principal Legal Officer at the NSW Department of Education dated 4 October 2019, Exhibit 64
[563] Dr Monica Barratt, 19 July 2019 P726.27.

mocked by members of the festival-going community and the figure of stoner sloth appeared on tie-died T-shirt next festival season. The second example was a campaign featuring MDMA being cooked in a toilet. She put the poster version up on her walls when she was 18 – she found it "*really funny*" because it didn't reflect the lived experience of her peer group at the time. She added that she was talking about education campaigns that are designed to "*shock and say, "Just say no," in a way that doesn't reflect the majority of people who are having a great time on the weekend and have had a sense of community, empathy, and I guess self-care from the time they're there*". Those campaign are dismissed and they don't help with harm reduction because "*It doesn't really provide any form of practical or pragmatic information to somebody who is planning to consume a substance on how to actually do it with the least amount of harm possible*".

557. The issues raised in relation to drug education are complex. In my view there is a need for NESA to seek expert assistance to examine how best to place education about MDMA in the school curriculum.

Findings

558. On the basis of the evidence before me I make the following formal findings pursuant to section 81(1) of the *Coroners Act 2009* (NSW).

A. Hoang Nathan Tran

Name

Hoang Nathan Tran

Date of death

He died on 17 December 2017.

Place of death

He died at Westmead Hospital, Westmead in the State of New South Wales.

Cause of death

3,4 methylenedioxymethylamphetamine (MDMA) toxicity.

Manner of death

Nathan died following the consumption of an unknown dose of MDMA at the *Knockout Circuz* music festival on 16 December 2017.

B. Joseph Pham

Name

Joseph Pham

Date of death

He died on 15 September 2018

Place of death

He died at Nepean Hospital, Kingswood in the State of New South Wales.

Cause of death

Acute 3,4 methylenedioxymethylamphetamine (MDMA) toxicity.

Manner of death

Joseph died following the consumption of an unknown dose of MDMA at the *Defqon.1* music festival on 15 September 2018.

C. Diana Nguyen

Name

Diana Nguyen

Date of death

15 September 2018

Place of death

She died at Nepean Hospital, Kingswood in the State of New South Wales.

Cause of death

3,4 methylenedioxymethylamphetamine (MDMA) toxicity.

Manner of death

Diana died following the consumption of an unknown dose of MDMA at the *Defqon.1* music festival on 15 September 2018.

D. Callum Brosnan

Name

Callum Brosnan

Date of death

9 December 2018

Place of death

He died at Concord Hospital, Concord in the State of New South Wales.

Cause of death

Mixed drug (3,4 methylenedioxymethylamphetamine and cocaine) toxicity.

Manner of death

Callum died following the consumption of an unknown dose of MDMA at the *Knockout Games of Destiny* music festival on 8 December 2019. There is some evidence he consumed cocaine the day prior.

E. Joshua Tam

Name

Joshua Tam

Date of death

29 December 2018

Place of death

He died at Gosford Hospital, Gosford in the State of New South Wales.

Cause of death

Complications of 3,4 methylenedioxymethylamphetamine (MDMA) use.

Manner of death

Joshua died following the consumption of an unknown dose of MDMA at the *Lost Paradise* music festival on 29 December 2018.

F. Alexandra Ross-King

Name

Alexandra Ross-King

Date of death

12 January 2019

Place of death

She died at Westmead Hospital, Westmead in the State of New South Wales.

Cause of death

3,4 methylenedioxymethylamphetamine (MDMA) toxicity.

Manner of death

Alexandra died following the consumption of an unknown dose of MDMA prior to entering the *FOMO* music festival on 12 January 2019.

Recommendations pursuant to section 82 Coroners Act 2009

559. Careful thought has been given to the need for recommendations in this matter. I am confident that the recommendations that follow are based on an impartial and careful assessment of the evidence presented to this court.

560. For reasons stated above, I make the following recommendations:

A. To the NSW Department of Premier and Cabinet

1. That the Department of Premier and Cabinet permits and facilitates Pill Testing Australia, The Loop Australia, or another similarly qualified organisation to run front of house medically supervised pill testing/drug checking at music festivals in NSW with a pilot date starting the summer of 2019–20.

2. That the Department of Premier and Cabinet, working with NSW Health and NSW Police, fund the establishment of a permanent drug checking facility, similar to the Dutch model known as the Drug Information Monitoring System (DIMS).

3. That the Department of Premier and Cabinet, working with NSW Health, research and support the development of technology to allow for the most sophisticated and detailed drug analysis to be made available on site at music festivals.

4. That the Department of Premier and Cabinet, working with NSW Health, research and support the development of early warning systems at music festivals generally and arising from front of house and/or back of house drug checking.

5. That the Department of Premier and Cabinet, working with the NSW State Coroner, NSW Police, FASS and NSW Health, develop protocols for the open sharing of information between these agencies regarding drug trends and monitoring of drug deaths.

6. That the Department of Premier and Cabinet facilitate a regulatory roundtable with the involvement of relevant State and Local government and key industry stakeholders, including the Department of Health, private health providers such as EMS Event Medical, NSW Ambulance and NSW Police, the Australian Festivals Association, harm minimisation experts and promoters, to ensure appropriate minimum standards for policing, medical services and harm reduction are mandated at music festivals.

7. That in developing any new music festival regulations the Department of Premier and Cabinet, working with the Australian Festivals Association and other relevant stakeholders, give consideration to the submission of the family of Joshua Tam (MFI-C).

8. That the Department of Premier and Cabinet facilitate the holding of a NSW Drug Summit to develop drug policy that is evidence -based and focused on minimising harm to users and

the community (previously recommended in the Opiates Inquest examining six deaths – findings delivered on 1 March 2019), the Department should give full and genuine consideration to, among other issues:

a. The development of a best practice model of and guidelines for drug checking/pill testing including for front of house operations at music festivals and fixed site services operating in the community.

b. Targeted education programs, designed for different age groups, with a focus on harm minimisation with respect to stimulant drugs at music festivals.

c. Decriminalising personal use of drugs, as a mechanism to reduce the harm caused by drug use.

d. Expanded regulation of certain currently illicit drugs.

e. Redefining illicit drugs as primarily a health and social issue rather than primarily a law enforcement issue, and the implementation of law and policy that best achieves that goal.

B. To the NSW Department of Health

1. That the NSW Department of Health research and support evidence-based strategies that are most useful to maximise the chance of reducing harm and saving lives in the event of drug-related illness at music festivals including, for example, giving consideration to the use of ice baths and/or routine use of rectal thermometers to ascertain core temperature and/or ice vests.

2. That the NSW Department of Health consider evidence from the inquest that might supplement or improve the NSW Ministry of Health Guidelines "Pre-Hospital Guideline: Illicit Substance-Induced Hyperthermia" including, for example, the "Treatment Guidelines for Drug Induced Hyperthermia" (annexure DH-2 to statement of Dr Dorothy Habrat - Exhibit 62).

3. That the NSW Department of Health consider researching the metabolisation of MDMA and whether there is a genetic risk factor for MDMA toxicity, for example in poor CYP2C19 metabolisers.

4. That the NSW Department of Health continues to fund and expand appropriate peer-delivered harm prevention and reduction services that are well received by patrons, for example, DanceWize.

5. That the NSW Department of Health contributes to the Emerging Drugs Network of Australia (EDNA) by sharing the information that is obtained through NSW Health's enhanced surveillance in ED and ICU settings.

6. That the NSW Department of Heath establishes and coordinates a group of key stakeholders, including State and Local government and key industry stakeholders, including the Department of Health, private health providers such as EMS Event Medical, NSW Ambulance and Police, the Australian Festivals Associations, harm minimisation experts and promoters to allow for the annual review of *NSW Health Guidelines for Music festival Event Organisers: Music Festival Harm Reduction*.

7. That the *NSW Health Guidelines for Music festival Event Organisers: Music Festival Harm Reduction* be amended to advise of an appropriate time frame and protocol for a private medical service provider to conduct a full evaluation, preferably with an independent consultant, in the event of a fatality involving a patient who they have treated.

8. That the Department Health working with organisations such as Family Drug Support Australia and drug educators such as Paul Dillon of Drug and Alcohol Research and Training (DARTA), develop resources for parents about talking to their children about stimulant drugs consumed at music festivals, focused on harm prevention and reduction.

9. That the Department of Health continues to promote music festival guidelines that encourage the following initiatives, by explaining their significance in reducing the risk of drug-related harms and death:

    a. Free cold water at multiple stations throughout festivals.

    b. Well ventilated chill out spaces and the regular checking of ambient temperatures.

    c. Additional activities to music to encourage chill out (particularly for longer festivals).

    d. Involvement of artists in harm reduction messages.

C. To the NSW Police Force

1. That, given the evidence of a link between the use of drug dogs and more harmful means of consumption (including panic ingestion, double dosing, pre-loading, and insertion in a vaginal or anal cavity) the model of policing at music festivals be changed to remove drug detection dogs.

2. In order to address the harm potentially caused by the current practice of police strip searching for possession of drugs (including more harmful means of consumption and secretion and adversely affecting the relationships between patrons and police meaning it may be less likely that patrons will seek help from Police), the NSW Police Commissioner issue an operational guideline and/or amend the relevant police handbook such that strip searches should be limited at music festivals to circumstances where:

a. There is a reasonable suspicion that the person has committed or is about to commit an offence of supply a prohibited drug, and

b. There are reasonable grounds to believe that the strip search is necessary to prevent an immediate risk to personal safety or to prevent the immediate loss or destruction of evidence, and

c. The reasons for conducting the search are recorded on Body Worn Video before the search commences.

d. No less invasive alternative is appropriate in the circumstances.

3. That, in the event of pill testing/drug checking facilities being operational at NSW Music festivals, the Police Commissioner issue an operational guideline providing clear guidance to operational police as to how they are requested to exercise their discretion in regard to illicit drug use and possession at festivals. Such a Guideline should:

    a. Identify the role of police as one of support and protection for otherwise law-abiding festival goers.

    b. Request police not to take punitive action against people in possession of drugs for personal use, and to concentrate their operations on organised drug dealing, social disorder and other crimes.

    c. Emphasise that while a primary part of policing at music festivals involves crowd control and enforcement of laws, it is part of good policing, and an objective at music festivals, to engage positively with festival goers wherever possible, to provide support and comfort where needed and to act to reduce or minimise harm.

4. That training for attendance at police operations at music festivals be developed and implemented within NSW Police and that such training be a pre-requisite for those police assigned to or wishing to perform police operations at music festivals. Regardless of the policing model in place, that training should:

    a. Instruct police not to take punitive action against people in possession of drugs for personal use, and to concentrate their operations on organised drug dealing, social disorder and other crimes.

    b. Emphasise that while a primary part of policing at music festivals involves crowd control and enforcement of laws, it is part of good policing, and an objective at music festivals, to engage positively with festival goers wherever possible, to provide support and comfort where needed and to act to reduce or minimise harm.

D. To the Department of Premier and Cabinet, the NSW Police Force, the NSW Department of Health and the NSW Department of Communities and Justice

1. That in the event personal possession remains a criminal offence, a group of relevant decision makers from each of the above stakeholders is convened in order to organise the funding, and installation of drug amnesty bins at music festivals. Drug harm reduction groups are to be consulted as to where to place those bins to maximise use and minimise harms.
2. That in the event personal possession remains a criminal offence, a group of relevant decision makers from each of the above stakeholders is convened to develop strategies to limit strip searches to those individuals suspected of supplying illicit drugs, rather than those in possession for personal use. That should involve consideration of the need to amend legislation, policy and/or procedural guidelines.

E. To the Australian Festivals Association

1. That the Australian Festivals Association promote music festival guidelines that encourage:
    a. Free cold water at multiple stations throughout festivals.
    b. Well ventilated chill out spaces and the regular checking of ambient temperatures.
    c. Additional activities to music to encourage chill out (particularly for longer festivals).
    d. Involvement of artists in harm reduction messages.
2. That the Australian Festivals Association consider promoting novel harm reduction strategies identified during the inquest including new technologies and ideas raised by family of Joshua Tam.

F. To the NSW Education Standards Authority (NESA)

1. That in the High School curriculum consideration be given to a learning module dedicated to deaths at music festivals with a particular focus on:
    a. The effects of MDMA in particular of high doses.
    b. Other factors that can increase your risk to having an adverse reaction to MDMA including temperature, exercise, weight, prescription medication, and mixing with other drugs and alcohol.
    c. Having a sober friend, warning signs to look out for, seeking medical help.
2. That NESA commission a review from a recognised expert in drug education and harm reduction, such as Paul Dillon, Director of the Drug and Alcohol Research and Training

(DARTA) to obtain advice on how best to protect young people from the potential harm posed by amphetamine type stimulants, particularly in the music festival environment, in a way that minimises harm that would include advice on the type of education appropriate for different age groups.

G. To EMS Event Medical

1. That EMS Event Medical develop a review protocol so that in the event of another fatality, an independent consultant is engaged to assist with a full evaluation of the circumstances of the death and the adequacy of medical care, and that there be a clear time frame to initiate and complete the report.

Conclusion

562. Once again I express my sincere and heartfelt condolences to all those who have been directly affected by these tragic deaths. Many in the community would share my respect for the courageous and generous way they have approached these proceedings.

563. It is customary in this court to thank those who have assisted in the preparation of an inquest. In this case more is called for. Counsel assisting, Dr Peggy Dwyer and her solicitor Ms Peita Ava-Jones, have shown a commitment to this process that goes well beyond anything that could have been expected.[564] They have undertaken the work that should have been given to a large team without complaint and have done so with enormous skill and great compassion. They have my sincere gratitude and very great esteem.

564. I close this inquest.

Magistrate Harriet Grahame

Deputy State Coroner

8 November 2019
NSW State Coroner's Court, Lidcombe

[564] I also thank Kathleen McKinlay for her assistance in the preparation of this inquest.

INQUEST INTO DEATHS ARISING AT MUSIC FESTIVALS

List of experts who provided statements

*Note: * indicates an expert who also gave oral evidence*

Dr Samuel Banister

Dr Monica Barratt*

Dr Jonathan Brett*

Dr Stephen Bright*

Tracey Burton

Dr David Caldicott*

Dr Kerry Chant, NSW Health*

Gary Christian*

Dr Rowland Cottingham

Dr Una Cullinan*

Paul Dillon*

Dr Rick Doblin

Dr Nadine Ezard

Cameron Francis*

Erica Franklin*

Jodie Grigg*

Helena Granforth

Dr Michael Grewcock

Dr Andrew Groves

Dr Amira Guirguis*

Dr Dorothy Habrat

Dr Mary Harrod

Associate Professor Anna Holdgate*

Dr Ross Hollett

Dr Caitlin Hughes*

Dr Marianne Jauncey*

Professor Nicole Lee*

Andrew Leibie

Professor Simon Lenton

Dr John Lewis

Dr David McCutcheon

Dr Peta Malins*

Professor Fiona Measham*

Dr Robert Page

Mick Palmer AO APM*

Nicholas Parkhill

Dr Amy Peacock

Professor Kane Race

Dr Gavin Reed

Professor Alison Ritter

Dr Vicki Sentas

Dr Ian Scott

Dr Russ Scott*

Detective Superintendent Rohan Smith*

Dr Jessamine Soderstrom*

Dr Will Tregoning*

Tony Trimingham OAM

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Daan Van Der Gouwe

Dr Santiago Vazquez*

Dr Mireia Ventura

Gino Vumbaca*

Shelley Ward

Dr Michelle Williams*

Dr Hester Wilson*

Dr Alex Wodak*

INQUEST INTO DEATHS ARISING AT MUSIC FESTIVALS

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3.	*'Five friends go out and take ecstasy, one doesn't come home': the rise of super-strength pills* – The Guardian	22 July 2017
4.	*Stop sacrificing young lives at an altar of drug dogma* – The Australian	12 December 2018
5.	*Drug experts say yes. Many politicians say no. What's the evidence of pill testing* - ABC	21 December 2018
6.	*MDMA hospitalisation cases in NSW hit record* – Sydney Morning Herald	15 January 2019
7.	*'We're dealing with a black market': is taking pills becoming more dangerous?* – Guardian Australia	16 January 2019
8.	*Six claims about pill testing — and whether or not they're*	15 January 2019

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9.	*Take a look inside Groovin the Moo's pill-testing facility* – Triple J Hack (ABC)	27 April 2019
10.	*World-first in Canberra pill testing trial at Groovin the Moo music festival* – Canberra Times	27 April 2019
11.	*Second pill-testing trial at Groovin the Moo hailed a success as partygoers dump dangerous drugs* - ABC	29 April 2019
12.	*Festivalgoers urge funding for pill testing after final free trial* – Canberra Times	28 April 2019
13.	*Australia's second pill testing trial in Canberra 'overwhelmingly successful'* - SBS	29 April 2019
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15.	*'It's just assumed it's 100%': The toxicology of pill testing* – Amanda Lyons	29 April 2019
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20.	*National Drug Strategy 2017-2026* – Department of Health, Commonwealth of Australia	2017
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21.	Keeping People Safe at Music Festivals – Expert Panel Report	October 2018
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22.	Drug Checking: Monitoring the Contents of New Synthetic Drugs – Arthur Schroers	2002
23.	Drug checking as a harm reduction tool for recreational drug users: opportunities and challenges – European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) (Background Paper)	30 October 2017
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24.	AMA Formally Backs Supervised Pill Testing Trials – Australian Medical Association (Media Release)	22 March 2019
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25.	Drug testing in Europe: monitoring results of the Trans European Drug Information (TEDI) project - Tibor Brunt et al.	17 February 2016
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27.	Australia's first official illicit pill testing at Canberra's Groovin' the Moo music festival: legal hurdles and future	2018

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30.	Drug safety testing at festivals and night clubs – Royal Society for Public Health (RSPH)	June 2017
31.	*'It's about saving lives': inside the UK's first licensed drug testing service* – The Guardian	19 March 2019
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32.	Drug Checking: A prevention measure for a heterogeneous group with high consumption frequency and polydrug use - evaluation of zurich's drug checking services	2011
33.	'Party Drugs' Testing on the Dance Floor: Equipment, Methods and Results (1998 – 2018) – Daniel Allemann et al.	2018
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34.	Ecstasy and other synthetic drugs in France: situation portrayed by the SINTES information system, 1999-2002 – SINTES Trends No.32	September 2003
35.	Monitoring Ecstasy Content in France: Results	2007

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36.	CHECK!NG: The last frontier for Harm Reduction in party settings – Helena Valente et al. (*In Portuguese*)	June 2015
37.	Overview on new psychoactive substances in Portugal - Susana Henriques et al.	2018
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38.	Drug Checking at Music Festivals: A How-To Guide – Chloe Sage and Warren Michelow	2016
39.	Observed Benefits to On-site Medical Services during an Annual 5-day Electronic Dance Music Event with Harm Reduction Services – Matthew Brendan Munn et al.	2016
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40.	MALDI Orbitrap mass spectrometry for fast and simplified analysis of novel street and designer drugs – Katharina M. Ostermann et al.	2014
41.	Cocaine adulteration – Oliver Kudlacek et al.	2017
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42.	The hidden web and the fentanyl problem: Detection of ocfentanil as an adulterant in heroin – Pol Quintana et al. NB: See methods section	2017

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45.	Designer Drug Early Warning System (D2EWS): 12-month Technical Report - Royal Adelaide Hospital Emergency Department	2007
46.	Early Warning System: National Profiles - European Monitoring Centre for Drugs and Drug Addiction (EMCDDA)	2012
47.	Early Warning System on NPS - European Monitoring Centre for Drugs and Drug Addiction (website)	N/A
48.	Monitoring new psychoactive substances (NPS) in The Netherlands: Data from the drug market and the Poisons Information Centre – Laura Hondebrink et al.	2015
49.	EMCDDA–Europol 2017 Annual Report on the implementation of Council Decision 2005/387/JHA - European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) (Implementation Report)	2017

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50.	Nine reasons why ecstasy is not quite what it used to be – Jane Mounteney et al.	2018
51.	An insight into the hepatocellular death induced by amphetamines, individually and in combination: the involvement of necrosis and apoptosis – Diana Dias da Silva et al.	2013
52.	Amphetamines as Potential Inducers of Fatalities: A Review in the District of Ghent from 1976-2004 – Els De Letter et al.	2006
53.	Altered states: the clinical effects of Ecstasy – J.C. Cole et al	2003
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54.	New and emerging psychoactive substances – Drug Info	N/A
55.	NBOMe in Australia: Everything we know about the drug and why it's killing people – Julian Morgans VICE (website)	8 February 2017
56.	Synthetic cathinones drug profile - European Monitoring Centre for Drugs and Drug Addiction (EMCDDA)	N/A
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57.	Differences in cytochrome p450-mediated pharmacokinetics between Chinese and Caucasian populations predicted by mechanistic physiologically based pharmacokinetic modelling – ZE Barter et al.	December 2013

58.	Pharmacogenetics of ecstasy: CYP1A2, CYP2C19, and CYP2B6 polymorphisms moderate pharmacokinetics of MDMA in healthy subjects – P Vizeli et al.	March 2017
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59.	Causes of Death, Australia, 2016 – Australian Bureau of Statistics (ABS)	16 May 2018
60.	Australia's Annual Overdose Report 2018 – Penington Institute	August 2018
61.	National Wastewater Drug Monitoring Program – Australian Crime Intelligence Commission (ACIC)	5 August 2018
62.	Trends in Drug Use and Related Harms in Australia, 2001 to 2011 – Amanda Roxburgh et al.	2011
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66.	Music festival attendees' illicit drug use, knowledge and practices regarding drug content and purity: a cross-sectional survey – Niamh Day et al.	2018
67.	Rates, characteristics and circumstances of methamphetamine-related death in Australia: a national 7-year study – Shane Darke et al.	2017
68.	National Drug Strategy Household Survey 2016 – Detailed Findings – Australian Institute of Health and Welfare, Commonwealth Government	2017
69.	World Drug Report 2018: Part 3 - Analysis of Drug Markets: Opiates, cocaine, cannabis, synthetic drugs – United Nations Office on Drugs and Crime (UNODC)	2018

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71.	Resurgence in ecstasy market, with a shift to crystal form of the drug – National Drug & Alcohol Research Centre (NDARC)	9 September 2016
72.	*Record number of MDMA-related hospitalisations in NSW – NewsGP*	16 January 2019
73.	*Government urged to consider pill testing as number of ecstasy users appearing at NSW hospitals doubles* - ABC	15 February 2016
74.	*First-ever 'MDMA Census' shows need for pill testing, drug expert says* - ABC	28 March 2017
75.	*Drug checking and pill testing – what it can and cannot do and why it matters* – Dr Adam Winstock and Dr John Ramsey	N/A
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76.	ACON Launches Social Media Campaign to Minimise Harm Ahead of Mardi Gras (website)	N/A
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77.	Weekly Dose: new drug MDPV, or 'monkey dust', found in Australia. What is it and what are the harms? – Samuel	16 January 2019

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78.	Not for human consumption: new and emerging drugs in Australia. What do clinicians, allied health and youth workers, researchers and policy makers need to know? – Stephen Bright	January 2013
79.	While law makers squabble over pill testing, people should test their drugs at home – Stephen Bright (The Conversation)	9 January 2019
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80.	Emerging psychoactive substance use among regular ecstasy users in Australia – Raimondo Bruno et al.	2012
81.	Typology of new psychoactive substance use among the general Australian population – Rachel Sutherland et al.	2018
82.	I like the old stuff better than the new stuff? Subjective experiences of new psychoactive substances – Allison Matthews et al.	2017
83.	Recreational 3,4-methylenedioxymethamphetamine or 'ecstasy': Current perspective and future research prospects – Andrew Parrott et al.	2017
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84.	Poisoning with the recreational drug parамethoxyamphetamine ("death") – Liang Han Ling et al.	2001
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85.	Chemical analysis of four capsules containing the controlled substance analogues 4-methylmethcathinone, 2-fluoromethamphetamine, a-phthalimidopropiophenone and	2010

	N-ethylcathinone - Andrew Camilleri et al.	
86.	The identification and chemical characterization of a new arylcyclohexylamine, methoxetamine, using a novel Emergency Department toxicosurveillance tool – A.D. Westwell et al.	2012
87.	NBOMe – a very different kettle of fish … - David Caldicott, Stephen Bright and Monica Barratt (Letter to the Editor)	2 September 2013
88.	Dancing with "Death": P-Methoxyamphetamine Overdose and Its Acute Management – David Calidcott et al.	2003
89.	An Effective Risk Minimization Strategy Applied to an Outdoor Music Festival: A Multi-Agency Approach – Matt Luther et al.	April 2018
90.	Underground pill testing, down under – Andrew Camilleri and David Caldicott	2004
91.	Law Reform, Road and Community Safety Committee: Inquiry into Drug Law Reform – Melbourne, 13 November 2017, Transcript	13 November 2017
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93.	History and Future of the Multidisciplinary Association for Psychedelic Studies (MAPS) – Amy Emerson et al.	2014
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94.	Why have pill testing when most ecstasy deaths are from normal doses of MDMA? – Tabled documents of the Legislative Assembly of the NT	15 February 2019
95.	Letter to Ray Johnson, ACT Chief Police Officer, 'No scientific evidential support for pill testing'	24 March 2019
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96.	Novel psychoactive substances: understanding the new illegal drug market (website)	8 October 2018
97.	Detection of newly emerging psychoactive substances using Raman spectroscopy and chemometrics – Jesus Calvo Castro et al.	2018
98.	New psychoactive substances: a public health issue – Amira Guirguis	2017
99.	Drowning in diversity? A systematic way of clustering and selecting a representative set of new psychoactive substances - Mire Zloh et al.	2017
100.	New Psychoactive Substances: A Guide for Pharmacists – Amira Guirguis et al.	April 2018
101.	Written evidence to the psychoactive substances inquiry – Amira Guirguis	September 2015
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102.	Trans-Tasman Charter for Pill Testing	2018
103.	Second pill testing pilot in Canberra an overwhelming success – Pill Testing Australia & Harm Reduction Australia (Media Release)	28 April 2019
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104.	Trends and offending circumstances in the police use of drug detection dogs in New South Wales 2008–2018 - Winifred Ella Agnew-Pauley & Caitlin Hughes	2019

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Tab	**Document**	**Date**
Dr Caitlin Hughes (continued)		
105.	Drug-related police encounters across the globe: How do they compare? – Caitlin Hughes et al.	2018
106.	The deterrent effects of Australian street-level drug law enforcement on illicit drug offending at outdoor music festivals – Caitlin Hughes et al.	2017
107.	The Going Out In Sydney App: Evaluating the Utility of a Smartphone App for Monitoring Real-World Illicit Drug Use and Police Encounters Among Festival and Club Goers – Caitlin Hughes et al.	2017
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108.	How does MDMA kill? – Nicole Lee (The Conversation)	23 January 2019
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109.	Drug dog affects: Accounting for the broad social, emotional and health impacts of general drug detection dog operations in Australia – Peta Malins	2019
110.	Why drug-detection dogs are sniffing up the wrong tree – Peta Malins (The Conversation)	6 July 2016
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111.	New drugs, new directions? Research priorities for new psychoactive substances and human enhancement drugs – Caroline Chatwin et al.	2017

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112.	Ecstasy: As harmful as heroin? – Russ Scott	2009
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113.	Drug checking services: Brief – Will Tregoning for Unharm	May 2016
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114.	DIMS 2017 Annual Report – Daan Van Der Gouwe and Sander Ritger	May 2018
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115.	Patterns of use and toxicity of new para-halogenated substituted cathinones: 4-CMC (clephedrone), 4-CEC (4-chloroethcatinone) and 4-BMC (brephedrone) – Marc Grifell et al.	May 2017
116.	Ethylone: A synthetic cathinone emerging in Barcelona – M. de Dios et al.	2017
117.	25I-NBOMe: The legal LSD – I. Ezquiaga et al.	2016
118.	Consumption of new psychoactive substances in a Spanish sample of research chemical users – Debora Gonzalez et al.	2013
119.	Presence and composition of cathinone derivatives in drug samples taken from a Drug Test Service in Spain (2010–2012) - Fernando Caudevilla-Gálligo	2013
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120.	Issues Paper 1: Use, Prevalence and Policy Framework	26 March 2019
121.	Issues Paper 2: Justice	26 March 2019

122.	Issues Paper 3: Health and Community	26 March 2019
123.	Issues Paper 4: Data and Funding	26 March 2019
BRIEF UPDATES STAGE 1		
124.	NCIS Report: Drug Related Deaths Associated with Music Festivals in Australia 2000 – 2019	June 2019
125.	Additional notes re NCIS Report prepared by Office of the General Counsel	June 2019
126.	*It's time to change our drug policies to catch dealers, not low-level users at public events* – The Conversation (media article)	18 February 2019

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127.	Criminal justice responses relating to personal use and possession of illicit drugs – Alison Ritter et al	May 2019
128.	Methylendioxymethamphetamine (Ecstasy, MDMA) – Nicholas Buckley	2012
129.	An overview of forensic drug testing methods and their suitability for hard reduction point of care services – Lane Harper et al	2017
130.	On-side identification of psychoactive drugs by portable Ramanspectroscopy during drug-checking service in electronic music events - Gerace et al	January 2019
131.	Guidelines and recommendations for the quality-assured conduct of Point-of-Care testing for infectious diseases and drugs of abuse in Australia – Leibie et al	November 2012
132.	Ethylone: Critical Review Report – World Health Organisation	November 2016
133.	Ehthylone-Related Deaths: Toxicological Findings – Lee et al	May 2015
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134.	*NSW police admits breaching strip search laws* – The Sydney Morning Herald (media article)	23 June 2019
135.	Legislative Council, Second reading speech re Police Powers (Drug Detection Dogs) Bill	6 December 2001
136.	Legislative Council, Second reading speech re Police Powers (Drug Detection Dogs) Bill	13 December 2001

137.	Review of the *Police Powers (Drug Detection Dogs) Act 2001*	June 2006
138.	*Decriminalise drugs before overdose deaths destroy more lives* – Marianne Jauncey, The Australian Newspaper (media article)	21 June 2019
139.	*Young People's Opinions on Alcohol and Other Drugs Issues* (2013) – Research paper prepared by Kari Lancaster, Alison Ritter & Francis Matthew-Simmons	August 2013
140.	RANZCP supports the introduction of pill testing trials for harm reduction – Media release, Royal Australian and New Zealand College of Psychiatrists	22 January 2019
141.	Drug experts say yes. Many politicians say no. What's the evidence for pill testing? Olivia Willis, ABC News (media article)	20 December 2018
142.	*Australian music festival attendees who seek emergency medical treatment following alcohol and other drug use: A Global Drug Survey data report* (2019) Barratt, Hughes, Ferris and Winstock	3 July 2019

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Tab	Document	Date
143.	Exhibit 15 – Bundle of academic articles referred to in expert statement of Dr Gavin Reid: a. Validation of the direct analysis in real time source for use in forensic drug screening - Steiner and Larson (J Forensic Sci. 2009, 54, 617-622) b. Detection of illicit drugs on surfaces using direct analysis in real time (DART) time-of-flight mass spectrometry - Grange and Sovocool (Rapid Commun Mass Spectrom. 2011, 25, 1271-1281) c. Rapid detection of fentanyl, fentanyl analogues, and opioids for on-site or laboratory based drug seizure screening using thermal desorption DART-MS and ion mobility spectrometry - Sisco et al (Forensic Chem. 2017, 4, 108-115) d. Rapid pre-filtering of amphetamine and derivatives by direct analysis in real time (DART)-differential mobility spectrometry (DMS) - Ayodeji, et al (Anal. Methods, 2017,9, 5044-5051) e. Direct analysis in real time-Mass spectrometry (DART-MS) in forensic and security applications - Pavlovich et al (Mass Spectrom Rev. 2018, 37, 171-187) f. Rapid screening of synthetic cathinones as trace	

	residues and in authentic seizures using a portable mass spectrometer equipped with desorption electrospray ionization - Vircks and Mulligan (Rapid Commun Mass Spectrom. 2012, 26, 2665-2672) g. Paper spray and extraction spray mass spectrometry for the direct and simultaneous quantification of eight drugs of abuse in whole blood - Espy et al. (Anal Chem. 2014, 86, 7712-7718) h. Drug screening method development for paper spray coupled to a triple quadrupole mass spectrometer - Jett, et al (Anal. Methods, 2017, 9, 5037-5043) i. Rapid and on-site analysis of amphetamine-type illicit drugs in whole blood and raw urine by slug-flow microextraction coupled with paper spray mass spectrometry - Yang et al. (Anal Chim Acta. 2018, 1032, 75-82.) j. Rapid, Direct Mass Spectrometry of Fentanyl and Designer Opioid Analogs for Use in Harm Reduction Strategies - Vandergrift et al (66th American Society for Mass Spectrometry Conference, San Diego, CA, June 2018) k. Towards On-Site Drug Evidence Confirmation via Surface-Enhanced Raman Spectroscopy and Paper Spray Ionization Employed on Portable Instrumentation - Fatigante et al (67th American Society for Mass Spectrometry Conference, Atlanta, GA, June 2019) l. HarmCheck: Direct Mass Spectrometry Harm	

	Reduction Drug Checking for use in the Opioid Overdose Crisis (67th American Society for Mass Spectrometry Conference, Atlanta, GA, June 2019)	
144.	Exhibit 18 Media article, Former top cop backs Dr Alex Wodak's calls to regulate MDMA Angus Thompson, Sydney Morning Herald	30 January 2019
145.	Exhibit 21 Media article, Testing festival goers' pills isn't the only way to prevent overdoses. Heres what else works – Nicole Lee and Monica Barratt, The Conversation	8 July 2019
146.	Exhibit 28 Caitlin Hughes et al, 'Understanding policy persistence: the case of police drug detection dog policy in NSW, Australia'	
147.	Exhibit 30 Harold Kant, 'Pharmacology and toxicology of "ecstasy" (MDMA) and related drugs'	
148.	Exhibit 31 European Monitoring Centre of Drugs and Drug Addiction, Risk Assessments: PMMA	2018
149.	Exhibit 32 Dr David Caldicott et al, 'Dancing with "Death:" PMA Overdose and its Acute Management'	2018
150.	Exhibit 33 European Monitoring Centre of Drugs and Drug Addiction, European Drug Report: trends and Devlopment 2019	
151.	Exhibit 34 'Mass gathering' documents referred to in evidence of Dr Sean Wing:	

	a. Guidelines for concerts, events and organised gatherings – WA Department of Health, December 2009 b. Australian Emergency Manuals Series: Safe & Healthy Mass Gatherings (Manual 2), 2006 c. c) Homepage of Health and Safety Executive (HSE) – UK Guidance on running events safely at www.hse.gov.uk/event-safety	
152.	Exhibit 36 Australian music festival attendees: A national overview of demographics, drug use patterns, policing experiences and help-seeking behaviour – Caitlin Hughes et al	16 July 2019
153.	Exhibit 41 Correlates of self-reported significant adverse effects following 'ecstasy' use: Implications for harm reduction – Jodie Grigg et al	
154.	Exhibit 42 Trends in drug-induced deaths in Australia, 1997 – 2017 – Agatha Chrzanowska et al	
155.	Exhibit 43 The use of drug detection dogs in Sydney, Australia – Matthew Dunn and Louisa Degenhardt	
156.	Exhibit 44 Tab 5 Valente, Martins, Carvalho, Vale Pires, Carvalho, Pinto and Barratt, 'Evaluation of a drug checking service at a large scale electronic music festival in Portugal' (2019) 73 *International Journal of Drug Policy* 88.	
157.	Exhibit 44 Tab 6 Dr David Caldicott, 'Yes, we can do on-the-spot drug testing quickly and safely' *The Conversation* article	22 February 2019
158.	Exhibit 44 Tab 7	August 2019

	Report on the 2nd ACT Groovin the Moo pill testing pilot, prepared by Pill Testing Australia	
159.	Exhibit 44 Tab 8 *Final Committee Report on the Parliamentary Inquiry into the New Music Festival Regulations*	August 2019
160.	Exhibit 44 Tab 11 'Pearls and Irritations' article by Mick Palmer AO APM	3 October 2018
161.	Exhibit 44 Tab 12 Khary Rigg and Amanda Sharp, 'Deaths related to MDMA (ecstasy/molly): Prevalence, root causes and harm reduction interventions' (2018) 23(4) *Journal of Substance Use* 345.	
162.	Exhibit 44 Tab 20 C Hughes, A Stevens, S HUlme and R Cassidy, 'Review of approaches taken in Ireland and in other jurisdictions to simple possession drug offences,' *A Report for the Irish Department of Justice and Equality and the Department of Health* produced by UNSW Australia and University of Kent (2018)	
163.	Exhibit 44 Tab 21 Alex Stevens and Caitlin Hughes, 'Drug laws on possession: several countries are revisiting them and these are their options' *The Conversation* article	2 August 2019
164.	Exhibit 44 Tab 22 Jennifer Bray, 'First time drug offenders to be referred to HSE in policy overhaul' *The Irish Times* article	2 August 2019
165.	Exhibit 44 Tab 23 Cate McCurry, 'New Government reform will see personal drug users avoid criminal conviction for first and second offences' *The Irish Mirror* article	2 August 2019
166.	Exhibit 44 Tab 24 ACT Health pill testing home page as at September 2019	September 2019

167.	Exhibit 44 Tab 25 Pill testing trial in the ACT: Evaluation (progress report) by Olsen, Dilkes-Frayne, Wong and McDonald, Australian National University (2019)	2019
168.	Exhibit 44 Tab 27 Four articles cited in Dr Scott's response to Dr Caldicott: a) Milroy, 'Ecstasy' associated deaths: what is fatal concentration? Analysis of a case series (2019) b) Verschraagen et al, 'Post-mortem cases involving amphetamine-based drugs in the Netherlands: comparison with driving under the influence cases' (2007) c) Chinet et al, 'Party drug use in techno nights – a field survey among French speaking Swiss attendees' (2006) d) Mema et al, 'Drug checking at an electronic dance music festival during the public health overdose emergency in British Columbia' (2018)	
169.	Exhibit 44 Tab 31 Flyer, 'Introducing CAERvest, the simple new solution for emergency cooling after cardiac arrest of heatstroke'	
170.	Exhibit 44 Tab 32 Cottingham et al, 'Successful out-of-hospital therapy for heatstroke in three marathon runners with a novel core body cooling device: CAERvest (2016)	
171.	Exhibit 55 Tab 5 "Dear Johnny" letter written by Dr Marsha Rosenbaum referred to by Dr Alex Wodak in his evidence on Tuesday 10 September 2019	7 September 1998
172.	Exhibit 55 Tab 8 *NSW Police Force Person Search Manual* (redacted)	August 2019

173.	Exhibit 55 Tab 9 NSW Police, *Strip Searches Briefing Document for Large Events*	
174.	Exhibit 55 Tab 10 Foreign Correspondent episode "Testing Times," ABC air date 17 September 2019	17 September 2019
175.	Exhibit 55 Tab 11 'Pill testing in Switzerland,' video played during evidence of Dr David Caldicott on 10 September 2019	
176.	Exhibit 55 Tab 12 Advertisement produced for Pill Testing Australia and played during evidence of Dr David Caldicott on 10 September 2019	
177.	Exhibit 61 Research article referred to in evidence of Gary Christian: 'Critical role of peripheral vasoconstriction in fatal brain hyperthermia induced by MDMA (Ecstasy) under conditions that mimic human drug use' by Kiyatkin et al	

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Research Material Annexed to Expert Reports

Tab	Document	Date
Monica Barratt		
1.	Annexure 1 - Pill testing or drug checking in Australia: Acceptability of service design features – Monica Barratt et al	February 2018
2.	Annexure 2 - Drug checking to improve monitoring of new psychoactive substances in Australia – RJ Butterfield et al.	2018
3.	Annexure 3 - Global review of drug checking services operating in 2017 – National Drug & Alcohol Research Centre (NDARC)	2018
4.	Annexure 4 - Profiles of drug checking services in 2017 - National Drug & Alcohol Research Centre (NDARC)	2018
Rick Doblin		
5.	Annexure 1 – Rick Doblin Testimony to US Sentencing Commission Re: MDMA, March 15, 2017	15 March 2017
6.	Annexure 2 – Appendices A to E of Rick Doblin Testimony to US Sentencing Commission Re: MDMA, March 15, 2017	15 March 2017
Nadine Ezard		
7.	Annexure 1 - Drug Checking Interventions Can Track the Nature and Size of the Discrepancy Between Self-Report and Actual Drugs Consumed – Monica Barratt and Nadine Ezard (Letter to the Editor)	2016
Cameron Francis		
8.	Annexure 1 - Drug safety testing, disposals and dealing in an English field: Exploring the operational and behavioural outcomes of the UK's first onsite 'drug checking' service – Fiona Measham	2018

Jodie Grigg & Simon Lenton		
9.	Annexure 1 - Drug detection dogs at Australian outdoor music festivals: Deterrent, detection and iatrogenic effects - Jodie Grigg, Monica Barratt and Simon Lenton	2018
10.	Annexure 2 - Double dropping down under: Correlates of simultaneous consumption of two ecstasy pills in a sample of Australian outdoor music festival attendees – Jodie Grigg, Monica Barratt and Simon Lenton	November 2018
Andrew Groves		
11.	Annexure 1 – 'Worth the test?' Pragmatism, pill testing and drug policy in Australia by Andrew Groves	2018
Helena Valente		
12.	Annexure 1 - Drug Checking: An approach to chemical anarchy – Helena Valente and Daniel Martins	2019
13.	Annexure 2 - The detection and prevention of unintentional consumption of DOx and 25x-NBOMe at Portugal's Boom Festival – Daniel Martins et al.	2017
14.	Annexure 3 – Drug Checking Service: Good Practice Standards - NEWIP	N/A
15.	Annexure 4 - The utility of drug checking services as monitoring tools and more: A response to Pirona et al. – Claudio Vidal Gine et al.	
Daan Van Der Gouwe		
16.	Annexure 1 – The Drug Information and Monitoring System (DIMS) in the Netherlands: Implementation, results and international comparison – Tibor Brunt and Raymond Niesink	6 September 2011
17.	Annexure 2 - Variability in content and dissolution profiles of MDMA tablets collected in the UK between 2001 and 2018 – a potential risk to users? – Lewis Couchman et al.	
18.	Annexure 3 – DIMS Factsheet on drug checking in the Netherlands	May 2019

19.	Annexure 4 – DIMS Monitor drugs incidenten Factsheet 2017 (*in Dutch)*	2017
Michelle Wlliams		
20.	Annexure 1 - Standard Guide for Use of Spectral Searching by Curve Matching Algorithms with Data Recorded Using Mid-Infrared Spectroscopy - American Society for Testing and Materials	2019
21.	Annexure 2 - Pill testing at music festivals: can we do more harm? – J Schneider et al.	2016
22.	Annexure 3 - Single-Injection Screening of 664 Forensic Toxicology Compounds on a SCIEX X500R QTOF System- Lijuan Fu et al.	2017
23.	Annexure 4 – A Validated Method for the Detection of Synthetic Cannibanoids in Oral Fluid – Michelle Williams et al	2019
24.	Annexure 5 – A Validated Method for the Detection of 32 Bath Salts in Oral Fluid – Michelle Williams et al	2017
Amy Peacock		
25.	NSW Drug Trends 2018 – Key findings from the EDRS interviews	
Caitlin Hughes		
26.	What can we learn from the Portuguese decriminalisation of illicit drugs? Caitlin Hughes	
Associate Professor Anna Holdgate		
27.	NSW Ministry of Health Interim Guidelines, *Management of Drug Associated Hyperthermia in the Music Festival Setting*	
Kane Race		
28.	*Harm reduction in process: The ACON Rovers, GHB and the Art of Paying Attention*	
29.	*Party animals – The significance of drug practices in the materialisation of urban gay identity*	

30.	Complex events – Drug effects and emergent causality	
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31.	Appendix 1 – A bolt out of the blue: the night of the blue pills, McCutcheon et al 2015	
32.	Appendix 2 – An early warning system for emerging drugs of concern in the emergency department: Protocol for the WA Illicit Substance Evaluation (WISE) study, McCutcheon et al (2018)	
33.	Appendix 3 – Media article, 'WA Police issue N-Bomb warning after bad drug reactions,' *The West Australian*	29 December 2016
34.	Appendix 4 – Media article, 'Victoria Park overdose: Nine snorted date rape drug hyoscine found in delivered parcel,' *The West Australian*	4 January 2018
Dr Michael Grewcock and Dr Vicki Sentas (Exhibit 56)		
35.	Report, *Rethinking strip searches by NSW Police*	August 2019