Coroners Act 1996
[Section 26(1)]

*Western* *Australia*

# RECORD OF INVESTIGATION INTO DEATH

*Ref No: 19/15*

*I, Barry Paul King, Coroner, having investigated the death of* ***Armarnie-Bree Elliott*** *with an inquest held at* ***Perth Coroner's Court, Court 51, CLC Building, 501 Hay Street, Perth,*** *on* ***8 and 9 June 2015****, find that the identity of the deceased person was* ***Armarnie-Bree Elliott*** *and that death occurred on* ***3 May 2012*** *at* ***Swan District Hospital*** *from* ***pneumonia in a child with reported recent flu-like illness (multiple viral detection including adenovirus DNA and enterovirus/rhinovirus RNA – respiratory system) and oxycodone effect*** *in the following circumstances:*

**Counsel Appearing:**

Ms K Ellson assisting the Coroner

Ms S E D'Silva (Lewis Blyth & Hooper) appearing on behalf of Ms B J Elliott

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## INTRODUCTION

1. Armarnie-Bree Elliott (the deceased) was a two year old child with Angelman syndrome who was staying with her mother Brooke Joyce Elliott (Ms Elliott) in a women's refuge. In late April 2012 she developed persisting but non-severe flu-like symptoms.

2. On the evening of 2 May 2012 the deceased and Ms Elliott returned to the women's refuge after being out for most of the day. The deceased appeared to be more unwell than previously. Ms Elliott treated her with non-prescription medication, put her in her cot and checked on her until about midnight. The deceased appeared to be doing better. Both the deceased and Ms Elliott went to sleep.

3. At about 3.30 am on 3 May 2012 Ms Elliott awoke and realised that the deceased was not breathing. Ms Elliott obtained the assistance of another resident, Rita Ayome Smith, who administered cardiopulmonary resuscitation until ambulance officers arrived and took over.

4. Ambulance officers took the deceased to the emergency department at Swan District Hospital where resuscitation attempts continued, but the deceased could not be revived.

5. Forensic pathologist Dr G A Cadden conducted a post mortem examination of the deceased and found evidence

of severe and extensive pneumonia as well as viral infection. Toxicological analysis detected oxycodone at a toxic level. Dr Cadden formed the opinion that the deceased had oxycodone effect which may have contributed to her death from pneumonia.

6. On 8 and 9 June 2015 I held an inquest into the deceased's death. Senior Counsel Assisting K Ellson identified the main function of the inquest to be to discover the source of the oxycodone. An additional purpose was to seek clarification of the cause of death.

7. The documentary evidence comprised a brief of evidence consisting primarily of a report by Detective Sergeant Vaughan MacKay of the Western Australia Police Major Crime Squad together with attachments.[1] Also received in evidence were medical records pertaining to the deceased from Princess Margaret Hospital,[2] King Edward Memorial Hospital,[3] Swan District Hospital[4] and the Armadale Health Service.[5] Records from the women's refuge were also received.[6]

8. Oral evidence at the inquest was provided by, in order of appearance, Detective Senior Sergeant James Bradley of the Major Crime Squad, Ms Smith, Ms Elliott's sister

[1] Exhibit 1, Volumes 1 and 2.
[2] Exhibit 1, Volume 3, Tab 31
[3] Exhibit 1, Volume 3, Tab 32
[4] Exhibit 1, Volume 3, Tab 33
[5] Exhibit 1, Volume 3, Tab 34
[6] Exhibit 1, Volume 3, Tab 35

Dana Ann Holloway, Professor D A Joyce, Dr Cadden and Ms Elliott.

## THE DECEASED

9. The deceased was born to Ms Elliott on 26 February 2010 at King Edward Hospital in Subiaco after 36 weeks gestation. The deceased's father had separated from Ms Elliott during the pregnancy and had no contact with the deceased.

10. While pregnant with the deceased, Ms Elliott was on methadone as a substitute for buprenorphine/naloxone, which she had been taking to treat a heroin addiction. She was positive to hepatitis C. For a few days after she was born, the deceased was monitored for withdrawal symptoms related to the methadone. No symptoms were found. Treatment for hepatitis C was planned for when the deceased was 18 months old.

11. On 28 September 2011 Ms Elliott took the deceased to the Armadale Child Development Service (ACDS) with concerns about the deceased's lack of speech, her inability to walk and her unreceptiveness to playing with toys.

12. On 12 October 2011 the deceased underwent an occupational therapy assessment at ACDS. The occupational therapist who carried out the assessment concluded that the deceased had significant

delay with early conceptual, fine motor and play skills. The deceased was offered monthly occupational therapy and physiotherapy sessions.[7]

13. On 19 October 2011 Ms Elliott took the deceased to Princess Margaret Hospital after the deceased had been unwell for about a week. Ms Elliott expressed her concerns to medical staff about the deceased's developmental delay, so the deceased was admitted into the hospital overnight for clarification of the delays. The next day the deceased was referred for genetic testing, for ophthalmology review and for an MRI of the brain. She was also waiting for assessment by a developmental paediatrician.[8]

14. On 23 January 2012 the deceased was seen by a paediatric neurologist, who considered that the deceased appeared to have Angelman syndrome, a genetic abnormality with features that include developmental delays, ataxic gait, hyperactivity, seizures, excessive chewing and mouthing behaviours, and a usually happy demeanour.[9] There is also a high incidence of swallowing difficulties and aspiration, which predispose to respiratory problems. The paediatric neurologist arranged for genetic testing and anticipated seeing the

[7] Exhibit 1, Tab 6-32
[8] Exhibit 1, Volume 3, Tab 31-First Admission
[9] Exhibit 1, Volume 1, Tab 6-35

deceased again after an MRI scan planned for August 2012.[10]

15. On 26 February 2012 the deceased was seen by a developmental paediatrician, who assessed her to have significant global developmental delay, with a developmental age of 10 or 11 months.

16. On 19 April 2012 a microarray analysis report confirmed a genetic abnormality consistent with Angelman syndrome.[11]

17. On 22 April 2012 the deceased and Ms Elliott went to stay at the Koolkuna Women's Refuge in Swan View (the women's refuge) in order to avoid domestic violence and harassment from Ms Elliott's ex-partner and to improve the potential for them to obtain accommodation through the Department of Housing.[12]

18. At the women's refuge, the deceased and Ms Elliott stayed in their own secure one-bedroom accommodation and shared a communal kitchen as well as dining and lounge room areas with three other women and their children.[13] There was also an outdoor play area for children. Each accommodation room had a lockable medicine cabinet. The residents were responsible for cleaning their own rooms.[14]

[10] Exhibit 1, Volume 3, Correspondence
[11] Exhibit 1, Volume 1, Tab 6-22
[12] Exhibit 1, Volume 1, Tab 6-7; ts 81 per Elliott, B J
[13] Exhibit 1, Volume 1, Tab 6-7
[14] ts 25 and 27 per Smith, R A

19. Support workers at the refuge noted that Ms Elliott took good care of the deceased, though the deceased had a really snotty nose in common with the other children staying at the refuge.[15]

20. On 1 May 2012 Ms Elliott arranged through support workers at the women's refuge for the deceased to see a doctor on 3 May 2012.[16]

## EVENTS LEADING UP TO THE DEATH

21. On the morning of Wednesday 2 May 2012 the deceased had cereal and toast at the refuge and then she and Ms Elliott went to a Salvation Army church in Gosnells[17] where Ms Elliott inquired about the deceased being baptised. While at the church the deceased crawled on the floor from the foyer into the chapel area.[18]

22. From the church, the deceased and Ms Elliott went to the home of Ms Elliott's sister, Ms Holloway, in Gosnells. They arrived there at about 11.00 am. Ms Holloway was to look after the deceased during the day while Ms Elliott ran some errands.

23. Ms Holloway lived in a small house with her partner and six children. On 2 May 2012 the house was quite busy and noisy. A friend of Ms Holloway was visiting with a

[15] Exhibit 1, Volume 1, Tabs 6-12 and 6-13
[16] Exhibit 1, Volume 1, Tab 6-7; ts 114 per Elliott, B J
[17] Exhibit 1, Volume 1, Tab 6-7
[18] ts 109 per Elliott, B J

daughter of the same age as the deceased so that the two children could play together.[19]

24. At about 11.30 am Ms Elliott left Ms Holloway's house. The errands she carried out included picking up documents from Princess Margaret Hospital relevant to the deceased's disability and dropping off the documents at the Department of Housing in order to support Ms Elliott's application for accommodation.[20] She also stopped at Forest Lakes and at Maddington Central in order to shop for food and clothing for the deceased. At a chemist in Maddington she bought a vaporiser with which to treat the deceased's congestion.[21] Ms Elliott returned to Ms Holloway's house at about 5.00 pm.

25. During the day the deceased had been off her food; Ms Holloway fed her a bit of custard, but the deceased did not appear interested in her bottled formula. It seems that she may have eaten a dog biscuit that she found in a bag while she was crawling on the floor, but that may have been the result of her habit of putting things into her mouth rather than from hunger.

26. Ms Holloway noticed that the deceased had a snotty nose and a cough. She tried to put the deceased down for a nap on the lounge, but the deceased did not sleep for long because of the noise.[22]

[19] ts 31-32 per Holloway, D A
[20] ts 83 per Elliott, B J
[21] ts 90-91 per Elliott, B J
[22] ts 332-33 per Holloway, D A

27. Ms Elliott returned to Ms Holloway's house at about 5.00 pm. She said that she stayed for about half an hour and then drove back to the refuge with the deceased, arriving around 7.00 pm.[23] I understand the times to be estimates or reconstructions.[24]

28. When they got back to the women's refuge Ms Elliott used the communal kitchen to prepare dinner for the deceased and herself. She put the deceased on the floor in the living area and then in the kitchen. It was not possible for Ms Elliott to keep watch of the deceased during that time.[25]

29. The deceased ate very little of the dinner that Ms Elliott had prepared. She seemed unhappy and was screaming and crying as if she had a belly-ache. She had shallow and rapid breaths and coughed with excessive sputum coming from her mouth. Ms Elliott gave her a shower and put her in pyjamas, but she still seemed unhappy.[26]

30. At some stage that evening Ms Elliott gave the deceased doses of the non-prescription medications 'Dimetapp Chesty Cough Elixir' and 'Painstop For Children Night-time Pain Reliever'.[27] Ms Elliott spoke to a support worker at the women's refuge to ask if she could leave

[23] ts 82 per Elliott, B J
[24] ts 90-93 per Elliott, B J
[25] ts 103-104 per Elliott, B J
[26] Exhibit 1, Volume 1, Tab 6-7
[27] ts per Holloway, D A

her car in front of the refuge overnight in case she needed to take the deceased to hospital.[28]

31. Ms Elliott placed the deceased in her cot with bottled milk and a dummy and turned on the new vaporiser under the cot. The deceased's temperature at this time was 37.1°. The deceased settled and went to sleep at around 8.30.[29]

32. Ms Elliott watched TV for a while and then she too fell asleep. She woke up around midnight and checked on the deceased, who was still asleep and breathing heavily as was usual for her.[30]

33. Ms Elliott awoke again around 3.30 am on 3 May 2012.[31] When she checked on the deceased, she found her on her stomach on the cot, not breathing. There was vomit on the cot and her lips were blue.[32]

34. Ms Elliott picked up the deceased and shook her but she did not respond. Ms Elliott cried out and banged on the doors of the other rooms in the refuge for help. Ms Smith, who had previously worked as a flight attendant, went to the deceased and administered cardiopulmonary resuscitation while Ms Elliott called '000'.

[28] Exhibit 1, Volume 1, Tab 6-12
[29] Exhibit 1, Volume 1, Tab 6-7
[30] Exhibit 1, Volume 1, Tab 6-7
[31] Exhibit 1, Volume 1, Tab 6-27
[32] Exhibit 1, Volume 1, Tab 6-7

35. Ambulance paramedics attended within minutes and took over the resuscitation with the assistance of a second ambulance team before conveying the deceased to Swan District Hospital. Emergency staff continued resuscitation attempts but were unable to revive the deceased. She was declared life extinct at 4.35 am.

## CAUSE OF DEATH

36. On 8 May 2012, forensic pathologist Dr G A Cadden conducted a post mortem examination of the deceased. Dr Cadden found no gross pathology or trauma that would readily explain the death, but histological examination revealed extensive pneumonic change with congestion, oedema and focal aspiration effect. The changes were widespread and severe.

37. Virus studies showed adenovirus DNA and enterovirus/rhinovirus RNA in the multiple sites, including the bronchus, lungs, nose and throat.

38. Toxicological analysis of the blood detected oxycodone at .24 mg/L, a level which is considered toxic if found in adults, and promethazine, an antihistamine found in Painstop Night-time Pain Reliever, at approximately 0.02 mg/L.[33]. Detected in the urine was codeine, also found in Painstop Night-time Pain Reliever, at an unquantified level.[34]

[33] Exhibit 1, Volume 2, Tab 17
[34] Exhibit 1, Volume 2, Tab 17

39. Dr Cadden sought a report from Professor D A Joyce, a specialist toxicologist and pharmacologist, to address the question of the potential role of the oxycodone in the death of the deceased. Before obtaining that report, Dr Cadden provided his opinion that the cause of death was pneumonia in a child with reported recent flu-like illness (multiple viral detection including adenovirus DNA and enterovirus/rhinovirus RNA – respiratory system) and oxycodone effect.[35]

40. Professor Joyce provided a report dated 22 April 2013 in which he concluded that the promethazine was not present at a concentration that would raise any concern, but that the presence of oxycodone likely diminished the deceased's chances of surviving the respiratory illness because:

a. the levels of oxycodone indicate at least some effect on respiratory drive;

b. the evidence of vomiting and aspiration could have been caused by the oxycodone and might have added some small compromise to the lungs;

c. opioid drugs like oxycodone increase the risk of lethal outcome from severe respiratory disease by suppressing the respiratory drive that is needed to make the best use of remaining functional lung; and

[35] Exhibit 1, Volume 1, Tab 6-42

d. the pairing of opioid drugs (like oxycodone) and promethazine has been associated with death in children under two years of age. While the deceased was over two, it is not known if her Angelman syndrome increased her susceptibility to the adverse effects of these drugs.[36]

41. After listening to Professor Joyce's oral evidence at the inquest, Dr Cadden considered that nothing Professor Joyce had said would cause him to change his earlier opinion. [37]

42. Dr Cadden had also sought the opinion of neuropathologist Dr V A Fabian, who provided reports based on a macroscopic examination and a microscopic examination. Macroscopically, Dr Fabian found cerebral swelling. Microscopically she found changes in the corpus callosum consistent with cerebral swelling and focal cortical dysplasia type 1b and mild malformations of cortical development with the potential to cause seizures.[38]

43. Dr Cadden explained that cerebral swelling is caused by hypoxia which could be brought about by a severe respiratory illness such as pneumonia.[39] He said that Dr Fabian's report did not indicate that the deceased had experienced a seizure to cause her death, but that the

[36] Exhibit 1, Volume 2, Tab 19
[37] ts 79 per Cadden, G A
[38] Exhibit 1, Volume 2, Tab 18
[39] ts 77 per Cadden, G A

report did not exclude a seizure. However, he explained that the deceased had not had a sustained history of seizure.[40]

44. Dr Cadden confirmed his view that the deceased had been ill with a likely viral illness when she developed a severe secondary bronchial pneumonia. The added factor was the oxycodone, which suppressed her respiratory drive. He said that all these factors combined together[41] and that it is not possible to determine the degree to which the oxycodone had any effect.[42]

45. Dr Cadden hazarded a qualified opinion that the deceased had pneumonia for less than 24 hours before she died.[43] He said that if the deceased had not ingested the oxycodone, the pneumonia left untreated would have had the potential to be acutely life-threatening in and of itself, but that she may have survived had she been treated for the pneumonia by 4 May 2012.[44]

46. On the basis of the foregoing, I find that the cause of death was as was indicated by Dr Cadden: pneumonia in a child with reported recent flu-like illness (multiple viral detection including adenovirus DNA and enterovirus/rhinovirus RNA – respiratory system) and oxycodone effect.

[40] ts 76 per Cadden, G A
[41] ts 72-73 per Cadden, G A
[42] ts 79 per Cadden, G A
[43] ts 73 per Cadden, G A
[44] ts 74 per Cadden, G A

## HOW DEATH OCCURRED

47. When police investigators searched the women's refuge on 3 May 2012 following the death of the deceased, they were unaware that the deceased had a toxic level of oxycodone in her blood. As a result,[45] they did not initially undertake the search or the questioning of potential witnesses, including Ms Elliott, with a view to obtaining evidence of the source of the oxycodone or to excluding witnesses as 'persons of interest'.

48. As a result, potentially important evidence was not seized.

49. In particular, photographs of the room used by Ms Elliott and the deceased showed a rubbish pail in which two small plastic ziplock bags consistent with use as illicit drug packaging were clearly visible.[46] Investigators did not seize the bags to arrange for drug testing. Detective Senior Sergeant Bradley told the inquest that the bags should have been seized for testing as should several other items that were not seized, including formula bottles and medication. [47]

50. It appears to me that, had one of the ziplock bags tested positive for oxycodone, an important line of inquiry would have been identified. Had the bags tested negative for oxycodone, a potential suspicion that

[45] ts 16-17, 23 per Bradley, J A
[46] Exhibit 1, Volume 1, Tab 6-39
[47] ts 17-18, 20-21 per Bradley, J A

Ms Elliott had provided the deceased oxycodone from one of the bags would have been removed.

51. On the afternoon of 3 May 2012, police investigators became aware of evidence indicating that Ms Elliott had been involved in the manufacturing of methylamphetamine at a house in Maddington in which it was understood that she and the deceased had been living. Swabs were taken from the deceased's hands and feet and from her pyjamas and bedding in order to test for chemicals associated with illicit drug manufacture. None were detected.[48]

52. The police report is silent as to when the manufacture of drugs occurred. Senior Sergeant Bradley indicated that it was more than one week before the death of the deceased, but that was apparently as precise as he could be.[49]

53. On 17 December 2012 Ms Elliott pleaded guilty to a charge of attempting to manufacture a prohibited drug on the basis of purchasing cold and flu tablets for her cousin suspecting that they would be used to manufacture drugs. She also admitted that, when she assisting her cousin to move into the house where the drugs were to be manufactured, she assisted to carry

[48]Exhibit 1, Volume 1, Tab 6-45
[49] ts 24 per Bradley, J A

some of the items used in the manufacture from her car to the front door.[50]

54. Ms Elliott said that she had stayed in the house where the drugs had been manufactured for about three days at the end of February 2012, and in the beginning of April 2012 she stopped associating with the person who let her stay there.[51] She said that the deceased had never been present where methylamphetamines were being made.[52] I accept her evidence in that regard.

55. Ms Elliott also said that police had never questioned her about the oxycodone in the deceased's blood. When they asked her to take part in a video interview, she declined on the understanding that the request related to the offence of manufacturing methylamphetamines.[53]

56. The deceased's propensity to crawl quickly around on the floor and place things into her mouth, and the fact that she was in areas to which a number of people had access, leaves open the possibility that she ingested an oxycodone tablet which she found on the floor of one of the places where she had been during 2 May 2012.

57. Professor Joyce was unable to provide a definite time at which the deceased ingested oxycodone, but he did suggest that the presence of only a tiny amount of

[50] Exhibit 1, Volume 1, Tab 6-38
[51] ts 96-97, 110-111 per Elliott, B J
[52] ts 95 per Elliott, B J
[53] ts 116 per Elliott, B J

residual oxycodone in the stomach contents would normally indicate that the overdose had not been taken for three or four hours. However, in circumstances where the deceased had vomited, it was not possible to make the same inference. He said that he would be a bit surprised if the deceased had ingested the oxycodone before 5.00 pm on 2 May 2012.

58. On the basis of Professor Joyce's estimation, it seems that the deceased could have ingested the oxycodone at Ms Holloway's house, in Ms Elliott's car, or at the women's refuge.

59. Ms Holloway said that she did not know what oxycodone was and that her partner would not have had access to oxycodone because he had never gone to a doctor. She had never seen him use drugs or medications. She said that she would not know if anyone who came to her house may have brought oxycodone with them. She said that her friends would visit from time to time as would her children's friends and local children.[54]

60. Ms Elliott's history of heroin addiction and reliance on the buprenorphine/naloxone and methadone programs led to a suspicion that she was responsible for the deceased's ingestion of oxycodone, since the latter drug is commonly abused by users of opiates and opioids.[55]

[54] ts 37-40 per Holloway, D A
[55] ts 15 per Bradley, J A; Wikipedia: 'Oxycodone'

61. That suspicion was later fuelled by Ms Elliott's apparent involvement with methylamphetamine manufacture, and the presence of the ziplock bags in her rubbish was consistent with drug use. It is possible to speculate, for example, that Ms Elliott had administered part of an oxycodone tablet to the deceased in an attempt to quell her uncharacteristic crying and screaming after returning to the women's refuge.

62. Because of that suspicion, it is unfortunate that initial shortcomings of the police investigation with respect to the examination of the women's refuge meant that the issue of Ms Elliott's possible involvement could not be determined one way or the other with the help of objective evidence.

63. As noted earlier, the evidence relating to Ms Elliott's involvement with methylamphetamine indicates that the involvement was marginal.

64. The subjective evidence that is available to me strongly suggests that Ms Elliott did not give oxycodone to the deceased. All the credible evidence available to me, including an assessment by the Department of Child Protection following the death[56] and Dr Cadden's examination of the deceased,[57] indicates that Ms Elliott was a devoted, responsible mother whose life revolved around the deceased. That evidence is inconsistent with

[56] Exhibit 1, Volume 2, Tab 20
[57] ts 79 per Cadden, G A

the notion that she administered oxycodone to the deceased at any time.

65. Ms Elliott denied ever using oxycodone or ever knowing anyone who had been taking or prescribed oxycodone.[58] She denied giving the deceased oxycodone on 2 May 2012.[59] She said that she did not know whether or not anyone else might have given the deceased oxycodone and had no explanation as to how oxycodone found its way into the deceased on 2 May 2012.[60]

66. As to the ziplock bags in her rubbish bin at the refuge, Ms Elliott said that the bin contained rubbish from her car which she cleaned out from time to time. She said that she let friends use her car and that quite a few people had been in it.[61]

67. There was no evidence before me to refute Ms Elliott's evidence and I found her to be a generally credible witness.

68. In all these circumstances, I am unable to find to any degree of satisfaction where or how the deceased ingested the drug or where it came from.

69. I make an open finding as to how death occurred.

[58] ts 94 per Elliott, B J
[59] ts 105 per Elliott, B J
[60] ts 105 per Elliott, B J
[61] ts 99-100 per Elliott, B J

## CONCLUSION

70. To reiterate, it is clear that the deceased died from pneumonia with a possible contribution from the effect of oxycodone at a toxic level, but the degree of that contribution cannot be quantified.

71. The nature of the evidence available to me was such that I am unable to determine how the deceased came to ingest the oxycodone, so I cannot find how death occurred.

72. It is unfortunate that the tragedy of the deceased's death has been compounded by the shadow of uncertainty as to how she died.

B P King
Coroner
22 July 2015