CORONER'S COURT

Inquest:	Christopher Luke O'SULLIVAN
Hearing dates:	16 - 18 March 2015
Submissions Received	8 May 2015 - Counsel Assisting, 15 May 2015 – Ruth Morvan, 29 May 2015 – Kenneth O'Brien, 24 June 2015 – Counsel Assisting (in reply), 26 June 2015 – Kenneth O'Brien (in reply)
Date of findings:	11 March 2016
Place of findings:	Courthouse Lismore NSW 2480
Findings of:	Paul MacMahon Deputy State Coroner
Catchwords:	CORONIAL LAW – Mandatory inquest, Manner of death, Non-accidental injuries, Standard of proof.
File number:	1993/65229

Representation:

Mr I Bourke SC – Counsel Assisting

Mr D Higgs SC – Kenneth O'Brien (father of Christopher O'Sullivan)

Mr P Saidi – NSW Police Force and police witnesses

Mr P Meades – Ruth Morvan (mother of Christopher Sullivan)

Non-publication order made pursuant to Section 74(1) (b) Coroners Act 2009:

Nil

Findings made in accordance with Section 81(1) Coroners Act 2009:

Christopher O'Sullivan (born 19 August 1993) died on 16 September 1993 at the Royal Alexandra Hospital for Children at Camperdown in the State of New South Wales. The cause of his death was head injury of undetermined aetiology.

Recommendations made in accordance with Section 82 (1) Coroners Act 2009:

Nil

Paul MacMahon
Deputy State Coroner
11 March 2016

Introduction

1. On 29 November 1992 Ruth O' Sullivan (now Morvan) arrived in Australia from Ireland with her friend Anne Motherway (now Hickey). Ms Morvan and Ms Hickey shared accommodation.
2. Ms Morvan obtained work as a nursing assistant at the Alexandra Nursing Home at Brookvale a suburb in the northern beaches area of Sydney.
3. Ms Morvan subsequently found that she was pregnant.
4. In about March 1993 Ms Morvan informed Kenneth O'Brien, the father of the child, that she was pregnant.
5. On 24 June 1993 Mr O'Brien arrived in Australia and commenced sharing accommodation with Ms Morvan and Ms Hickey.
6. During her pregnancy Ms Morvan was under the care of Dr Gaal at Dee Why.
7. In July 1993 Ms Morvan ceased employment in anticipation of the delivery of her child.
8. At 7.23am on 19 August 1993 Ms Morvan, following a normal vaginal birth, gave birth to a boy who, at the time, was described as being 'healthy and normal.' The boy was given the name Christopher O'Sullivan.
9. In these findings Christopher O'Sullivan will be referred to as 'Christopher.'
10. In 1993 Dr. Angus MacKinnon conducted a general medical practice in the same building as Ms Morvan, Mr. O'Brien and Ms Hickey were residing.
11. On 15 September 1993 Ms Morvan and Mr O'Brien presented Christopher at Dr MacKinnon's medical practice seeking urgent medical assistance for him.
12. At the time of presentation Dr McKinnon observed that blood was coming from Christopher's nostrils, his pupils were fixed and dilated and he was cyanosed. Dr MacKinnon performed CPR on Christopher until ambulance officers arrived. During that time Dr MacKinnon observed that Christopher's heart stopped at 11.40am and 11.45am.
13. Christopher was taken by ambulance to the Manly Hospital where he arrived at about 12.00noon.
14. About 3.10pm Christopher was taken by ambulance helicopter to the Royal Alexandra Hospital for Children at Camperdown where he was admitted.

15. Following his admission various examinations of Christopher were performed. It was found that he was suffering from various injuries that were assessed as being un-survivable. At 9.30pm a decision was taken to extubate Christopher. He was declared deceased at 9.31pm on 16 September 1998.
16. Following Christopher's death his body was taken to the Department of Forensic Medicine at Glebe. On 17 September 1993 an autopsy was performed by Dr Mark Formby under the supervision of Dr C Lawrence a forensic pathologist. The autopsy report to the State Coroner dated 22 September 1993 recommended that the cause of Christopher's death be recorded as 'Head Injury.'
17. In late September 1993 Ms. Morvan and Mr. O'Brien returned to Ireland. They subsequently moved to London where in about March or April 1994 they separated.

Role and Function of a Coroner

18. At the time of Christopher's death the relevant coronial legislation was the Coroners Act 1980. That legislation was repealed and replaced by the Coroners Act 2009 in accordance with which this inquest is conducted. In all relevant matters the function and powers of a coroner are identical in each Act.
19. In these reasons all legislative references will be to the Coroners Act 2009 unless otherwise indicated.
20. Section 6 defines a *"reportable death"* as including one where a person died a *"violent or unnatural death"* and where the person *'died a sudden death the cause of which is unknown'*.
21. Section 35 requires that all *reportable deaths* be reported to a coroner.
22. Section 18 gives a Coroner jurisdiction to hold an inquest where the death or suspected death of an individual occurred within New South Wales or the person who has died or is suspected to have died was ordinarily a resident of New South Wales.
23. Section 74(1) (b) provides a Coroner with the discretion to prohibit the publication of any evidence given in the proceedings if he or she is of the opinion that it is in the public interest to do so.
24. The primary function of a coroner at an inquest is set out in Section 81(1). That section requires that at the conclusion of the inquest the Coroner is to establish, should sufficient evidence be available, the fact that a person has died, the

identity of the deceased, the date and place of their death and the cause and manner thereof.

25. The primary function of the coroner is to be undertaken having regard to the provisions of Section 78. That section deals with the situation where the circumstance of a death raises the possibility of a person being charged with an indictable offence.

26. Section 78 provides that if a coroner forms the opinion during the course of an inquest that the admissible evidence is capable of satisfying a jury beyond reasonable doubt that a known person has committed an indictable offence, that there was a reasonable prospect that a jury would convict the known person and that the indictable offence would raise the issue of whether the known person caused the death with which the inquest is concerned then the coroner has the discretion of taking certain actions.

27. The actions that a coroner may take are set out in Section 78(3). They are to continue the inquest and make findings in accordance with Section 81 (1) or to suspend the inquest.

28. Section 78(3) provides that where an inquest is suspended in such circumstances the coroner is to forward the depositions taken at the inquest to the Director of Public Prosecutions together with a statement specifying the name of the known person and the particulars of the indictable offence concerned.

29. Section 82 (1) provides that a Coroner conducting an inquest may also make such recommendations as he or she considers necessary or desirable in relation to any matter connected with the death with which the inquest is concerned. The making of recommendations are discretionary and relate usually, but not necessarily only, to matters of public health, public safety or the conduct of services provided by public instrumentalities. In this way coronial proceedings can be forward looking, aiming to prevent future deaths.

The Inquest

30. The identity of and the date and place of Christopher's death was not a matter of contention at the inquest. There was, however, uncertainty as to the cause and manner of his death. In such circumstances Section 27 (1) (d) requires that an inquest be conducted. Prior to 2015 that had not occurred.

31. An inquest touching the death of Christopher was conducted at the State Coroner's Court at Glebe on 16 and 18 March 2015 after which the parties were given the opportunity to make submissions as to the findings as to cause and manner of death that ought be made.

32. At inquest a brief of evidence was tendered and oral evidence was taken from:

    (a) Detective Superintendent Stuart Wilkins – a former officer- in-charge of the investigation into the death of Christopher,

    (b) Detective Inspector David Laidlaw – another former officer-in-charge of the investigation into the death of Christopher,

    (c) Detective Sergeant Graham Robinson – the officer-in-charge of the investigation into the death of Christopher at the time of the inquest,

    (d) Sheena Bucknell – a former coronial advocate attached to the State Coroners Court,

    (e) Dr Michael Rodriguez – a Neuropathologist at the Department of Forensic Medicine at Glebe,

    (f) Professor Johan Duflou – a senior Forensic Pathologist at the Department of Forensic Medicine at Glebe,

    (g) Professor Frank Martin – an Ophthalmologist,

    (h) Ms Anne Hickey (nee Motherway), and

    (i) Ms Ruth Morvan (nee O'Sullivan).

33. Mr Kenneth O'Brien, who resides in Europe, did not attend the inquest. He provided a number of statements and was represented throughout the course of the inquest by Senior Counsel.

The Evidence

34. Christopher died on 16 September 1993. He was 29 days old. His birth was a normal vaginal delivery with episiotomy. At birth he had an APGAR score of 9/10 at one minute and 10/10 at five minutes. At birth a bruise was observed on the back of Christopher's head which was not considered unusual.

35. Christopher was examined later that day Dr Hester who assessed him as a 'healthy' 1 day old male. Christopher subsequently received a Vitamin K injection to guard him against haemorrhagic disease. A Guthrie New Born

Screening test was performed on 22 August 1993. Both Christopher and his mother made good progress following his birth and were discharged home on 24 August 1993.

36. Christopher was bottle fed. He slept in a cot in the same bedroom as his parents. Anne Hickey, who was working at a travel agency, had her separate bedroom. Ms Morvan was not working at the time however Mr O'Brien worked an afternoon shift at Camperdown factory and ordinarily returning home at about 11.30pm.

37. According to Christopher's mother there were no troubles with Christopher in the first couple of weeks of his life other than 'that he would vomit after feeding.' He would be fed about four hourly.

38. On 7 September 1993 Christopher and his mother were seen by mothercraft nurse Lily Hadisunjoto at the Manly Early Childhood Centre. It was recorded that Christopher was a 'healthy baby, born at full term with no apparent complications…his progress seems to be within normal limits.' The nurse also recorded that Christopher's head circumference had 'increased 3.5cm since birth' and that he had 'wide frontal suture and overriding sagittal sutures.' Nurse Hadisunjoto recorded concerning this that there was 'no reason for concern but a need to observe the baby at this stage.'

39. Ms Hickey stated that as far as she observed Christopher appeared to be a 'normal healthy baby.'

40. On 14 September 1993 Christopher and his mother attended the mothercraft nurse for a routine visit. The nurse's recorded observations were that – 'the baby was progressing well and seem(ed) to be healthy and normal. There is no apparent cause for any concern'. Christopher was however suffering from oral thrush for which Daktarin gel was prescribed. Ms Morvan was also provided the phone number of the Family Care Centre for 'further advice on settling the baby.' When giving her evidence Ms Morvan had no recollection of any discussion or concern about Christopher's head circumference during this visit.

15 September 1993

41. In her statement to police in 1993, and also in her evidence at inquest, Ms Morvan said that on the evening of 14 September 1993 she fed Christopher at about 11pm that night. She also stated that he was fed at about 2.30am and 5.30am on 15 September 1993. After the 5.30am feed Christopher was 'burped'

and then put in his cot. He then he went to sleep after he had 'whimpered a little bit.' Ms Morvan told the inquest that there seemed to be no problem with Christopher at this time.

42. Mr O'Brien in his statement also recalled the 5.30am feed and confirmed that it was Ms Morvan got up to feed Christopher.

43. Ms Hickey gave evidence that she awoke at about 7.45am, showered, dressed and left for work at about 8.25am. She said that at the time she left no one else was awake in the flat.

44. Mr O'Brien stated that Christopher next woke at about 9.30am. Mr O'Brien got up and fed Christopher. He was burped 3 or 4 times however would not settle. Mr O'Brien said that 'he wouldn't stop crying. I put him on the change table and changed his clothes. Then he quietened down.' Christopher was then put down to bed at about 10.10am and Mr O'Brien went out to move his car and buy some food.

45. Ms Morvan in her 1993 statement said that she woke at about 10.30am. She noticed that Christopher had been fed and changed and that he was 'crying on and off'. She thought he had 'wind'. She noticed nothing of concern. At the inquest Ms Morvan said that when she woke Mr O'Brien was holding Christopher trying to settle him as he was crying. She then took over trying to settle Christopher. He was more settled in her arms. He would stop crying if she was walking about however when she sat down he would cry. She said that she might have been trying to settle him for 15-20 minutes.

46. The evidence of Christopher's parents in their statements to police in 1993 and what was told Manly Hospital when Christopher was admitted on 15 September 1993 are not consistent as to timing. The statements suggest however that Christopher was unsettled and crying at about 10am to 11am but eventually went to sleep. It was shortly after that that Ms Morvan went into the bathroom to have a shower while Mr O'Brien prepared breakfast.

47. Mr O'Brien stated to police in 1993 that 'Christopher woke up crying again and I took him out of the cradle'. He said that he tried to burp him by placing him over his shoulder and rubbing his back. He then put Christopher back in the cradle and began to rock it to put him to sleep. It was at this point Mr O'Brien says that he noticed that there was something wrong with Christopher.

48. In his statement to police in 1993 Mr O'Brien says that sometime after 11:10am 'something took my attention for a few seconds and when I went back to check him I saw that he was pale in colour. I lifted his hand and it just dropped. His breathing was irregular and made a rasping sound. I picked him up and called Ruth to have a look at him.'

49. Ms Morvan in her 1993 statement said that after settling Christopher and talking to Mr O'Brien for 'a little while' she went to have a shower. As she was getting into the shower Mr O'Brien knocked on the door and asked her to come out. Christopher was in his arms and looked dazed and static. Mr O'Brien said 'look at him something's wrong.'

50. In her evidence at the inquest Ms Morvan expanded on this statement. She said although the statement gave the impression that there was not much time between her going to the bathroom and Mr O'Brien knocking on the door the period was in fact between 10 – 20 minutes because before she went to have a shower she had given herself a salt bath in order to assist the healing of the episiotomy wound.

51. Ms Morvan said that when she was in the shower when Mr O'Brien knocked on the door and asked her to come out. She said that she did not hear any crying nor detect any urgency in Mr O'Brien's tone of voice. She got out of the shower and dried herself and put her pyjamas on before she came out of the bathroom. It was at this point that she saw that Christopher looked 'dazed' and she realised that something was wrong and he was not well.

52. At this point Christopher was handed to Ms Morvan and Mr O'Brien went for help. At the time he was handed to her Ms Morvan did not see any blood on Christopher. Shortly after however she felt something wet on her shoulder. She thought he had vomited however when she looked at him she realised it was blood. She then ran down the stairs to the doctor's surgery on the ground floor of the building.

53. Mr O'Brien says in his 1993 statement that Ms Morvan passed him on the stairs as he was coming up them after having unsuccessfully tried to get help from a neighbour. He says that he saw blood coming from Christopher's mouth onto Ms Morvan's shoulder as they ran down the stairs.

54. Dr MacKinnon said in his statement that about 11.30am he saw a lady in his reception holding a baby which had blood coming from its nostrils. The baby had a glazed look, was non-reactive and extremely floppy and pale. He examined the baby and found that his pupils were fixed and dilated; he was cyanosed, limp and non-reactive to pain. The child was vomiting profusely. He saw fresh blood coming from his nostrils but none in the vomit. Dr MacKinnon performed resuscitation on Christopher until ambulance officers arrived and took him to Manly Hospital.

55. Christopher was admitted to Manly Hospital at about midday. He was limp, white, not breathing, in a state of full cardiac arrest. He was intubated, CPR was continued and venous access was obtained via a scalp vein. After about 45 minutes of CPR a heart-beat and good peripheral circulation returned.

56. At Manly Hospital the following histories were obtained:

> *The parents state that he was miserable after a feed at about 1000, and went to bed but alerted them crying at about 1050. The parents note that he had seemed a little "pale" this morning. Shortly after their attention, the baby rolled his eyes back and gurgled some blood stained fluid ...They noted that he had pink frothy fluid ("like pulmonary oedema") and transported him urgently"* and
>
> *Child has been feeding well but has been difficult to burp @times over the past few weeks.*
>
> *Child was fed @0930 hrs today (with) bottle – drank 90ml. Child has been unsettled over the past 2/7, crying ++*
>
> *..mother noticed baby pale this am. Child put to sleep @1010hrs & he woke up crying @1050hrs. Mother noticed blood extruding from child's mouth/nose area & raced downstairs.*

57. Christopher was then taken by air ambulance to the Children's Hospital at Camperdown where he was admitted at about 4.00pm to the intensive care unit. On arrival his pupils were fixed and dilated, his breathing was gasping and irregular and he was found to have bilateral haemorrhages to his eyes.

58. Christopher remained in a critical condition. Various tests were carried out including a CT scan, x-rays and blood gases. The CT scan was recorded as showing a loss of grey white differentiation, severe hypoxic ischaemic damage and a small intra ventricular haemorrhage.

59. The medical condition suffered by Christopher was considered to be un-survivable and at 9.30pm on 16 September 1993 his artificial breathing support was removed and he died shortly after that.

60. Following Christopher's death the Child Protection Unit of the Hospital was asked to review the circumstances of his death. Further histories were taken from his parents. On 17 September 1993 Dr Miller, the primary treating physician, prepared a 'Separation Data' report. He concluded that Christopher's final diagnosis categories were 'hypoxic encephalopathy, arrest (cardiac), respiratory arrest, coma, brain death, intracranial haemorrhage, near miss SIDS.'

61. Due to the presence of retinal haemorrhage and a history of prolonged crying before the arrest the case was referred to the child protection unit and a referral was made to the child protection authorities. While consideration was given to the possibility that Christopher's injuries were non-accidental it is apparent that other possible causes were considered such as 'near miss SIDS.'

62. On 17 September 1993 Dr Formby, a trainee forensic pathologist under the supervision of Dr Lawrence, conducted an autopsy. Dr Formby recommended that the cause of death be recorded as being 'Head Injury.' Dr Formby noted subdural and subarachnoid haemorrhages in the brain, retinal haemorrhages and subdural haemorrhages around the optic nerve were found at autopsy. It was suggested that the explanation for these injuries included birth trauma (accounting for the subdural haemorrhage), resuscitation attempts (accounting for the retinal haemorrhages). No discussion occurred in the autopsy report as to whether the injuries might have been non-accidental.

Review of Medical Evidence

63. In 2009 Dr M Rodriguez (a forensic Neuropathologist) examined the brain tissue and re-examined the 1993 eye tissue slides. He confirmed the presence of subdural and subarachnoid haemorrhages of differing ages. He was of the opinion that some of these may have been due to birth trauma however others had occurred more recently. He said in oral evidence that he was able to conclude that some were recent because they showed less evidence of 'organisation'.

64. Dr Rodriguez's review also confirmed the presence of widespread multi-focal haemorrhages. He explained that while some superficial retinal haemorrhages may result from raised intracranial pressure due to resuscitation that could not

explain the haemorrhages in the deeper layers of the retina. He opined that while extensive retinal haemorrhages may occur following vaginal delivery the absence of haemosiderin (a protein the presence or absence of which assists in estimating the age of a haemorrhage) in the retinal haemorrhages did not fit with this theory.

65. Dr Rodriguez concluded, both in his report and in oral evidence, that the most likely explanation for the injuries was 'blunt force head injury.' He also was of the opinion that, having regard to the literature on the subject, the effects on the child from such injury would be almost immediate.

66. Professor Johan Duflou was Chief Forensic Pathologist at the Department of Forensic Medicine at Glebe. He is also a Clinical Professor at the University of Sydney. He also reviewed the clinical evidence available relating to Christopher's death in late 2009. He also considered the report that Dr Rodriguez had prepared.

67. Professor Duflou noted the existence of subdural and subarachnoid haemorrhages, retinal haemorrhages and hypoxic/ischaemic encephalopathy. He said that these findings were suggestive of non-accidental head injury. Professor Duflou agreed that birth trauma and resuscitation could account for some of the pathology found in Christopher's brain and eyes however he was strongly of the view that they could not explain all of the injuries found.

68. Professor Duflou concluded that a number of traumatic incidents had occurred in the weeks leading up to Christopher's death and that unconsciousness and cardio-respiratory arrest would have occurred almost immediately upon the infliction of the final trauma.

69. Professor Duflou expressed the opinion that 'to a very high degree of certainty' that there had been a number of bleeds (at least two and probably more) on Christopher's brain. He also expressed the opinion that following the final trauma Christopher would lose consciousness very quickly if not immediately however there may be cases where there could be an interval of time between the application of force and the arrest.

70. During the course of giving their evidence both Dr Rodriguez and Professor Duflou were examined as to their response to the body of medical opinion during the past decade that called into question some of the past diagnosis of 'inflicted injuries' where injuries similar to that found on Christopher were found. Both Dr Rodriguez and Professor Duflou were familiar with those opinions and the

controversy that surrounded it. Notwithstanding extensive examination on the issue both maintained the opinion that they had previously expressed as to the cause of the injuries found on Christopher.

71. In Dr Rodriguez's case he was strongly of the opinion that the most likely cause was 'blunt force head injury'. He relied in particular, in forming this opinion, on the evidence that the brain haemorrhages occurred at different times and recently and due to the fact that the retinal haemorrhages were multi-focal and in multiple layers of the retina.

72. Professor Duflou acknowledged that in the light of medical controversy, and recent research, he had become more cautious in concluding that the presence of the constellation of such injuries as was found in Christopher was non-accidental however in respect of Christopher's case he remained of the view that it was highly likely that at least a number of episodes of physical violence were inflicted on him.

73. Dr Formby, who had conducted the initial autopsy, was asked to review the conclusions he reached in 1993 in the light of the findings of Dr Rodriguez and Professor Duflou. Dr Formby prepared a further report in 2010. He expressed the opinion that 'the key' to the interpretation of Christopher's case was the assessment of the injuries to the brain and spinal cord. In this regard he indicated that he would defer to the expertise of Dr Rodriguez. He concluded however that the most likely cause of Christopher's apnoeic episode is some form of vigorous shaking or shaking as well as having his head struck against a surface that left no external injuries. He accepted the opinion of Professor Duflou that apnoea and loss of consciousness would have followed 'almost simultaneously'.

74. Dr Lawrence, who was Dr Formby's supervisor in 1993, was also asked to review the earlier findings having regard to the further examination by Dr Rodriguez and the opinions expressed by Dr Rodriguez and Professor Duflou. Dr Lawrence in his 2009 report confirmed the view that the cause of Christopher's death was 'head injuries'. He noted two 'potentially confounding issues' that might provide an 'innocent' explanation for the injuries. He stated that they were birth trauma and the effects of hypoxia on the brain and retina. Having considered these matters however Dr Lawrence agreed with Dr Rodriguez and Professor Duflou that the 'most probable explanation for the death is non-accidental blunt force head injuries' and that there would need to be 'more than one episode of injury'.

75. Dr Paul Tait, a senior Paediatrician, was also asked to review Christopher's case in 2010. In his report Dr Tait agreed with the opinions expressed by Professor Duflou and others that the most likely cause of Christopher's death was non-accidental traumatic brain injury. In reaching this conclusion Dr Tait expressed the opinion that while SIDS can occur in children of Christopher's age SIDS would not cause retinal haemorrhages. He also expressed the opinion that birth trauma could not explain the clinical picture found in Christopher's case.

76. Professor Martin, a Paediatric and General Ophthalmologist, was also asked to review the clinical evidence available. He examined the post mortem photos and photos showing Christopher's eyes. He concluded that non-accidental injury was the most likely explanation for the injuries suffered by Christopher.

77. In his evidence at inquest Professor Martin acknowledged that retinal haemorrhages can result from other causes, such as the birth process, resuscitation attempts and raised intracranial pressure however those causes would not explain the multi-layered retinal haemorrhages found in Christopher. Professor Martin explained that haemorrhages resulting from 'innocent' events were not multi-layered.

78. An opinion was also sought from a specialist Paediatrician Dr Susan Marks. Dr Marks also expressed the opinion that the finding of the various haemorrhages was highly suspicious of inflicted injury on more than one occasion. She agreed that the increase in Christopher's head circumference between birth and 7 September 1993 could indicate a chronic bleed however it was difficult to draw a conclusion on this as it would seem that the mothercraft nurse did not undertake a measurement on 14 September 1993 noting that at that time Christopher appeared well.

Cause of Death

79. There is little doubt, and I am satisfied that the evidence available establishes, that the cause of Christopher's death was due to head injury as concluded by Dr Formby following the conduct of the autopsy in 1993.The evidence also establishes that the head injury suffered by Christopher involved brain and retinal haemorrhages, hypoxia and cardiac and respiratory arrest. The evidence also establishes that the injuries suffered by Christopher were not survivable.

Section78 consideration

80. Counsel Assisting has submitted that, for the reasons outlined in his submissions, on the evidence available 'this is a case where it would be open for me (as coroner) to form the opinion outlined in Section 78(1) (b)' Were I to form such opinion I would then need to consider which of the alternative courses of action available in Section 78(3) I should adopt.

81. Having considered the submissions made by Counsel Assisting on this issue, together with those made on behalf of other parties to the inquest, I have not formed the opinion that, having regard to the admissible evidence available, the requirements of Section 78(1) (b) have been met. As is the normal practice in dealing with this issue I do not record herein my reasons for not forming that opinion.

Manner of Death

82. The substantial question to be determined in this matter is whether or not the injuries that caused Christopher's death resulted from non-accidental trauma(s) or from some other cause and if non-accidental does the evidence identify who inflicted the trauma(s).

Were Christopher's injuries non-accidental?

83. Counsel Assisting in his submissions submits that the evidence is sufficient to come to make a finding that the injuries that caused Christopher's death were the result of non-accidental trauma. Ms Morvan adopts the submissions made by Counsel Assisting. Senior Counsel appearing for Mr O'Neill submitted to the contrary.

84. Counsel Assisting acknowledged in his submissions that there was no independent witnesses as to what occurred to Christopher on the morning of 15 September 1993 or in the period prior to that day. It was, however, the case that Christopher was examined by the mothercraft nurse on 14 September 1993 and the records of that consultation do not disclose anything of concern at that time.

85. Mr O'Brien acknowledged that he used to 'bounce' Christopher and at times play with him boisterously however the medical evidence is that this would not account for the injuries that Christopher suffered. Mr O'Brien was, otherwise unable to provide any explanation as the cause of Christopher's injuries.

86. Ms Morvan travelled to Australia for the inquest and it was her evidence that she had never observed any violence or loss of temper by Mr O'Brien, or indeed anyone else who had contact with Christopher, towards him.

87. Ms Hickey, who had shared the flat with Ms Morvan and Mr O'Brien, also travelled to Australia and gave evidence at the inquest. She reported no observations of violence in the household and no events that might explain Christopher's injuries.

88. There is no suggestion in any of the evidence that there was any violence or aggression exhibited by any person who lived in the flat occupied by Christopher and his parents. Indeed the evidence is the opposite. Ms Sineade Motherway, who was a registered nurse and midwife and who also lived in the same building said that she 'went in and out of Ruth's unit a number of times' and had the opportunity to observe the care given to Christopher by his mother and father. She says that she never saw any sign of illness or problems with the baby and no signs of excessive crying or distress or any signs of physical injury.

89. A statement was also available from Mr Joe Motherway, the partner of Sineade, which was to a similar effect to hers.

90. Notwithstanding there being no evidence of any violence in the environment in which Christopher lived that might explain the circumstances of the head and eye injuries suffered by him Counsel Assisting submitted, that in the light of the consistent evidence of the medical specialists that those injuries could not be explained by natural causes, the most likely cause of those injures was some form of trauma and that such trauma occurred on more than one occasion. The various specialists used different terms to describe such trauma. Dr Rodriguez – 'blunt force head injury', Professor Duflou – 'physical violence', Dr Tait – 'trauma' and Professor Martin – 'non-accidental injury (shaken baby syndrome – SBS)'. The effect of their evidence is, however described, the same. That is that the injuries suffered by Christopher that resulted in his death were caused by a traumatic event or events.

91. Senior Counsel for Mr O'Brien submitted that such a conclusion could not be drawn. He noted that both parents denied shaking or inflicting any harm on Christopher and that no witness gave evidence of any event that might have resulted in such injuries. Both parents had cooperated with the investigation into

Christopher's death his mother coming to Australia and giving evidence and his father voluntarily gave a statement to police in 2010 after being cautioned.

92. Senior Counsel for Mr O'Brien argued that the suggestion of non-accidental trauma comes from no direct or circumstantial evidence of the behaviour of Christopher's parents but from medical opinion derived from the hypothesis known as Shaken Baby Syndrome or SBS.

93. It was argued that Christopher died of hypoxic encephalopathy (brain damage caused by lack of oxygen, rather than by the application of force to the brain. At the time of his death Christopher also had subdural and subarachnoid haemorrhages and retinal haemorrhages. It was these haemorrhages, caused by a traumatic event immediately before his respiratory arrest that caused Christopher to stop breathing thereby depriving the brain of oxygen and causing the hypoxic encephalopathy and death. Thus, argued Senior Counsel for Mr O'Brien, it was not the haemorrhages that caused death but that from the existence of those haemorrhages one could postulate the application of force which did.

94. Senior Counsel for Mr O'Brien submitted that there were difficulties with accepting this proposition they being firstly that the experts were unable to determine, with any degree of precision, when the various haemorrhages occurred secondly that there was uncertainty as to the amount, and type, of force necessary to cause the different haemorrhages and finally, even if the haemorrhages had a common traumatic cause, or series of causes, the evidence was silent as to exactly how that led to the hypoxic encephalopathy and death.

95. As to the time the haemorrhages occurred it was Dr Rodriguez's evidence that the retinal haemorrhages and some of the subdural haemorrhages occurred within 4-5 days of Christopher's death and several of the subdural haemorrhages were older. Professor Duflou agreed saying that he was 'pretty sure' that more than one event was necessary to explain everything. Professor Martin gave similar evidence.

96. Concerning the amount of force required to cause the different haemorrhages Senior Counsel for Mr O'Brien drew attention to the evidence of Dr Rodriguez and Professor Duflou that 40%-50% of babies show asymptomatic subdural haemorrhages after birth with the vast majority resolving and that the size and appearance of the various haemorrhages did not indicate the potential cause thereof.

97. It was also submitted that as far as the retinal haemorrhages were concerned there was no evidence as to the degree and type of force that was required to cause them and that Professor Duflou had accepted that they might have been caused by different events within a 4-5 day window of time. Professor Duflou also conceded that even extensive retinal haemorrhages could occur in a wide variety of different cases and that the existence and appearance of retinal haemorrhages does not allow, in the current state of science, to determine the cause or causes.

98. It was further argued that in Christopher's case there is the possibility that at least some of the extensive haemorrhages might have been the result of pre-existing subdural haemorrhages or even the hypoxic encephalopathy and resuscitation attempts. Professor Martin gave an example of one such case where the retinal haemorrhages could not be explained but could have been the result of underlying subarachnoid haemorrhage.

99. On this issue it was finally put that the possibility remained that the retinal haemorrhages were the result of the dramatic increase in Christopher's head circumference in the four weeks after birth which led to the development of wide frontal sutures. This, it was submitted, was consistent with professor Duflou's view that there was an actual progression of retinal haemorrhages over time.

100. In addition it was also argued that it was unclear to what extent the resuscitation procedures that were performed may have contributed to the clinical findings of retinal haemorrhages. Dr Lawrence noted the potential that the hypoxic episode and subsequent resuscitation might have caused retinal haemorrhages.

101. Finally Senior Counsel for Mr O'Brien submitted that, even if the haemorrhages had a common traumatic cause, it was unclear how such cause led to respiratory arrest, hypoxic encephalopathy and ultimately death. Dr Rodriguez and Professor Duflou in their evidence accepted that there was uncertainty as to the mechanism of the hypoxic encephalopathy.

102. It was therefore submitted by Senior Counsel for Mr O'Brien that given there was uncertainty as to when the hypoxic encephalopathy commenced, how it came about and how quickly it progressed it would be speculative to conclude that a single event caused the haemorrhages immediately before Christopher's respiratory arrest.

103. It was further submitted that an indicator of an alternative possibility of a more gradual development of encephalopathy was the increase in Christopher's head

circumference. The evidence was that at birth it was 36cm (60th percentile), at 19 days 39.5cm (98th percentile) and then 41.5cm at autopsy. It was submitted that this evidence might indicate significant swelling of the brain or excess fluid which might indicated a slow developing encephalopathy or other cause of respiratory arrest.

104. It was submitted that the possibility of a more gradual development of encephalopathy was supported by the evidence of Christopher's parents, and the contemporaneous records, that in the two weeks prior to his death there had been an increase in his irritability, crying and vomiting.

105. Professor Duflou agreed in evidence that a child with a head injury could very well have symptoms of irritability and vomiting. It was therefore submitted that Christopher's hypoxic encephalopathy was the result of an unknown process including a previous brain or head injury or injuries with symptoms developing over the period of 1-2 weeks prior to his respiratory arrest.

Consideration

106. In making a determination as to the manner of Christopher's death it is necessary for me to remind myself, at the outset, of the evidentiary requirement for doing so.

107. These are significant matters and, although determined on the civil standard of the balance of probabilities, must be considered having regard to the test laid down by Dixon J in Briginshaw v Briginshaw (1938) 60 CLR 336 where his Honour said at 361- 362:-

> *The seriousness of an allegation made, the inherent unlikelihood of an occurrence of a given description, or the gravity of the consequences flowing from a particular finding are considerations which must affect the answer to the question whether the issue has been proved to the reasonable satisfaction of the tribunal.*

108. A finding that the cause of Christopher's death was due to non-accidental trauma is a serious one. In this case Christopher was a baby in the care of his parents. Necessarily, on the evidence available, if such a finding were to be made it would mean that one, or both parent, was responsible for the infliction of the trauma. One would therefore need to be cautious and weigh the evidence available carefully before coming to such a conclusion.

109. The medical evidence available is highly suspicious of such a possibility. Each of the medical practitioners who have considered the information available has expressed the opinion that non-accidental trauma (however described) was the most likely cause. Their conclusions, as Senior Counsel for Mr O'Brien has pointed out, have, however, been reached by forming a hypothesis as to how Christopher's death came about from what was found on examination after his death. They have, at the same time, acknowledging that there were aspects of that process that were either unknown or at least not completely understood.

110. The opinions reached by the medical practitioners have also to be considered in the context of the other evidence available. That evidence included the findings at autopsy that Christopher had not suffered any bruising or skeletal injuries, the evidence from both parents, by the mother under oath at the inquest and the father under caution, denying that a traumatic event involving Christopher had occurred.

111. It also included the evidence of lack of discord or violence in the home or towards Christopher which was supported by other witnesses who each observed the interaction of the parents and the manner in which they cared for Christopher.

112. The medical opinion has also to be considered having regard to the suggestion that if the injuries were of a traumatic origin then there had been more than one such event.

113. These conclusions have also to be considered in the context that at the time it was not immediately apparent to those that were investigating Christopher's death that his death was suspicious. This attitude meant that the contemporaneous investigation was somewhat less than it might have been had it been thought that the trauma was non-accidental.

Conclusion

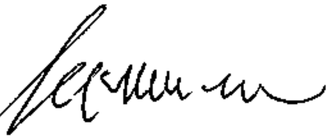
114. There is a real possibility that Christopher's death occurred a consequence of multiple trauma inflicted on him that resulted injuries that led to his death however it is also possible that that those injuries resulted from some unidentified condition that developed over the two weeks preceding his death. Without any evidence whatsoever to suggest any violence towards him by any person responsible for his care at any time during his life I do not consider the evidence available reaches the standard required for me to make a finding that his death was due to non-accidental

trauma. The manner by which the injuries he was found to have suffered is thus undetermined.

115. In the circumstances I am satisfied that the appropriate finding for me to me made in respect of the cause and manner of Christopher's death is that he died as a result of a head injury of undetermined aetiology.

Section 82 Recommendations

116. I do not consider it is necessary or desirable to make recommendations in respect of any matter connected with Christopher's death.



Paul MacMahon

Deputy State Coroner

11 March 2016