CITATION: *Inquest into the death of Baby Dailyna* [2010] NTMC 027

TITLE OF COURT:	Coroner's Court
JURISDICTION:	Darwin
FILE NO(s):	D0031/2009
DELIVERED ON:	16 April 2010
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HEARING DATE(s):	25-26 March 2010
FINDING OF:	Mr Greg Cavanagh

CATCHWORDS:

Death in care, long stay patient at RDH, dehydration, inadequate patient notes

REPRESENTATION:

Counsel:

Assisting:	Ms Helen Roberts
Department of Health and Families	Ms Sally Sievers
Dr Melanie Hansen	Mr Ray Murphy

Judgment category classification:	A
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IN THE CORONERS COURT
AT DARWIN IN THE NORTHERN
TERRITORY OF AUSTRALIA

No. D0031/2009

In the matter of an Inquest into the death of
BABY DAILYNA
ON 19 FEBRUARY 2009
AT PAEDIATRIC WARD 5B - ROYAL DARWIN HOSPITAL

FINDINGS

Mr Greg Cavanagh SM:

INTRODUCTION

1. Baby Dailyna ("The Deceased") died at Royal Darwin Hospital ("RDH") on 19 February 2009, at the age of 13 months. At the time of her death she was a "long stay" patient in the General Paediatric Ward at Royal Darwin Hospital. Her death was unexpected and was appropriately reported to the "on call" Coroner's Constable within hours of it occurring.

2. On 13 February 2009 a temporary protection order placing the Deceased within the care of the CEO of the Department of Health and Families was granted, pursuant to the *Care and Protection of Children Act*. Therefore, at the time of her death, the Deceased was "in care" within the meaning of section 12 of the *Coroners Act*.

3. Section 15 of the *Coroners Act* provides that where a person is in care at the time of his or her death, the death is reportable for that reason alone, and an inquest is mandatory.

4. Counsel assisting me at the inquest was Ms Helen Roberts. The Department of Health and Families was represented by Ms Sally Sievers. Dr Melanie Hansen was represented by Mr Ray Murphy. I thank all counsel for the

cooperative manner in which the issues arising at this inquest were dealt with both prior to and during the hearing. I would particularly like to acknowledge the considerable efforts of Counsel Assisting me, Helen Roberts, in facilitating the proactive approach which was adopted in this Inquest.

5. The Deceased's mother Eunice, and her maternal grandparents attended the inquest. The Officer in Charge of the coronial investigation, Senior Constable Darren Robson, went to some effort to contact them and assist them to attend court on 25 March 2010. They were not represented by counsel; however, they did have discussions with Ms Roberts who explained the inquest purpose and procedures to them. Mr Jimmy Maralunga spoke to Ms Roberts on behalf of the family and indicated that they understood the cause of death as being related to the baby's diarrhoea and because she was "so sick" generally.

FORMAL FINDINGS

Pursuant to section 34 of the *Coroners Act*, I am required to make the following findings:

> "(1) A coroner investigating –
>
> (a) a death shall, if possible, find –
>
> (i) the identity of the deceased person;
>
> (ii) the time and place of death;
>
> (iii) the cause of death;
>
> (iv) the particulars needed to register the death under the Births, Deaths and Marriages Registration Act; and
>
> (v) any relevant circumstances concerning the death.

6. Section 34(2) of the Act operates to extend my function as follows:

> "A Coroner may comment on a matter, including public health or safety or the administration of justice, connected with the death or disaster being investigated."

7. Additionally, I may make recommendations pursuant to section 35(1), (2) & (3):

> "(1) A coroner may report to the Attorney-General on a death or disaster investigated by the coroner.
>
> (2) A coroner may make recommendations to the Attorney-General on a matter, including public health or safety or the administration of justice connected with a death or disaster investigated by the coroner.
>
> (3) A coroner shall report to the Commissioner of Police and Director of Public Prosecutions appointed under the Director of Public Prosecutions Act if the coroner believes that a crime may have been committed in connection with a death or disaster investigated by the coroner."

8. In order to make the findings required by s 34 (1) I had tendered in evidence before me the following material: the birth certificate of the Deceased, a brief of evidence collated and submitted by Senior Constable Darren Robson, three volumes of RDH records concerning the Deceased, a folder of "additional material" containing statements of witnesses Registered Nurse ("RN") Jacqui Grant, Dr Melanie Hansen, Dr Ross Diplock, and Dr Charles Kilburn. I heard oral evidence from Lynelle Hicks (child protection worker), Eileen Sporle (Registered Nurse), Baby Kurien (Registered Nurse), Alan Deady (Enrolled Nurse), Jacqui Grant (Registered Nurse), Dr Melanie Hansen, Dr Sudha Arunkumar, Dr Ross Diplock, Dr Paul Bauert, and Dr Charles Kilburn.

9. Pursuant to section 34 of the *Coroners Act* I find, as a result of evidence adduced at the public inquest, as follows:

> (i) The identity of the deceased person is Dailyna Byrnes.

(ii) The time and place of death was approximately 2:00am on 19 February 2009 at Royal Darwin Hospital (paediatric ward 5B).

(iii) The cause of death was cardiac arrest resulting from dehydration. .

(iv) Particulars required to register the death:

1. The deceased was Dailyna Byrnes.

2. The deceased was of Aboriginal descent.

3. The death was reported to the Coroner.

4. A post mortem examination was carried out by Dr Terrence Sinton.

5. The deceased's mother was Eunice Maralunga and her father was Delwyn Byrnes.

6. The deceased was an inpatient of Royal Darwin hospital.

7. The deceased was an infant.

CIRCUMSTANCES CONCERNING THE DEATH

10. The Deceased was born by emergency caesarean section on 20 December 2007 at 24 weeks gestation. Her teenage parents were from Maningrida. Her mother's family lived at Knuckey's Lagoon in Darwin.

11. After her birth she spent a number of months at Royal Adelaide Hospital. She developed a number of complications of her extreme prematurity and/or the necessary treatments for those complications. The most significant in terms of the cause of death was the development of bowel disease leading to an operation to remove her ilium, her iliocecal valve and her ascending and transverse colon. The result of the operations meant that she suffered from what is referred to as "short gut" or "short bowel" syndrome. I heard

evidence that this leads to ongoing problems with absorption of nutrients, with gastrointestinal infections, diarrhoea and slow weight gain.

12. She had a number of other medical complications which were not related to the cause of her death. She was blind, and had ongoing developmental delay.

13. She returned from Royal Adelaide Hospital in July 2008 and was admitted to the Paediatric Ward of RDH, where she had to stay until she could manage to take feeds by sucking (rather than through a nasogastric tube), and her weight gain and other development was satisfactory. For a one month period during September 2008 she was discharged from hospital and lived with her mother and grandparents at Knuckey's Lagoon. During this period she became ill and lost weight and was readmitted to RDH.

14. Over the several months prior to her death she had intermittent episodes of diarrhoea and other illnesses. Her mother did not visit as often and consistently as was necessary to learn to care for the Deceased's complex needs, and often did not keep appointments with specialist allied health professionals. As a result of this, Lynelle Hicks, Child Protection Worker with Northern Territory Families and Children ("NTFC") was allocated the case. She carried out a number of investigations commencing in late January 2009, leading to her application for a Temporary Protection Order made on 13 February 2009. A foster family had been found, and at the time of her death, the Deceased was due to be discharged from hospital once the foster parents had visited the hospital a number of times and were comfortable with the required cares. I find the actions taken by NTFC in this matter to be professional and appropriate.

15. On 16 February 2009 the Deceased was examined by Dr Bauert, Director of Paediatrics, who was conducting a ward round of Ward 5B (General Paediatrics) with the Resident Medical Officer ("RMO"). Earlier that same morning a nurse had requested a review of the baby by the night shift paediatric registrar. She was having problems with loose bowel motions and

some vomiting and dry retching. A stool sample was sent to the laboratory to check for a gastrointestinal infection. If that had been present, the Deceased may have been transferred to Ward 7B and treated for the infection. As it transpired, the sample was not tested as it had been incorrectly labelled. (However, a later sample taken on 18 February 2009 and tested returned no pathogens.)

16. I heard evidence from Dr Bauert that ward rounds are conducted daily and that all patients are seen by the doctor/s conducting those rounds. There are no medical notes made by a doctor (or anyone) on the Deceased's file for the 17 or 18 February 2009. Dr Bauert gave evidence, which I accept, that he was sure that his experienced RMO and/or registrar "would have" reviewed the Deceased as part of their round. However, I am unable to say what examinations were carried out, what conclusions were reached or what plan was made, as nothing is recorded. I will return to the issue of inadequate record keeping later in these findings.

17. The Deceased was a very small baby due to her prematurity, and feeding and growth problems. She weighed around 6kg at the age of 13 months. Part of her observation chart was recording her daily weight on the nursing management record. On Tuesday 17 February no weight is recorded. However, a weight loss of approximately 500g between the 16 February and the 18 February is shown. This was almost an 8% weight loss.

18. In addition, the fluid balance Chart demonstrates an increase in bowel motions over the 72 hours leading up to 19 February 2009.

19. The nurses on Ward 5B knew the Deceased well. She had been with them for many months and they cared for her professionally. It was clear to me that those who had the most frequent care of the Deceased, including Enrolled Nurse ("EN") Deady, looked after her with love and felt significant distress at her loss.

20. On the evening of 18 February 2009, RN Baby Kurien was caring for the Deceased in Room 1. (She was also caring for other patients on that shift). She noticed an increase in fluid loss, noting frequent and loose bowel motions and a large vomit. She first raised her concerns with her Team Leader, RN Eileen Sporle. RN Sporle had 38 years experience as a nurse, 23 of those at RDH. RN Kurien showed RN Sporle a nappy she had just taken from the Deceased and indicated that it was not the first that had shown such a large fluid loss. RN Sporle told her to have the doctors review the baby.

21. RN Kurien initially did not seek the involvement of the doctor. She said that she thought that the Team Leader was going to do so on her behalf. However, her concerns increased and when the Paediatric Registrar, Dr Melanie Hansen, came into Room 1 she spoke to her about those concerns.

22. The evidence of RN Kurien differs from the evidence of Dr Hansen as to what transpired between them in relation to the Deceased. RN Kurien said that she became concerned that. Dr Hansen came into the room to start a procedure on another baby (taking blood) and asked Nurse Kurien for her assistance. RN Kurien, who was changing the Deceased's nappy at the time, raised her concerns that the Deceased may be dehydrated based upon her observations (which she conveyed to Dr Hansen) of loose and frequent bowel movements, vomiting, and sunken eyes. She asked Dr Hansen to look at the Deceased. Dr Hansen indicated that after she had completed the other procedure, she would review the Deceased, but in the meantime Nurse Kurien could start the Oral Rehydration Solution ("ORS") with the Deceased. No further instructions were given. It took about one hour to do the blood procedure and then Nurse Kurien started the ORS at 50mL/hr. At transcript 43:

> "Q Now, I've already asked you if she, that is Dr Melanie Hansen, examined the baby at any time that you ..? A. She did not. In my shift she did not.
>
> Q. Are you sure about that? A. Yes, I'm sure."

23. Dr Hansen, however, gave evidence that she examined the baby upon Nurse Kurien's request, with Nurse Kurien present. She said this may have taken only '15 seconds' for her to check the baby's pulse and do a skin pinch test, in order to satisfy herself that the baby was not 'acutely unwell' prior to returning to another procedure she was carrying out. She said that she told Nurse Kurien to commence ORS and if she remained concerned, or the symptoms increased, to advise the night medical staff. She had never done day rounds in Ward 5B so had no previous occasion to have met or reviewed the Deceased. She did not know that the Deceased had short bowel syndrome, a piece of history she agreed was important. Neither did she look at the baby's fluid balance chart or check her weights (transcript p 65):

> "Q You'd agree that weight loss is a good and useful way to assess dehydration? A. Yes
>
> Q Did you make any inquiries about the baby's weight? A. No
>
> Q Why not? A. I proceeded straight to examining the patient because I wanted to just have a quick reassurance that she was not acutely unwell and go back straight to the procedure that I was intending to do and finish for that time.
>
> Q (Coroner) Madam you keep on using the adjective 'quick'. Are you trying to suggest that your examination was less – was suboptimal in the circumstances? A. It's not a thorough one, I must admit."

24. RN Kurien gave a tape recorded statement as part of the coronial investigation on 26 February 2009. Her evidence in court is consistent with that statement. She also made notes in the medical record and in the Deceased's observation chart, which assisted her recollection and support her reliability as a witness. I observed her demeanour and found her to be a truthful witness and a professional and caring nurse.

25. Dr Hansen was not approached to make a statement in relation to the events until January 2010, once it was realised by those preparing the brief for inquest that she had had some involvement in the Deceased's care and was a relevant witness. The primary reason that her involvement was not earlier

identified was the lack of any notes made by her in the Deceased's medical file. In these circumstances, she was relying entirely upon her memory of events from one year ago.

26. Where the evidence differs between the two witnesses, I prefer the evidence of RN Kurien. In my view Dr Hansen was making a genuine attempt to give truthful evidence to this inquest, but I find her version unreliable. It appears that her evidence with respect to (i) having conducted a physical examination of the baby; and (ii) having made a plan and communicated that plan to RN Kurien, is a reconstruction based upon, to use her words, her "usual practice" (transcript p68).

27. In any event, and to her credit, Dr Hansen conceded that her review of the baby was less than thorough, and in particular conceded that she could not have reliably formed the view (as she purported to do) that the dehydration was not at a concerning level without informing herself as to the baby's weight and the baby's short bowel syndrome. I accept the submissions of Mr Murphy on her behalf that she has learnt from this incident and that in particular, she realises the importance of record keeping to the point that she is now "pedantic" about it.

28. RN Kurien started the ORS at 50mL per hour at 9pm. According to the Fluid Balance Chart, 150mL was given over 3 hours. At midnight, EN Deady gave the Deceased her usual 11pm feed through nasogastric delivery. Her hands and feet were cold. Shortly after 2:00am when he went to take her observations she was found unresponsive. RN Grant and EN Deady called a "Code Blue" and commenced CPR. Full and intensive resuscitation efforts were commenced and continued.

29. The evening shift changed to the night shift at 9:30pm. The handover between the nurses was lacking in information with respect to the plan for the Deceased's care because there was no plan in place. RN Kurien told EN Deady, who was looking after the Deceased for the night shift, that the

doctors were "yet to review [The Deceased]". RN Sporle told RN Grant (the oncoming Team Leader) that she could not tell her "what was happening with the fluids for young [baby] because the doctors had not told [her]".

30. The oncoming night registrar, Dr ArunKumar, made a statement and also gave evidence before me. She had been at RDH for one month. The first three weeks were in the Special Care Nursery and this particular night was her third night shift covering Ward 5B. She had never met the Deceased. When she was called for the Code Blue, she clearly recalls thinking "who is this baby [I am resuscitating]". RN Grant recalls asking Dr Arunkumar early on in the shift about the Deceased after she had received the limited information from RN Sporle, and Dr Arunkumar responding "I don't know what you are talking about".

31. Dr Hansen gave evidence that at handover she recalls "mentioning" the Deceased to the RMO (whose shift finished at midnight) "in front of" Dr Arunkumar, but she was "not sure if [Dr Arunkumar] heard her". The effect of this is that the Deceased was not handed over (as a patient who needed attention) from the evening shift registrar to the night shift registrar. Dr Hansen stated that she did not handover the Deceased because she did not think that she was ill.

Cause of death

32. A post mortem examination was carried out. However, Dr Sinton was unable to determine a cause of death and therefore recorded that cause as "undetermined". Dr Kilburn, Director of Maternal and Child Health, reviewed the medical notes and conducted an internal Critical Incident Review. He provided a report to the Coroner dated August 2009 in which he stated, inter alia (my emphasis):

> " I was unable to establish a definitive precipitant for Dailyna's apparent cardiorespiratory arrest. I noted she had short gut syndrome and had had some increased vomiting and loose bowel actions earlier

> that day or the previous. She had been given oral rehydration solution earlier that night to compensate for these extra losses. I also noted that she had been noted to peripherally cold earlier that night and that oxygen saturations were not able to be recorded from 22.00 onward. Subsequently on review of her notes I found weights recorded that would be consistent with significant dehydration, secondary to fluid loss. **In retrospect I think it is likely that she had significant dehydration, secondary to diarrhoea and vomiting which was under recognised and only partially corrected and underwent either a subsequent hypovolaemic cardiorespiratory arrest or a cardiac arrest secondary to electrolyte disturbance**. I also noted that the quality of documentation in our medical record was less than desirable."

33. Dr Bauert provided a report and gave evidence at the Inquest. He stated that as the consultant paediatrician covering Ward 5B he took responsibility for the documentation problems. He conceded, and I so find, that the major problem related to the cause of death was the 'error in judgment' in assessing the degree of her dehydration on the evening of 18 February.

34. My Office arranged for the file to be reviewed by Dr Ross Diplock. Dr Diplock practised as a consultant paediatrician in Darwin for many years and is now in practice in Queensland. Dr Diplock agreed with Dr Kilburn as to the probable cause of the Deceased's death. He made a number of criticisms and comments, which are fully explained in his helpful report (Exhibit 5). His major criticisms were a failure to recognise, and appropriately treat, the Deceased's dehydration, and a failure to make and/or document a treatment plan for her. He said that weight is a reliable and fundamental indicator of dehydration and there was no explanation for why the weights were not taken and/or referred to when the nursing staff raised their concerns with the medical staff. In his opinion, the administration of ORS on the 18th February was an inadequate treatment for the Deceased's condition.

35. Drs Kilburn and Bauert agreed, as I understand it, with the majority of Dr Diplock's comments and criticisms. One area in which they differed was in their assessment of the length and progression of the illness. Dr Diplock

expressed the view based solely on the medical notes (as this was all he had available to him) that her condition was serious on and from 16 February 2009. The effect of the evidence overall – from the nurses, from Ms Hicks who was present on the morning of 18 February to introduce the new foster parents to the Deceased, and from Dr Bauert who examined her on 16 February - is that the Deceased's presentation (by which I mean her demeanour and apparent state of health) remained as normal until relatively late in the day on 18 February 2009.

36. Drs Bauert and Kilburn referred to this evidence along with the documentation to support their assessment that the deterioration in the Deceased's condition commenced on the early evening of 18 February 2009. I accept their assessment in this regard.

37. Dr Bauert said that there was "no excuse" for a lack of notes of the examination and diagnosis of any patient. I agree. It not only causes difficulty at the time (when other people need to review the notes to make an assessment) but when adverse events occur, it leaves the doctors in a position of having to rely upon their recollection only, and to have that recollection challenged, questioned, and perhaps doubted, in circumstances where they have no record to refer to. It is a point I have made many times, in many inquests. I am told, as I have been told at previous inquests, that documentation and note taking is "an ongoing issue" at RDH and that there are guidelines and policies in place relating to the importance of documentation.

38. As I indicated during counsel's closing submissions in this matter, I was impressed by the proactive approach taken by the hospital to this matter. I received assistance from the two most senior and experienced paediatricians in the Northern Territory. I note that the Director of Nursing and the Director of Medical Services, RDH, were present in Court for some parts of the inquest. The shortfalls were acknowledged and addressed directly, and

Exhibit 5 contains detailed material setting out policy changes relevant to the events surrounding this death.

39. I make no recommendations.

Dated this16th day of April 2010.

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GREG CAVANAGH
TERRITORY CORONER