STATE CORONER'S COURT
OF NEW SOUTH WALES

Inquest:	Inquest into the death of Simone O'Donnell
Hearing dates:	**9 – 11 November 2020**
Date of findings:	**8 February 2021**
Place of findings:	State Coroners Court, Lidcombe
Findings of:	Magistrate J Baptie
Catchwords:	CORONIAL LAW – cause and manner of death – adequacy of medical care and treatment - cardiac telemetry monitoring – certificates under s. 61 *Coroners Act 2009* – referral under s. 82(2) *Coroners Act 2009* and s. 151A *Health Practitioner Regulation National Law (NSW) No 86a of 2009*
File number:	2016/00305308
Representation:	**Counsel Assisting the Coroner** Mr S Free S.C. instructed by Ms T Howe of the NSW Crown Solicitor's Office **Dr Anas Natfaji** Mr M Windsor S.C. instructed by Ms L Beyers and Ms C Challey of HWL Ebsworth **Dr Roshan Dhanapalaratnam** Mr S Barnes instructed by Ms L Kearney of Avant Law **South Western Sydney Local Health District and EN Ms R Dodds and RN Ms Julie Kang** Mr P Rooney instructed by Ms O Sclavenitis of McCabe Curwood **RN Ms N Mbedla** Ms B Haider, Solicitor Advocate, NSW Nurses and Midwives Association

Findings:	Section 81(1) of the *Coroners Act* 2009 requires that when an inquest is held, the coroner must record in writing his or her findings as to various aspects of the death. These are the findings of an inquest into the death of **Simone O'Donnell** **Identity** Simone O'Donnell **Date of Death** 12 October 2016 **Place of Death** Fairfield Hospital **Cause of Death** Cardiac conducting system disease, leading to asystole, against a background of a structurally abnormal heart and congenital cluster of disorders. **Manner of Death** Simone O'Donnell died in hospital whilst being monitored for a possible respiratory tract infection and placed on cardiac telemetry monitoring in response to bradycardia with a left bundle branch block and an irregular heart rate. Nursing staff on the ward failed to respond to an extended telemetry alarm sounding when Ms O'Donnell went into cardiac arrest and then asystole. She was found by nurses to be not breathing with no heart rate. The Medical Emergency Team (MET) was activated and cardiopulmonary resuscitation (CPR) commenced. On arrival of the MET, she was pale, cold with stiff limbs, fixed and dilated pupils and no spontaneous respirations. CPR was ceased and death confirmed.
Recommendations:	That Registered Nurse Nomsebenzi Mbedla and Registered Nurse Julie Kang be referred pursuant to s.82(2) of the *Coroners Act* and s. 151A of the *Health Practitioner Regulation National Law (NSW) No 86a of 2009*

IN THE CORONER'S COURT
LIDCOMBE
NSW

Section 81 Coroner's Act 2009

REASONS FOR DECISION

Introduction

1. This is an inquest into the death of Ms Simone O'Donnell on 12 October 2016 at Fairfield Hospital following her admission to the Hospital's Emergency Department on 10 October 2016.

2. Ms O'Donnell was known to suffer from a range of complex medical conditions, including cerebral palsy, hydrocephalus and a congenital spinal condition. Ms O'Donnell also had a heart condition. As an infant, Ms O'Donnell "required cardiac surgery for correction of a patent ductus arteriosus (PDA) and subsequently developed valvular degeneration with cardiac dysrhythmia in later years." At the age of seven a ventriculoperitoneal shunt had been inserted into the right side of her brain to treat obstructive hydrocephalus and to drain excess cerebral-spinal fluid from her brain. Ms O'Donnell also experienced aortic regurgitation, marked global systolic dysfunction, gallstones and asthma.

3. Dr Du Toit-Prinsloo performed an autopsy on 18 October 2016 and noted:[1]

> "Upon completion of my investigation, which includes macroscopic examination and histology, review of the radiology and neuropathology report as well as interpretation of the biochemistry and toxicology, I am of the opinion that the cause of death is unascertained at autopsy alone. Pilla et al reported on the causes of death in cerebral palsy cases in the medico-legal context. In their study, the majority of deaths were due to respiratory diseases, particularly pneumonia, followed by cardiovascular diseases including ischaemic heart disease (especially in individuals older than 40 years). The third most common cause of death was related to

[1] Autopsy report of Dr L Du Tort-Prinsloo dated 1 February 2017 at p. 4, tab 4 of the Brief of Evidence, Exhibit 2

epilepsy in patients with cerebral palsy. No features of respiratory disease or ischaemic heart disease are present at autopsy, in this case. She had already received treatment for the respiratory tract infection in hospital and no residual findings were evident with autopsy."

The issues

4. Given that the precise cause of death was not apparent at the time Ms O'Donnell died and could not be ascertained at autopsy, the direct and underlying cause of death is a primary issue which has been considered by a number of experts for the purposes of this inquest, as well as by doctors who were involved in her treatment at Fairfield Hospital.

5. The remaining focus of the inquest related to the following aspects of the care and treatment of Ms O'Donnell:

    a. whether antibiotics were prescribed for the treatment of Ms O'Donnell and, if so, whether there was a failure to administer antibiotics as prescribed. An associated question is whether any failure to prescribe or administer antibiotics contributed in any way to Ms O'Donnell's death;
    b. the adequacy of supervision of junior medical staff by the visiting medical officer responsible for the care of Ms O'Donnell;
    c. the operation of the cardiac telemetry alarm system on the ward where Ms O'Donnell was placed. An alarm was sounded when Ms O'Donnell went into cardiac arrest, but there was a considerable delay before anyone attended to treat her. The reasons for this apparent breakdown in the system on the ward were explored and the causal significance of these problems. The expert evidence suggested that hospital staff may have missed an opportunity to resuscitate Ms O'Donnell; and
    d. there were associated questions about the practices and procedures of the Hospital regarding maintenance of telemetry equipment and training in their use. There was also a question about staffing levels in the hospital and whether that played any role in the problems that seem to have been encountered on the night that Ms O'Donnell died.

6. Ms O'Donnell's father, Mr Paul O'Donnell, raised additional concerns in relation to aspects of Ms O'Donnell's care at Fairfield Hospital which were examined at inquest. These were as follows:

    a. Whether codeine prescribed to Ms O'Donnell on 6 October 2016 contributed to her death. Ms O'Donnell had a documented adverse reaction to codeine and morphine historically. It is unknown whether Ms O'Donnell ingested codeine and, if she did, whether there was an adverse or allergic reaction that contributed to her death; and

    b. Whether Ms O'Donnell had suffered a blocked shunt, and if so, would this have placed greater stress to her heart.

Background

7. Ms O'Donnell was born on 30 October 1991. From May 2016 until her death in October 2016, Ms O'Donnell was living at a house in Fairfield with her best friend and carer, Ms Tahliah Geenen and Ms Geenen's fiancé.

8. Ms O'Donnell's next of kin was her father, Mr Paul O'Donnell. Simone had one sister, Danielle and two brothers, Darren and Brendan.

9. Ms O'Donnell had a history of severe headaches. These have been described as intense, causing significant pain and lasting for several days. Between May and October 2016, Ms O'Donnell had suffered a number of severe episodes which had required Ms O'Donnell to contact an ambulance on three or four occasions.

Admission to Fairfield Hospital on 6 October 2016

10. Late on the evening of 5 October 2016, Ms Geenen contacted an ambulance owing to a severe headache which Ms O'Donnell had been experiencing for three or four days. Ms O'Donnell was admitted to the Emergency Department at Fairfield Hospital at 00.43 hours on 6 October 2016. Ms O'Donnell was examined by Dr Wen Yeow. Dr Yeow noted a recent history including a "cough and runny nose past week" and directed a chest x-ray and a CT scan be

performed.[2] Ms O'Donnell's blood test results were mostly normal and the chest x-ray disclosed no abnormalities. A CT scan report concluded that there was "no acute infarction or acute intracranial haemorrhage" shown.[3]

11. Ms O'Donnell's admission notes recorded that she suffered from an allergy to morphine but omitted to record that she had reported an allergy to codeine.[4] On a separate "Fluid Balance Chart" dated 6 October 2016 a notation recorded an allergy to both morphine and codeine.[5]

12. Ms O'Donnell was treated with Endone and discharged at around 08.00 hours on 6 October 2016. Ms O'Donnell had been provided with a script for Panadeine Forte which contains codeine. It is unclear whether this script was filled. However, there was no indication that Ms O'Donnell experienced an adverse reaction to the ingestion of codeine at this time.

13. According to Ms Geenen, Ms O'Donnell's condition deteriorated almost immediately after her discharge from hospital. As her condition did not improve during the day, Ms Geenen contacted NSW Ambulance at 18.40 hours. The ambulance officers reviewed Ms O'Donnell's discharge records and administered further pain relief.

Admission to Fairfield Hospital on 10 October 2016

14. Throughout the evening of 9 October 2016, Ms O'Donnell was vomiting and coughing up green phlegm. She continued to experience severe headaches and chest pain. As her condition had not improved by 10 October 2016, Ms Geenen called an ambulance which transported Ms O'Donnell to Fairfield Hospital, arriving at 12.51 hours.

15. At 14.06 hours, Ms O'Donnell was examined by the Emergency Department Medical Officer, Dr Thiyagarajah Srikaran. Her condition was described as:

[2] ED Case History Notes of Dr Wen Yeow dated 6 October 2016, Fairfield Hospital Records at pp. 237-238, tab 33

[3] CT Brain Report dated 6 October 2016, Fairfield Hospital Records at pp. 245-246, tab 33

[4] ED Discharge Referral summary dated 6 October 2016, Fairfield Hospital Records at p. 236, tab 33

[5] Fluid Chart dated 6 October 2016, Fairfield Hospital Records at p. 241, tab 33

"worsening chest pain with productive cough ….with yellow sputum for 10 days….cold and hot with body aches for 5/7 associated with frontal headache, episodically mild to moderate, No photophobia or vomiting, nil other neurological symptoms."[6]

16. At 18.06 hours, Dr Srikaran recorded that the observations from an electrocardiogram (ECG) showed a bradycardia with a Left Bundle Branch Block (LBBB) and an irregular heart rate of 41 – 53 beats per minute (bpm). An LBBB is an electrical conduction abnormality of the left side of the heart.

17. At 19.05 hours, Ms O'Donnell was administered Endone for her headache with some effect.

18. At 21.00 hours, Dr Srikaran arranged a CT brain scan to exclude intra-cranial pathology, chest x-ray and arranged for nasal swabs to be taken in order to rule out viral pathology for respiratory tract infection. Dr Srikaran also prescribed and administered oral and IV antibiotics to treat the suspected respiratory tract infection.[7]

Transfer from Emergency Department to Ward 1A

19. At 23.45 hours on 10 October 2016, Ms O'Donnell was admitted to Ward 1A under the care of Visiting Medical Officer Dr Anas Natfaji and placed on cardiac telemetry monitoring. Ward 1A is an acute care ward for the treatment of patients with cardiac, stroke related and respiratory issues. In October 2016, Ward 1A comprised of 30 patient beds, which were nominally divided as Beds 1 – 10, Beds 11 – 20 and Beds 21 – 30. Eight of those thirty beds were identified as "telemetry beds". The eight telemetry beds were randomly spread throughout the ward.

20. Ms O'Donnell was placed in bed 2 on Ward 1A, a telemetry bed, and attached to the cardiac telemetry monitoring system.

[6] ED Case History Notes of Dr Thiyagarajah Srikaran dated 10 October 2016, Fairfield Hospital Records, pp. 3-4, tab 33

[7] As above at note 6, and Statement of Dr Thiyagarajah Srikaran, p. 3, tab 27

Telemetry machines, relevant alarms and other issues in Ward 1A

21. Telemetry monitoring is a continuous ECG monitoring system using mobile patient units. These units are attached to a patient by electrodes and transmit patient information and alarms to three monitors within Ward 1A. The three monitoring units are placed at the main nurses' station located in front of Beds 14 – 17, the nurses' station in front of Beds 1-4 and the nurses' station located in front of Beds 27 – 30.

22. Cardiac telemetry collects and records data that allows for monitoring of a patient's heart function. It uses alarms to signal cardiac rhythms that fall outside set parameters to alert medical staff of the need for either clinical review by a medical officer or emergency medical intervention. These alarms are progressively more serious alarms.

    a. A yellow alarm registers a signal that is just outside normal parameters. An auditory alarm is also triggered, which is loud enough to be heard across the ward.

    b. A blue/green signal is for a non-medical purpose or technical issue, such as disconnected leads or a flat battery.

    c. A red alarm applies to a grossly abnormal rhythm which requires urgent attention. A red alarm is described as very loud and can be heard throughout the ward.

23. In addition to the medical triggering of an alarm, the telemetry machines would also register if there was a functional issue, such as a low battery or the detachment of electrodes. Either of these functional issues would trigger an alarm. The monitor(s) connected to the devices would display the colour yellow or blue/green; as well as a written indication of the problem and the location of the patient's bed on the screen.

24. In October 2016, there were recurrent issues with flat batteries in the patient telemetry units. The mobile units were designed to be charged by a nine volt battery. Evidence was given that three "A" type batteries were deployed in lieu

of the nine volt battery, resulting in loose connections, short battery life and associated alarms being triggered. At some time proximate to October 2016, requests were made to the Biomedical Department to source batteries from overseas.

Ward 1A on the night of 10-11 October 2016

25. At 23.50 hours, Dr Dhanapalaratnam initiated a clinical review of Ms O'Donnell, most likely because she was bradycardic, or had a slow heart rate. Dr Sasikaran Sunderalingam, Emergency Department Medical Officer conducted the review, and noted that Ms O'Donnell was not in respiratory distress, diaphoretic or afebrile and her blood pressure was 110 on 60. Her ECG identified that she was bradycardic with a pulse rate of 40 bpm, when it had previously been between 44 – 46 bpm.

26. Dr Sunderalingam had concerns in relation to Ms O'Donnell's pulse rate, despite her being otherwise stable. He discussed Ms O'Donnell with the locum High Dependency Unit Registrar, Dr Dao Hua Zhang. Dr Zhang suggested that the clinical review criteria be changed to a HR of 40 bpm or below.

27. At 9.30 hours on 11 October 2016, Ms O'Donnell was reviewed by the admitting medical team, which consisted of Dr Natfaji, Dr Dhanapalaratnam and Dr Alex Garner, an intern. The management plan remained unchanged.

28. From the available evidence, it would appear that both Dr Natfaji and Dr Dhanapalaratnam had intended that Ms O'Donnell would continue to receive the prescribed antibiotics. However, this was not charted on her notes and was not administered on any further occasions.

Ward 1A on the night of 11-12 October 2016

29. During 2016, the night shift on Ward 1A was staffed by at least two registered nurses (RN) and one enrolled nurse (EN). They were each responsible for one of the three bed divisions. An assistant in nursing (AiN) was also usually rostered for the night shift and was responsible for an area known as the "Light

House" which was a four bedded room (Beds 10 – 13) catering for patients at a high risk of falls.

30. The night shift commenced at 22.00 hours on 11 October 2016. The nurses on duty that night were EN Robyn Dodds, RN Nomsebenzi Mbedla and RN Julie Kang. RN Mbedla was the nurse in charge. The AiN was not present at the commencement of the shift and arrived at around 0030 hours on 12 October 2016. RN Mbedla allocated beds 1-10 to EN Dodds which included Ms O'Donnell in bed 2. Whilst waiting for the AiN to arrive, RN Mbedla also allocated Beds 10 -13 to EN Dodds. From 00.30 hours, the AiN Mr Osita Ezehk, took over the allocation of Beds 10 -13. RN Kang was allocated Beds 21 – 30. RN Mbedla allocated Beds 11 – 20 to herself.

31. RN Mbedla indicated that she received an overall handover for Ward 1A from RN Ryu. According to RN Mbedla, no concerns were raised by RN Ryu in relation to Ms O'Donnell. RN Mbedla then received a direct handover for the patients in Beds 11 – 20. In addition, RN Mbedla then processed three new patients into the Ward with the assistance of RN Kang. As RN Mbedla was processing the new admissions, RN Kang cared for RN Mbedla's allocated patients in Beds 11 – 20.

32. At around 01.00 hours, EN Dodds attended on Ms O'Donnell and made a progress note that she was resting quietly in bed with her eyes closed and her chest was still rising and falling. EN Dodds then attended with a ward person at around 03.00 hours to provide pressure care for Ms O'Donnell.

33. The telemetry machine produced strip records showing cardiac function when the red alarm (or high priority) sounded, signifying the need for emergency medical intervention. Strip records produced by the telemetry machine used to monitor Ms O'Donnell's indicated that she went into asystolic cardiac arrest at 04.15 hours and significant pathological rhythm changes some time before this. The strip records showed a "slow heart rate with no visible p waves and a broad QRS complex consistent with pre-existing LBBB. The heart rate is at around 37 beats per minute at 04.11:50 hours and further falls to a rate around

19 beats per minute at 04.12:07 and at 04.12:31 hours followed by a complete lack of any electrical activity at 04.15:19 hours which persists."[8]

34. EN Dodds heard the red alarm but did not respond for at least 10 minutes, if not longer, because she was assisting an elderly patient who was at high risk of falls go to the toilet. According to EN Dodds, the alarm sounded at about 04.30 hours although the strip record indicates that the alarm commenced at around 04.12 hours. None of the other nurses on the ward responded to the red alarm.[9]

35. After assisting the elderly patient, EN Dodds ran to the telemetry monitor at the central nurses' station which showed that the red alarm related to Ms O'Donnell. EN Dodds ran to Ms O'Donnell's bed and found her to be not breathing and with no heart rate. At about 04.40 to 04.45 hours EN Dodds initiated a call to the Medical Emergency Team (MET). EN Dodds was joined by RN Mbedla and RN Kang and cardiopulmonary resuscitation (CPR) was commenced.[10]

36. At about 04.47 hours, Dr Arunan Kanagasingham, Dr Shandith Tennakoon and RN Lovely of the MET arrived at Ms O'Donnell's room. Dr Kanagasingham "found her to be cold with stiff limbs. Her pupils were fixed and dilated, and the electrocardiogram indicated that Ms O'Donnell had no heartbeat and was in asystole (there was no discernible electrical activity). There was also no spontaneous respiration."[11] CPR continued for approximately five minutes without success. Ms O'Donnell was pronounced deceased at 04.53 hours.

Cause of death

37. The underlying cause of Ms O'Donnell's death could not be ascertained at the time of death or through the autopsy. I have had the benefit of reports from a

[8] Strip report, Fairfield Hospital Records, p. 49-57, tab 33; Report of Associate Professor Mark Adams dated 30 October 2019 at pp. 2-3, tab 32A of the Brief of Evidence

[9] Statement of EN Robyn Dodds dated 22 November 2017 at [32]-[35], tab 14

[10] Statement of EN Robyn Dodds dated 22 November 2017 at [36]-[38], tab 14; Progress note of EN Dodds dated 12 October 2016, Fairfield Hospital Records, p. 33, 3ab 33.

[11] Statement of Dr Arunan Kanagasingham dated 21 March 2019, tab 23; Fairfield Hospital Records, p. 34-35, tab 33

number of experts from different fields of medical specialisation. Those reports address the cause of death and associated issues with the treatment and care of Ms McDonnell.

38. Associate Professor Raftos, Senior Specialist in Emergency Medicine, St Vincent's Hospital has prepared a report which concluded that, based on the description of her condition when attended by the MET and the records on the telemetry system, Ms O'Donnell had been in cardiac arrest for up to 20 minutes before the alarm was raised.[12] He suggests three possible explanations:

    a. the telemetry system malfunctioned and did not alarm when asystole occurred;

    b. although the telemetry system did alarm when asystole occurred, nursing staff did not hear it initially; and

    c. the telemetry system did alarm when asystole occurred, but nursing staff did not respond.

39. As to the underlying cause of death, Associate Professor Raftos considered a number of possible causes, but concluded that the likely cause of death remained unclear.

40. Associate Professor Mark Adams, Head of Department of Cardiology, Royal Prince Alfred Hospital has prepared three reports for the inquest. In his first report, he concluded that the likely cause of death was cardiac conducting system disease, leading to asystole, against a background of a structurally abnormal heart and congenital cluster of disorders. Associate Professor Adams stated: [13]

    > "I think that … Ms O'Donnell's cardiac conducting system disease is related to an underlying congenital condition that may be part of an unrecognised syndrome involving her cardiac pathology (patent ductus arteriosus, impaired left ventricular function and degenerative valve disease), cerebral palsy, hydrocephalus and vertebral anomalies."

[12] Report of Associate Professor John Raftos dated 30 January 2018, tab 32

[13] Report of Associate Professor Mark Adams dated 30 October 2019 at pp. 3-4

41. Associate Professor Adam's evidence was that he believed that the deterioration in Simone's condition was provoked by the development of a viral infection, which he says is a common cause of decompensation of cardiac failure.[14]

42. Professor Gregory King, Staff Specialist and Medical Director, Respiratory Investigation Unit, Department of Respiratory Medicine at Royal North Shore Hospital has also prepared three reports for the inquest. He concluded that:[15]

> "the likely cause of death is a viral infection affecting the upper airways (nose/throat), lungs and pleura, but possibly also the heart, resulting in decreased cardiac output in the presence of underlying severe valvular, conducting system and myocardial disease, which had been longstanding and likely to have been progressive over several years. These pathological processes led to asystole."

43. Professor Michael Besser, Consultant Neurosurgeon has prepared two reports. He concluded that Ms O'Donnell died because of complications from her complex congenital cardiac disease and abnormal conducting system, precipitated by an acute viral respiratory infection.[16]

44. During these coronial proceedings, a consensus emerged between the experts, in their reports and their oral evidence, as to the cause of Ms O'Donnell's death. It appeared to be accepted by those experts that the likely cause of death was cardiac conducting system disease, leading to asystole, against a background of a structurally abnormal heart and a congenital cluster of disorders. The deterioration in Ms O'Donnell's condition was provoked by the development of a viral infection, which is a common cause of decompensation of cardiac failure.

45. There was also agreement between the experts that there was a causal connection between Ms O'Donnell's death and the care delivered by staff in relation to her cardiac monitoring.

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[14] Transcript 10/11/20 P54.04-13; First supplementary report of Associate Professor Mark Adams dated 24 April 2020 at [6.a], tab 32D

[15] Report of Professor Gregory King dated 6 January 2020 at p. 3, tab 32B

[16] Report of Professor Michael Besser dated 4 February 2020 at p. 8, tab 32C

46. Associate Professor John Raftos, Senior Specialist in Emergency Medicine, St Vincent's Hospital concluded in his report that, on the balance of probabilities, Ms O'Donnell's death would have been prevented if asystole had been detected promptly:

> "There was no evidence on post mortem examination that Ms O'Donnell had an irreversibly fatal condition. Given that the mode of her death was asystole, the death was preventable if the asystole had been detected promptly and treated with CPR and an adrenaline infusion initially, followed by detection and treatment of the cause."

47. Consistent with the view of Professor Raftos, Associate Professor Adams stated:[17]

> "The management of Ms O'Donnell's cardiac monitoring was not the cause of her death, however there is a possibility that had the monitoring alerts been attended to immediately there may be have an opportunity to intervene to prevent her death. Such intervention would probably have required temporary pacing, preferably with a temporary pacing wire as a bridge to a permanent pacemaker. …Hence whilst an earlier alert regarding Ms O'Donnell's reduction in heart rate would have offered a chance to escalate her management, given the short space of time around 4 minutes between her developing a heart rate of 37 to the development of asystole, establishing effective treatment may have been difficult…
>
> The deficiencies in cardiac monitoring meant a lost chance for resuscitation and effective treatment of Ms O'Donnell; however it is more likely than not that attempts at treatment would not have been effective."

48. Professor Besser opined:[18]

> "Although Ms O'Donnell had serious cardiac disease satisfactory detection and management of her cardiac dysrrhythmia could have resulted in a satisfactory outcome, at least in the short term. I agree with

[17] Report of Associate Professor Mark Adams dated 30 October 2019 at p. 5, tab 32A

[18] Report of Professor Michael Besser dated 4 February 2020 at p. 8, tab 32C

Professor Adams' statement that it was a 'lost chance for resuscitation and effective treatment" although he reflects that attempts at treatment were problematic."

49. The circumstances surrounding the failure of staff Ward 1A to respond to the red telemetry alarm and other the concerns relating to the care and treatment of Ms O'Donnell are the remaining issues of this inquest.

Issues as to manner of death

50. The inquest examined the manner or circumstances of death, namely the appropriateness of the care and treatment that Ms O'Donnell received at Fairfield Hospital from 10 October 2016 to 12 October 2016, particularly in relation to:

    a. the circumstances surrounding the failure to administer antibiotics as prescribed and whether this contributed to death;

    b. the adequacy of supervision of junior medical staff by the visiting medical officer responsible for the care of Ms O'Donnell;

    c. the circumstances surrounding the delay of staff in responding to the cardiac telemetry alarm and whether this contributed to death; and

    d. the adequacy of the Hospital's practices and procedures, staffing levels and training in relation to the use of cardiac telemetry.

51. These issues will be considered below.

Failure to administer antibiotics

Circumstances of failure

52. Two distinct issues arise in relation to the failure to administer antibiotics. Firstly, what circumstances led to the failure to prescribe and administer antibiotics on more than one occasion, and secondly, did this contribute to Ms O'Donnell's death.

53. According to Dr Dhanapalaratnam, following Ms O'Donnell's admission to the Hospital on 10 October 2016, he asked the referring emergency doctor, Dr

Srikaran, to chart intravenous fluids and antibiotics. This was due to her history of poor oral intake and the suggestion of a viral or bacterial respiratory tract infection.[19] Dr Natfaji also intended that Ms O'Donnell's management plan include continued treatment with IV antibiotics and cardiac monitoring for bradycardia.[20] Antibiotics were administered to Ms O'Donnell on a single occasion at 22.05 hours on 10 October 2016 while she was in the Emergency Department.[21] They were not recorded on her medication chart or administered after she was admitted to Ward 1A.

54. In oral evidence, Dr Dhanapalaratnam stated that antibiotics are intended to be part of a 10 to 14 day course of treatment and would never be given as a single dose for a respiratory tract infection.[22] He was unable to explain why antibiotics were not continued on the ward nor why the omission was not detected at the clinical review on 11 October 2016 at 9.30 hours in Ward 1A. This was conducted by Dr Natfaji, Dr Dhanapalaratnam and Dr Garner. Dr Dhanapalaratnam stated that nothing was said about antibiotics at the clinical review but that it was his understanding that antibiotic treatment was to continue.[23] He said, "None of the three doctors there picked up that the medications were not charted."[24]

55. Dr Natfaji stated in oral evidence that during the clinical review on 11 October 2016, he performed the physical examination and was talking to Ms O'Donnell. Dr Natfaji did not review the medication chart during the ward round. By way of explanation, it seems, Dr Natfaji stated that the junior doctor, Dr Garner was holding the handwritten medical record and Dr Dhanapalaratnam was available, to review the records.[25]

56. Dr Harry Doan, the Medical Director of Fairfield Hospital since 29 September 2016 provided a statement and gave oral evidence at the inquest. In his

[19] Statement of Dr Roshan Dhanapalaratnam dated 4 June 2019 at [6]-[7], tab 24; Progress note of Dr Roshan Dhanapalaratnam, Fairfield Hospital Records, pp. 25-26, tab 33

[20] Statement of Dr Anas Natfaji dated 11 November 2016 at p. 2, tab 20

[21] Fairfield Hospital records, Nursing Progress Note dated 10 October 2016, p. 27, tab 33

[22] Transcript 9/11/20, P16.40 to P17.03

[23] Transcript 9/11/20, P20.12-14

[24] Transcript 9/11/20, P20.37-39

[25] Transcript 9/11/20, P32.22-36

statement, Dr Doan stated "that the antibiotics were charted as a once only order and administered in the Emergency Department. From my review, they were not prescribed as a regular medication."[26] At the inquest, Dr Doan acknowledged that there was initially a failure to record antibiotics in the Emergency Department and then a failure to pick it up on the ward by the medical team.[27]

57. Dr Doan's evidence in relation to the manner in which a clinical review on the ward was conducted was consistent with the description of Dr Natfaji. That is the review would be conducted by a team consisting of the consultant or VMO, would normally examine the patient, the medical registrar would inform the consultant of the progress of the patient, the management plan and current investigations, and the intern would write up the plans and progress notes. The medication list would ordinarily be reviewed, to ensure that everything had been charted correctly.

58. As the doctor with overall responsibility for Ms O'Donnell, Dr Natfaji bears some responsibility for the omission to chart antibiotics for Ms O'Donnell. Dr Garner could not be held responsible given that there is no evidence from Dr Garner that prior to the clinical review he had been involved in the care of Ms O'Donnell or been privy to discussions with Dr Natfaji or Dr Dhanapalaratnam concerning the inclusion of antibiotics as part of the management plan.

59. As to what steps Fairfield Hospital has taken to ensure that medical teams review medication during daily rounds on the ward, Dr Doan said that Ms O'Donnell's case was discussed at a regular meeting between the Medical Department and other speciality departments at Fairfield Hospital. The Departments were informed that medical specialists, medical registrars and interns were to double-check medications when conducting medical rounds on the ward. A memo was sent by the head of the Medical Department informing medical staff of the requirement.[28]

[26] Statement of Dr Harry Doan dated 8 October 2020 at [18], tab 49

[27] Transcript 9/11/20, P34.35-P35.04

[28] Transcript 9/11/20, P35.06-20

Did the failure contribute to death?

60. Professors Adams, King and Besser agreed that the decision to treat Ms O'Donnell with antibiotics was appropriate and that they should have been written up as a regular medication on the medication chart. While the experts are critical of the failure to chart antibiotics as a regular medication, none considers that the failure to administer a course of antibiotics played any role in her death.

61. Associate Professor Adams stated in his report:[29]

> "I do not think that the failure to prescribe antibiotics regularly had any connection with Ms O'Donnell's death. It is very likely that her symptoms were not related to bacterial infection and the antibiotics, while a reasonable plan of treatment were not necessary. Firstly, because the symptoms may have been due to a viral infection and secondly there was no sign of lung or any other bacterial infection on autopsy."

62. When asked in oral evidence whether the failure to administer the antibiotics impacted on her health, Associate Professor Adams stated:[30]

> "I thought it probably was unlikely. The main reason being that I think the majority of infections we see such as this are viral and probably not going to respond to an antibiotic, but there are also no signs from what I could see on the medical record, that she was experiencing sepsis, that she was, didn't have an extremely high temperature or, or low blood pressure of any of the finding that, where you'd think antibiotics might be required for life saving reasons."

63. Professor King stated in his report that "the antibiotics should have been charted as a regular prescription given the initial diagnosis, chest X-ray findings and treatment in the Emergency Department". He opined that the "primary cause of death was a viral infection".[31] In oral evidence, Professor King agreed

[29] Report of Associate Professor Mark Adams dated 30 October 2019, p. 4, tab 32A

[30] Transcript 10/11/20, P56.03

[31] Report of Professor Greg King dated 6 January 2020, p. 6, tab 32B

that as it was a viral infection the provision of antibiotics would not have made any difference to Ms O'Donnell's treatment. Professor King stated:[32]

> "In the presence of chronic and severe heart disease any intercurrent infection including viral infections can have a major impact. For example, in influenza outbreaks, yearly influenza outbreaks, they still occur from influenza viral infection for example. And they would often cause death in patients suffering from severe cardiac disease or underlying lung disease. So it's a matter of poor reserve. Having very little reserve to be able to deal with what for most people is a relatively simple infection that people spontaneously would recover from. So it's the setting of a lack of any reserve to deal with infection that, that is the problem….The underlying cardiac condition."

64. Professor Besser stated in his report that given the "respiratory illness was likely viral as there was no evidence of bacterial infection at autopsy", the "failure to prescribe continuation of antibiotic therapy did not influence the clinical course of Ms O'Donnell's illness and subsequent death."[33]

65. On the evidence, the omission to chart antibiotics in the Emergency Department and, then detect the omission and continue the medication in Ward 1A may be attributed to individual errors of the doctors involved. However, given consensus amongst the experts that the failure did not contributed to death, I am not inclined to make adverse findings in respect of any the doctors. I also note that Fairfield Hospital has issued directions to its medical staff to review medications on daily ward rounds, in order prevent similar omissions occurring in the future.

Adequacy of supervision of junior medical staff

66. Professor Besser was of the view that "there was inadequate supervision and support of the junior medical staff by the consultant under whom the patient was admitted and who had overall responsibility for the care of Ms

[32] Transcript 11/11/20, P2.30-42

[33] Report of Professor Michael Besser dated 4 February 2020 at pp. 8-9, tab 32C

O'Donnell."[34] There are several aspects to this criticism of Dr Natfaji, the under whose responsibility Ms O'Donnell was admitted to Ward 1A. Professor Besser noted that although Ms O'Donnell was in an acute ward for cardiac monitoring, Dr Natfaji did not provide any guidelines for medical intervention if dysrrhythmia were to occur. The failure to prescribe a continuation of antibiotics was another aspect of the deficiency of care, which has been examined above.[35]

67. The telemetry system of yellow and red alarms corresponds to the yellow zone and red zone responses to monitoring patients with respect to calling criteria with respect to respiration and oxygen levels, blood pressure, heart rate and neurological function. The default arrangement is that a yellow alarm will trigger a yellow zone response by nursing or medical staff which consists of initiating appropriate clinical care, repeating and increasing the frequency of observations and consulting with the nurse in charge to decide whether a clinical review call should be made.[36]

68. A red alarm will trigger a red zone response in which nursing or medical staff "must call for a rapid response arm response (as per local CERS [Clinical Emergency Response System]). An additional red zone criteria is cardiac or respiratory arrest".[37] Dr Doan stated that role of doctors with regard to the telemetry arrangements are to determine the appropriate clinical settings for each patient that will initiate yellow and red telemetry alarms. By default, "between the flag" observations apply. Dr Doan's evidence was that Ms O'Donnell's observations were within normal parameters, although she had bradycardia, the calling criteria for her heart rate was reduced from 50 bpm to 40 bpm by the HDU Registrar on the early morning of 10 October 2016 and then confirmed by the medical team during the ward round at 9.30am later that morning.[38] There was no criticism from any of the experts that this adjustment of the calling criteria was inappropriate.

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[34] Report of Professor Michael Besser dated 4 February 2020 at p. 10, tab 32C

[35] Report of Professor Michael Besser dated 4 February 2020 at p. 8, tab 32C

[36] Standard Adult General Observation Chart dated 10 October 2016, Fairfield Medical Records at p. 74

[37] Standard Adult General Observation Chart dated 10 October 2016, Fairfield Medical Records at p. 74

[38] Transcript 10/11/20 at P36.28-37.05

69. In relation to the absence of guidelines for medical intervention, Associate Professor Adams stated in his supplementary report:[39]

> "I did not note any guidelines for medical intervention from Dr Natfaji in the case of arrythmia. However, I would not expect that there would be guidelines for arrhythmia treatment unless there was a decision not to offer Ms O'Donnell full medical treatment. Nevertheless, it would have been reasonable to have mentioned the plan for Ms O'Donnell if her heart rate had fallen further. For example, commencement of an infusion of isoprenaline, transfer to Liverpool Hospital for insertion of a temporary pacemaker or permanent pacemaker would be reasonable scenarios. It may also have been reasonable to not consider active treatment if this had been decided prior to this time, however in that case cardiac monitoring would have been pointless."

70. Associate Professor Adams stated that he "was unable to tell from the resources available whether Dr Natfaji provided adequate supervision of the junior medical staff. Certainly, it is concerning that antibiotic treatment was not continued as planned, and ultimately the attending medical officer is responsible for this although there may have been systems errors behind this occurring."[40]

71. In Professor King's opinion, it is not possible to determine from the available evidence whether Dr Natfaji provided adequate supervision of junior medical staff. In a second supplementary report, Professor King stated:[41]

> "Junior medical staff undertake continuous care of patients who are admitted under the senior doctor, who is primarily responsible for that care. Adequate supervision, in my opinion, means that junior doctors have senior doctors to whom they are responsible, that there is regular contact between them, and that there are clear lines of communication. In particular, senior doctors should be available to discuss any urgent matters identified by their junior doctors. Senior doctors should know the

[39] Supplementary report of Associate Professor Mark Adams dated 24 April 2020 at [2], tab 32D
[40] Supplementary report of Associate Professor Mark Adams dated 24 April 2020 at [3], tab 32D
[41] Supplementary report of Professor Gregory King dated 30 April 2020 at p. 2, tab 32C

strengths and limitations of the juniors under their supervision and adjust their supervision accordingly.

It is my opinion that supervision is best achieved in a 'team care' arrangement (usually made of several senior and junior doctors). This is typical of teaching hospitals. However, 'ward base care' is also very common, where junior doctors care for all patients in a ward and communicate with the senior doctors as necessary. This may occur in private hospitals and is the after hours arrangement in almost all hospitals. Supervision may also include professional development, behaviour, documentation in the medical record, quality of discharge letters etc.

During the final admission, the documentation from Dr Natfaji's ward round was somewhat sparse. As Professor Besser points out, there was no entry regarding the cardiac status and monitoring, or the cause of the headaches where fundoscopy should have been performed. I suspect that Professor Besser is referring to this sparse documentation of that ward round (see last paragraph, page 4 of his report) and the non-charting of antibiotics. It is not possible to determine from any of the documentation provided, whether those assessments were done and not recorded, or whether they were not done at all. Therefore, with respect to supervision, I can't determine that supervision was inadequate."

72. As to whether Dr Natfaji failed to provide any guidelines for medical intervention, the evidence at inquest was that default guidelines regarding cardiac telemetry monitoring systems applied. In oral evidence, Professor Besser acknowledged that these default arrangements applied so that the telemetry alarms were set to sound if Ms O'Donnell's heartbeat dropped below a certain level for a yellow alarm, triggering a clinical review, and then the occurrence certain events triggering a red alarm, such as cardiac arrest. This would lead to an urgent medical review and then, in some circumstances such cardiac arrest, a MET call would be initiated. In Ms O'Donnell's case, the HDU Registrar modified the calling criteria so that a yellow alarm would be triggered if her heartbeat fell below 40 bpm. It is more likely than not that the red alarm

commenced at least when Ms O'Donnell went into asystole at 04.15 hours if not earlier.

73. In oral evidence, Professor Besser stated that the general guidelines for clinical review were "adequate and my conclusions were, based on the dysrhythmias that occurred and her cardiac congenital abnormalities and her other heart problems that Professor Adams has outlined."[42]

74. Having regard to Professor Besser's concessions regarding the guidelines for medical intervention and noting the views of Professors King and Adams that it is not possible to determine the adequacy of supervision of medical staff on the evidence, I am inclined to not make any adverse findings against Dr Natfaji on this issue.

Admission to Fairfield Hospital

75. Professor Besser also considered that the decision to admit Ms O'Donnell at Fairfield Hospital was problematic. In his report, he opined:[43]

> "Apart from cardiopulmonary resuscitation (CPR) and intravenous adrenalin Fairfield Hospital is not able to provide interventions such as temporary wire pacing or insertion of a permanent pacemaker for complex cardiac rhythm disorders. In retrospect, cardiac monitoring in a patient with complex heart pathology such as Ms O'Donnell would have been better treated in a tertiary hospital."

76. However, in his oral evidence, Professor Besser stated that this was a retrospective view made with the benefit of Ms O'Donnell's full medical records that were not available to medical staff at the time of admission.[44] Professor Adams also stated in his report "I agree that in retrospect it may have been desirable to manage Ms O'Donnell in a tertiary hospital where there might have been better monitoring and more rapid access to cardiac pacing."[45]

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[42] Transcript 10/11/20, P65.09-11

[43] Report of Professor Michael Besser dated 4 February 2020 at p. 8, tab 32C

[44] Transcript 10/11/20, P63.47-64.07

[45] Supplementary report of Associate Professor Mark Adams dated 24 April 2020, p. 3, tab 32D

77. In oral evidence, Dr Doan stated that Fairfield Hospital is linked to Liverpool Hospital, its tertiary referral hospital. If medical teams and consultants consider it appropriate to seek speciality treatment that cannot be provided at Fairfield, a patient may be transferred to Liverpool Hospital. Dr Doan stated that when Ms O'Donnell was admitted on 10 October 2016, she was treated for a respiratory infection and based on the CT brain scan, ECG and blood test results, it was considered appropriate to admit her to Fairfield Hospital and there was no reason to transfer her to another hospital. However, the possibility of transfer remained should her condition deteriorate, or treatment required that was not available at Fairfield Hospital.[46] The evidence of Dr Natfaji and Dr Dhanapalaratnam was also that it was appropriate to admit Ms O'Donnell to Fairfield Hospital.

78. Dr Doan also stated that it was appropriate for Ms O'Donnell to be admitted in Ward 1A for monitoring due to her bradycardia. While an ECG indicated that she had LBBB, Ms O'Donnell otherwise had normal blood pressure and oxygen saturation. Dr Doan noted that more high risk patients, such as those who have had a heart attack, have abnormal rhythms or low blood pressure, are monitored in Fairfield Hospital's Coronary Care Unit.[47]

79. Based on the evidence, I find that it was appropriate to admit Ms O'Donnell to Fairfield Hospital on 10 October 2016, based on her presentation and the results of investigations conducted.

Concerns raised by family

80. Ms O'Donnell's family raised several concerns in relation to her care at Fairfield Hospital that may have contributed to her death. The concerns include whether the prescription of codeine to which Ms O'Donnell had an allergy and a failure to detect a blocked shunt contributed to death.

Codeine

81. Ms O'Donnell was prescribed Panadeine Forte, which contains codeine, during her earlier admission to Fairfield Hospital on 6 October 2016. Ms O'Donnell is

[46] Transcript 10/11/20, P35.45-36.13

[47] Transcript 10/11/20, P40.35-41.02

recorded as having an allergy to codeine and morphine by the ambulance officer. Mr O'Donnell considered that this may have contributed to her deterioration. There is no evidence that Ms O'Donnell took the codeine and the expert medical evidence effectively excluded that codeine played any role in her death. Associate Professor Adams stated that taking codeine four or five days earlier is unlikely to have and any impact

> "…because of the time period, most allergic responses you'll see pretty quickly and the second thing is if there'd been an allergic reaction that had been part of the fatal event I would have expected to see changes at autopsy such as mucosal swelling and things around, around the airways.
>
> And no there's a couple of other issues too, one is that it's unusual to see actual allergies to codeine. We often see side effects which people often will call allergies, and some of these things are pretty common such as you know a dry mouth or perhaps a[n] altered mental state, feeling a bit funny, constipation is another common one. So I, it's hard to know some people get nausea and vomiting as well. So I think you'd have to tease out whether it was truly an allergic response, but even if it was I, I think it's highly unlikely to have played a part." [48]

82. Professor King stated:[49]

> "… so the allergy to codeine can come in many forms. The most common would be mostly intolerance, nausea the common actually known side effects of codeine or dysphoria for instance and patients often report that as an allergy. And it can then range all the way to life threatening allergy which occurs immediately on ingestion and it can take the form of anaphylaxis where there's a sudden inflammatory reaction, the blood pressure drops, swelling may occur in the upper airway and a rash might occur as well. And anything in between. So if there was a serious allergy to codeine it would - I would expect it to be

[48] Transcript 10/11/20, P55.35-55.48

[49] Transcript 11/11/20, P03.09-03.19

manifest upon very, very soon after ingestion, within minutes. And I would expect that to be picked up the nursing staff if they had given it."

83. Professor King also stated that there was no evidence in Ms O'Donnell's medical records, including the post-mortem, to indicate that she had an allergic reaction to codeine.[50]

Blocked shunt

84. Mr O'Donnell raised concerns that Ms O'Donnell had a blocked shunt that the medical team failed to detect, which caused a lower heart rate and put stress on the heart. During each of her admissions to Fairfield Hospital on 6 November 2016 and 10 November 2016, Ms O'Donnell had CT brain scans to investigate signs of neuropathology. The evidence of Dr Dhanapalaratnam was that Ms O'Donnell was stable in that there no change between the two CT scans. Both scans showed no sign of raised intracranial pressure and indicated that the shunt was still in situ. Neither CT scan showed evidence that the shunt was blocked.[51] Dr Natfaji's evidence was that the two CT scans showed the shunt to be in position and had no evidence of worsening hydrocephalus from fluid building up in the brain or increased intracranial pressure in the intervening four day period. Nor was were there any symptoms of an acute or deteriorating neurological condition.[52]

85. Neurosurgeon Professor Besser was of the opinion that Ms O'Donnell was not suffering from a blocked shunt in the usual sense but rather a condition known as slit ventricle syndrome, which affects patients with a lifelong diversionary shunt system. Professor Besser stated that the autopsy showed that Ms O'Donnell had periventricular gliosis, a type of scarring and rigidity in the ventricles, spaces or cavities within the brain filled with cerebrospinal fluids ("CSF") the brain. Slit ventricle syndrome is a condition in which the ventricles will not expand when CSF accumulates and causes raised pressure within thebrain. The syndrome is not easily detected on a CT scan but can result in

[50] Transcript 11/11/20, P03.21-03.24

[51] Transcript 9/11/20, P15.40-16.01 and P24.25-P25.39

[52] Transcript 9/11/20, P32.03-32.14

severe intermittent headaches and vomiting with an altered mental state, symptoms which Ms O'Donnell appeared to have.

86. Professor Besser did not consider slit ventricle syndrome to be a factor in Ms O'Donnell's death. Professor Besser opined:

> "I've stated in my report that this was not the direct cause of her death and although her brain was swollen at autopsy there was no coning as such, that is there was no agonal event from raised intracranial pressure. She did have raised intracranial pressure, but her cause of death was on a cardiac basis."[53]

87. Dr Natfaji acknowledged that he was unfamiliar with the syndrome.[54] Professor Besser acknowledged that it remains a relatively little known syndrome that people outside the field of neurosurgery with a low level of recognition amongst radiologists and clinicians.[55]

85 Based on the medical evidence, I conclude that Ms O'Donnell did not have a blocked shunt but slit ventricle syndrome and that this was not a cause of death. I make no finding in relation to the failure of medical staff to diagnose or treat the condition.

88. The most fundamental concern raised by Ms O'Donnell's father is the failure of staff on the ward to respond to an alert signalling a medical emergency. The family's concern is well warranted. It is very troubling to have a situation where a patient is admitted into care in a well-equipped hospital, placed on cardiac monitoring, the cardiac monitoring equipment works precisely as intended and detects a life threatening failure in cardiac function – alarms sound – and staff do not respond in an appropriate manner.

Delayed response to telemetry alarm

89. The telemetry strip report for Ms O'Donnell, which was generated when the alarm was triggered, indicated the following:

[53] Transcript 10/11/20, P64.44
[54] Transcript 9/11/20, P34.15
[55] Transcript 10/11/20, P62.22-63.50

a. A heart rate of 37 bpm at 04.11:50 hours;

b. A heart rate of 19 bpm at 04.12:07 and 04.12.31 hours;

c. Asystole and a complete lack of any electrical activity at 04.15:19, which persists.[56]

90. Ms O'Donnell's criteria for clinical review were adjusted to a heart rate of 40 bpm (yellow zone and alarm) and rapid response for a heart rate of 35 bpm (red zone and alarm) on the night of 10/11 October 2016 after consultation with Dr Zhang, the HDU Registrar. If the telemetry system was operating, the yellow alarm would have triggered at about 04.11 hours when the heart rate fell to 37 bpm, and the red alarm at 04.12 hours when the heart rate fell to 19 bpm. At about 04.40 or 04.45 hours, about 30 minutes after Ms O'Donnell went into cardiac arrest, EN Dodds attended Ms O'Donnell in response to the red telemetry alarm and activated the MET call, at which time RN Kang and RN Mbedla attended Ms O'Donnell and CPR commenced. The MET Team find Ms O'Donnell to be dead and already cold, her limbs stiff, and CPR is abandoned.

91. The effectiveness of the cardiac telemetry monitoring system depends firstly, on the equipment operating properly, and the secondly, nursing staff responding appropriately to the telemetry alarms. As noted by Associate Professor Raftos, there can only be three explanations for the nurses' failure to respond to Ms O'Donnell's medical emergency: either the telemetry alarm did not trigger, the alarm triggered but was not heard by staff, or staff heard the alarm but not respond in an appropriate manner.

Whether a failure of the telemetry machine

92. The evidence demonstrated that the telemetry equipment was set up on Ward 1A in a way that should have been effective to allow monitoring of patients and detect life threatening. Technical issues did arise from time to time that impeded the effectiveness of the monitoring. Three types of technical issues were experienced in Ward 1A.

93. The first was that electrodes connecting the unit to the patient could become disconnected or there could be a problem with that connection where picking

[56] Strip report, Fairfield Hospital Records, p. 49-57, tab 33; Report of Associate Professor Mark Adams dated 30 October 2019 at pp. 2-3, tab 32A of the Brief of Evidence

up static from the patient's muscles or other parts of the body, resulting in interference or strange read outs. In both cases, an alarm would be triggered, and it would appear on one of three telemetry monitors at nurses' stations as a blue-green signal against a patient. The protocol was for a nurse to attend to the patient to rectify the problem.[57]

94. An example of this occurred on the night of 10/11 October 2016 at about 00.30 hours, when EN Dodds noticed that some minor interference with Ms O'Donnell's telemetry machine, resulting in an abnormal reading. EN Dodds changed the stickers attaching the electrodes and leads of the telemetry machine to Ms O'Donnell and there was no further interference or abnormal readings that evening.[58]

95. The second technical issue affecting the telemetry system in Ward 1A was battery failure on the individual patient units. There was a recurrent issue with batteries on the units going flat and needing to be replaced. This was exacerbated by makeshift batteries and an ad hoc replacement process. On 11/12 October 2016, it is possible to discount this as a factor in the failure of the telemetry system. As is evidenced by the alarm sounding and the production of the telemetry strip report, the equipment was operating as it should.

96. A matter of indirect relevance is that the frequency of alarms due to flat batteries may have contributed to a problem of alarm fatigue, in which staff were not responsive to alarms due to them being an indication of technical issues, rather than an alert as to the deterioration of a patient.

97. The third technical issue affecting the telemetry system was isolated instances in which the monitors at the nurses' stations were not working. This happened on 11/12 October 2016 with the monitor that was attached to beds 1 to 4 under EN Dodds watch. However, this did not affect the sounding of the alarm and can be discounted as a factor that led to the failure of an appropriate response to Ms O'Donnell's red alarm. If this factor was apt to affect anyone, it would have been EN Dodds and she heard the alarm.

[57] Statement of Robyn Dodds dated 22 November 2017 at [10], tab 14; Transcript 9/11/20, T48:45-49.21

[58] Statement of Robyn Dodds dated 22 November 2017 at [16], tab 14; Transcript 9/11/20, T53:07-49.21

98. There is no suggestion of any other technical issue of the kind that would involve the telemetry equipment picking up abnormal range rhythms, including cardiac arrest, but failing to alarm. It is possible on the evidence to eliminate technical issues as a cause for the delayed response to the red alarm for Ms O'Donnell.

Whether failure in staff response

99. As stated earlier, the night shift nurses on Ward 1A on the night of 11/12 October 2016 were EN Dodds, RN Mbedla and RN Kang. RN Mbedla was the nurse in charge of Ward 1A. EN Dodds was allocated direct responsibility for beds 1-10, but there was no suggestion by any of the nurses that EN Dodds had sole responsibility for responding to telemetry alarms that sounded in relation to those beds. Each of the EN Dodds, RN Mbedla and RN Kang accepted that there was a need to respond to a red alarm anywhere on the ward.

100. During the night shift on 11/12 October 2016, the AiN arrived late, complicating the work of the nurses until around 00.30 hours. It meant that EN Dodds had to be stationed in the Lighthouse Room, which was the role of the AIN. However, this had no apparent impact on what was happening at around 04.00 hours. According to the nurses, it was a busy night on the ward.

101. EN Dodds saw Ms O'Donnell at 01.00 hours - was "resting quietly in bed, eyes closed. Chest is rising and falling". At 03.00 hours EN Dodds attended Ms O'Donnell with a wards man to provide pressure care and to change her incontinence pads. EN Dodds said at that time telemetry equipment was still connected.

102. On the evidence of RN Kang and RN Mbedla, it can be found that yellow alarms sounded at least once and probably twice in relation to Ms O'Donnell:

    a. An incident at around 03.30 hours where RN Mbedla saw "leads off" and both RN Mbedla and RN Kang asked EN Dodds to check on Ms O'Donnell;

    b. The second incident described in statement of RN Kang was where she asked EN Dodds to check on Ms O'Donnell; and

c. EN Dodds could not recall these incidents but it can be accepted that they occurred.

103. Scott McGrath, the Director of Nursing and Midwifery Services described a change in culture on Ward 1A and in hospital as a whole. From this, it can be inferred that there was a history of poor response to alarms. This may have been a contributing factor on the night of 11th, but the evidence about precisely what occurred and why is limited. Of the three witnesses, RN Mbedla and RN Kang have not directly accepted that they definitely heard the red alarm, so we do not have the benefit of an explanation as to why they did not respond.

104. It can be found that the red alarm sounded in relation to Ms O'Donnell.

a. The equipment was set up to alarm when heartbeat went outside parameters – a yellow alarm if the heart rate fell below 40 bpm and a red alarm if it fell below 35 bpm;

b. The heartbeat was very clearly outside those parameters from around 4.12 hours and ceased at 04.15 hours;

c. The telemetry system generated strip records from 04.11 hours and t this itself signifies alarm mode;

d. Dr Dhanapalaratnam's evidence is that strip records demonstrate system was alarming; and

e. EN Dodds gives evidence that red alarm was sounding

105. EN Dodds, RN Mbedla and RN Kang all accepted that red alarm could be heard across the ward, even with doors closed. This raises the question of what then were the nurses doing.

<u>RN Sylvana Boustos</u>

106. RN Sylvana Boustos was the afterhours Nursing Manager at Fairfield Hospital. RN Boustos had been in that role since 2013. RN Boustos provided a statement dated 22 May 2019 in these proceedings.

107. In evidence, RN Boustos confirmed that Ward 1A had eight telemetry machines in operation on the evening of 11 October 2016. RN Boustos confirmed that

she was not aware that any of these telemetry machines had not been functioning properly during 2016.

108. RN Boustos appeared to confirm that there were some issues at times with the machines, “but the escalation was made and it was - it- troubleshooted and we contacted the right people that had to be contacted.”[59] RN Boustos indicated that issues with the batteries were not escalated to her. RN Boustos also confirmed that she had not been trained in the operation of telemetry equipment.

109. RN Boustos agreed that she had spoken with RN Mbedla about the AiN who was rostered for duty for the night shift but had not arrived. RN Boustos confirmed that Mr Ezeh, the AiN, accompanied her to Ward 1A at around 0030 hours on 12 October 2016.

110. RN Boustos originally believed that Mr Ezeh was running late, however, agreed that he was not originally rostered for that shift and was a late replacement, after being shown the Ward roster book, which was tendered as Exhibit 3 during these proceedings.

111. RN Boustos stated that the ward did not appear to suffer any disruption, owing to the lateness of the AiN. RN Boustos eventually agreed that the non-appearance of the AiN would have had an impact on the running of the ward as a staffing issue.

<u>EN Robyn Dodds</u>

112. EN Dodds sought, and was granted, a certificate pursuant to s. 61 of the *Coroners Act* relating to evidence touching on her delayed response to Ms O’Donnell’s red telemetry alarm; as well as her knowledge that the malfunctioning monitor/machine.

113. EN Dodds qualified as an enrolled nurse in 1978. She had been employed continuously at Fairfield Hospital since 2004 in Ward 1A. EN Dodds had received telemetry training in 2007.

[59] Transcript 9/11/20 P38.08

114. EN Dodds confirmed that she commenced her night shift duties on 11 October 2016 at 22.00 hours, shortly before the RN Mbedla. She had been allocated the care of the patients in Beds 1 – 10, with Ms O'Donnell in Bed 2. Ms O'Donnell was the only patient in those beds attached to telemetry equipment. EN Dodds recalled doing an initial assessment of her patients and speaking with Ms O'Donnell who was complaining of a "horrible, horrible, horrible headache so I told the RN and they organised pain relief for her and when I checked on her again a little later on she was sleeping, so yeah, she was okay".[60]

115. In addition, EN Dodds was tasked with the care of the patients in Beds 10 – 13, known as the Light House room, owing to the late arrival of the AiN. EN Dodds stated "up until 1am I was nearly all the time in the observation room and I'd just come out now and again just to do a quick run-around check of my patients and Julie or Benzi would just stand at the door and watch the patients from 1 (sic) to 13 while I had a quick look, yes". [61]

116. EN Dodds gave evidence that she did not recall yellow alarms being activated frequently during the night shift. EN Dodds did not recall Ms O'Donnell's telemetry alarm being triggered or the monitor registering that her leads were off and stated that "She was sleeping quite soundly."[62]

117. EN Dodds did not recall being asked by RN Kang and RN Mbedla to check on Ms O'Donnell as "they were busy admitting new patients and also caring for a very confused and high risk of falls patient in Bed 17." Similarly, EN Dodds did not recall being told by RN Mbedla at around 03.30 hours that the monitor was showing leads off for Ms O'Donnell. EN Dodds stated that she did not recall having many conversations with the others that shift as she was "very, very busy so I just sort of went about my duties."[63] EN Dodds recalled seeing Ms O'Donnell at around 03.00 hours, in the company of a wards man. Ms

[60] Transcript 9/11/20 P54.10
[61] Transcript 9/11/20 P54.16
[62] Transcript 9/11/20 P54.47
[63] Transcript 9/11/20 P55.21

O'Donnell's blood pressure and other observations were within acceptable limits, or "within the flags".[64]

118. EN Dodds described hearing a red alarm whilst she was in the room next to Ms O'Donnell's room, attending to a patient in Bed 8. EN Dodds described the patient in Bed 8 as sitting on the edge of his bed in preparation to be assisted to the bathroom. EN Dodds suggested that he use a urinal bottle, which was declined. She described him as being very unsteady on his feet and if she had put him back into bed to attend to the red alarm, it was her view that "He would have just climbed straight out of the bed and taken himself to the toilet like these patients are quite demented as well so they don't really have the idea of safety so they would put themselves at risk…..what do I do if he falls and fractures his skull."[65]

119. EN Dodds stated that she did not call out to any of the other nursing staff as the alarms were "very audible. You can hear them everywhere."[66] EN Dodds also indicated that the "telemetry monitor at my nurses station wasn't working so I couldn't just look out the toilet door or something to have a look to see what patient it was because my monitor wasn't working."[67] She confirmed that the screen on the monitor was blank. EN Dodds confirmed that she had reported the monitor malfunction to "Adelina" and was told that the monitor had been turned off and then on again and working during her next shift.

120. EN Dodds estimated that around ten minutes passed before she was able to leave the patient in Bed 8 and "The MET alarm is in the patient's room. I – see, because my monitor wasn't working I had to run down to the main nurses' desk to see who – who was alarming before I could do anything about it and then I went back."[68] EN Dodds denied that the red alarm had been sounding for 40 minutes and reviewed her time estimation to suggest a time in the vicinity of 15 minutes.

[64] Transcript 9/11/20 P58.48
[65] Transcript 9/11/20 P56.20
[66] Transcript 9/11/20 P56.31
[67] Transcript 9/11/20 P56.48
[68] Transcript 9/11/20 P57.48

121. It can be found that EN Dodds heard the alarm but did not respond helping a patient and thought that other nurses would respond. EN Dodds' evidence in relation to times is at variance with the objective evidence of the period that the alarm sounded. This may be as a result of be underestimating the amount of time she was with the elderly patient. She estimated about 10 minutes, accepted in questioning that could have been longer. Objective telemetry records suggest that the red alarm sounded for at least 20-25 minutes.

122. Mr McGrath said that it should have been more appropriate to have put the patient back in bed but EN Dodds thought the Ms O'Donnell's red alarm was being attended to. EN Dodds stated that the red alarm would be audible if you were working in one of the isolation rooms with the door closed, and that it was not common nursing practice to shut the door on those ward rooms. She unfortunately failed to call out or seek any confirmation that anyone else would in fact attend to red alarm.

RN Nomsebenzi Mbedla

123. RN Mbedla sought, and was granted, a certificate pursuant to s. 61 of the *Coroners Act* relating to evidence touching on any act or omission relating to the monitoring and her response to the telemetry alarms; as well as, any act or omission relating to the delegation or supervision of staff as nurse-in-charge.

124. RN Mbedla was registered as a nurse in South Africa in 1999 and had commenced work at Fairfield Hospital in 2005 in Ward 1A. She received her telemetry machine training in 2007.

125. RN Mbedla agreed that the yellow and red alarms could be heard across the ward when activated. RN Mbedla suggested that as the monitor was not working "at that time so if we are on that side 1 to 10 you might not hear, because the viewing screen was not working at that time."[69] RN Mbedla confirmed that there were also ongoing issues with the nine volt batteries, which had been substituted with three AAA type batteries. These did not fit properly, nor did they have the same capacity as that of the 9 volt battery and were causing the machines to alarm more frequently.

[69] Transcript 10/11/20 P19.25,

126. RN Mbedla confirmed that the AiN had not appeared at the commencement of the night shift on 11 October 2016, and that this was raised with Ms Boustos, the Nursing Night Manager.

127. RN Mbedla agreed that staff were permitted to take personal breaks "but we couldn't because of the condition of the ward….because of the, acuity of our patients and we were so busy that it was so hard for us to even drink. To have anything to drink the way it was busy that night."[70] RN Mbedla stated that as far as she was aware, none of the staff left the ward that shift for a toilet break.

128. RN Mbedla confirmed that there were frequent yellow alarms that evening. She recalled that at around 03.00 hours, during a period when she was dealing with a difficult patient, she heard a yellow alarm and saw the telemetry monitor indicating that it was a "leads off" alarm and she asked EN Dodds to check on that patient, (being Ms O'Donnell), to which EN Dodds responded, "They usually come off, they did the same thing last night as well."[71] RN Mbedla confirmed that this was the only occasion that night that she was aware of Ms O'Donnell's alarm activating. RN Mbedla stated that it was usually quiet on the ward at night and that the staff could speak with each other, rather than raise their voices to be heard.

129. RN Mbedla denied that she had heard any red alarm that evening. She stated that immediately after attending to the patient in Bed 17, she had to attend to a patient in Bed 15. Bed 15 is located in an isolation room. She donned personal protection equipment and shut the door of the room as the patient was screaming very loudly. She accepted that if the patient had not been screaming but the door to the room was closed, that it was likely that she would have heard a red alarm. She estimated that she had been attending to this patient between 03.00 and 04.00 hours.

130. RN Mbedla agreed that her statement indicated that she was discarding soiled linen when she heard the MET call. She confirmed that she discarded the linen in the room labelled 'dirty utility' on Exhibit 4, a map of Ward 1A. Inferentially,

[70] Transcript 10/11/20 P23.38

[71] Transcript 10/11/20 P24.47

RN Mbedla must have been outside of the room containing Bed 15 prior to the activation of the MET alarm, but maintains that she did not hear the preceding red alarm at any time.

131. RN Mbedla acknowledged receiving training in relation to 'alarm fatigue'. She stated that "I am very sensitive to alarms. When an alarm is going off, whether it's "Leads off" or whatever I just jump straight away to check my patient….if I'm in charge there's an alarm going on I attend to the alarm, even if it's not my patient.""[72]

132. In relation to staffing levels in Ward 1A, RN Mbedla stated that "the skill mix was bad I tell you, because it was two registered nurses which meant that there's two registered, now which is Ms Julie and myself. We are responsible of 30 bedded ward which is a very big load. For two RNs to be responsible for 30 patients. And on top, if the skill mix is bad that means with what Robyn is looking after ten patients and we have to divide Robyn's patients, who's an EN, between two of us, that means we are delaying the patient care. If that patient on Robyn's side needs urgent care Robyn has to. Take time trying to find me, I'm busy with my staff, to tell me this patient so and so needs help. If it was an RN located on that. Patient, the patient, that patient would get prompt care."[73] She confirmed that subsequently there have been times when three RNs have been rostered on night shift and "the workload becomes easy. And the patient they get prompt care, because there's an RN looking after the patient."[74]

133. RN Mbedla was asked hypothetically what she would do if she was confronted with a situation where she was engaged with a patient that she was unable to leave and a red alarm was triggered. Her response was that her only option would be to place a MET call because "we're trying to save the patient's life. I don't see any other option at that stage, because if there's not enough staff there's no-one to attend."[75]

[72] Transcript 10/11/20 P31.49
[73] Transcript 10/11/20 P32.05
[74] Transcript 10/11/20 P32.31
[75] Transcript 10/11/20 P32.50

134. In summary, RN Mbedla gave evidence that she was busy in the period up until she heard the MET call attending to a difficult patient in Bed 15. The door was shut, and the patient was screaming. RN Mbedla denies hearing the red alarm. However, given that the red alarm was sounding for at least 20-25 minutes, then I conclude that it is inherently unlikely that it was so noisy that RN Mbedla did not hear the alarm at any point through that period.

RN Julie Kang

135. RN Kang sought, and was granted, a certificate pursuant to s. 61 of the *Coroners Act* relating to evidence touching on her knowledge of telemetry alarms sounding in the ward that evening and what steps she took to ensure that either EN Dodds, or any other nursing staff responded appropriately.

136. RN Kang had commenced working at Fairfield Hospital in 2009 and had almost exclusively worked on Ward 1A. In her statement, RN Kang confirmed that she had received training in the use and operation of telemetry equipment.[76]

137. RN Kang recalled that there were a number of yellow alarms activating on the night shift, commencing on 11 October 2016. RN Kang was asked to indicate the number of yellow alarms but was non-responsive to that question. RN Kang gave evidence that the patient in Bed 17 was difficult to deal with, being aggressive and abusive. In addition, RN Kang stated that both RN Mbedla and herself were dealing with 2 or 3 fresh admissions to the ward (which included the patient in Bed 17), up until around 03.00 hours.

138. RN Kang was asked if the three ward monitors were functioning on the night shift. She stated "But I realised that Robyn said that that one is not working or that but I didn't know that things is that time is that one is not working I didn't know that …"[77]

139. RN Kang recalled calling out to EN Dodds to respond to a yellow alarm in relation to Ms O'Donnell. In her statement she stated that this was at the time that both RN Mbedla and herself were dealing with the fresh admissions and

[76] Statement of RN Julie Kang dated 3 June 2019, tab 30

[77] Transcript 9/11/20 P76.01

the patient in Bed 17. RN Kang was unable to clarify if there was a separate occasion where she called out to EN Dodds to attend to a yellow alarm. It was suggested to RN Kang that she must have looked at one of the monitors prior to asking EN Dodds to attend on Ms O'Donnell, as the monitor would be the only source of that information. RN Kang's responded "Usually the tenth and 11th night the – especially is the Simone's telemetry machine is usually alarming so – but at this time this one's like this maybe the serious symptom I should run to go there but I just talking to the – "Robyn can you check the patient" that means maybe like seriously red, red zone. Otherwise if red zone is more seriously straight away go there but I didn't go there I just did the – I don't know what time is when how many times to the Robyn is checking the patient, I don't know what time is doing that but I did and Benzi also did".[78] Subsequently, RN Kang agreed that there were two occasions that she had asked EN Dodds to check on Ms O'Donnell, once being at around 00.30 hours when she was dealing with the new admissions and the other being a "bit later", possibly before 3.30 hours.

140. RN Kang stated that she had been viewing the monitor at the main nurses' desk, at the time that she had called out to EN Dodds in relation to the yellow alarm. RN Kang also stated that at around 3.30 hours the ward was less busy, and she was positioned at the nurses' desk outside Beds 27 – 30. She stated "Red alarming, red alarming. 3.30, 3.30 I couldn't hear. I remember that I couldn't hear any sound around that desk, yeah. Anywhere around because of that time is a little bit quiet. I remember that I'm sitting down and writing a note an then ten or 15 minutes later I heard the - that MET call sound."[79]

141. RN Kang stated that "Maybe at that time I'm sitting in the – my – the own patients is that thing so I didn't see this kind of screen. When I run to bed two is after the MET call sound I ran there, yeah, around the 4 o'clock, yeah."[80] RN Kang gave no explanation how she had become aware that it was the patient in Bed 2, ie. Ms O'Donnell that was the subject of the MET alarm, unless of

[78] Transcript 9/11/20 P73.44
[79] Transcript 9/11/20 P79.41
[80] Transcript 9/11/20 P79.34

course she was told by other staff, or had seen the alarm register on her monitor.

142. RN Kang accepted on the second day of her evidence that "Any yellow alarm, red alarm, need to straight away checking the monitor first and then checking the patient. That's the responsibility of the night duty, all nurses, yeah."[81] RN Kang stated "Yesterday I said it like this, around the 3.30 and before 3.30, around that time is adjusted the – I couldn't hear the yellow alarming or red alarming, no because the, around the, after the, said to Robyn to check the patient and then I do my pressure care and do my things and then after that maybe I was busy or I'm doing that thing and then I heard the MET call sound."[82]

143. On the second day of her evidence, RN Kang was asked about her recollection as to whether one of the alarms she heard was a 'leads off' alarm for Ms O'Donnell. Her response is recorded as "That one I'm not so sure, because the, I didn't check the lead off tor that one so I'm not sure. Maybe the, that time is adjusted Benzi – because in the middle of the section is it near the main screen, Benzi walking there, maybe the Benzi saw that thing he (sic) said, I call out to "Robyn, can you check the lead off or not?" But I don't remember talk to Robyn. To check the lead, I didn't, yeah."[83]

144. A floor plan of Ward 1A was exhibited to RN Kang. RN Kang marked the floor plan, indicating her location; as well as the location of the three telemetry monitors. This plan became Exhibit 4.

145. RN Kang agreed that she had been present in the ward from around 3.30 am until the MET alarm sounded at 4.40am, with the exception of leaving the ward to go to the bathroom. However, this appeared to be a recent invention and she was unable to indicate the time that she had left the ward. RN Kang accepted that the red alarm was loud and could be heard throughout the ward. She was asked if she accepted that she would have heard the red alarm if she had been

[81] Transcript 10/11/20 P5.06
[82] Transcript 10/11/20 P6.09
[83] Transcript 10/11/20 P6.39

on the ward and responded “Red alarming, red alarming. I don’t know that one, because the if red alarm is checking I don’t remember that kind of thing, but the yellow alarming or the any alarmings that night is adjusted frequently. Frequently ringing I’d remember that, yeah.”[84] RN Kang appeared to then suggest that she may have been attending to one of her patients and simply did not hear the red alarm. She then proffered a suggestion that “means just maybe somebody goes off the alarming because of that we couldn’t hear, yeah. Because we, when we went to the patient we heard it after the MET call alarming.”[85]

146. RN Kang confirmed that she had spoken with RN Mbedla after the MET alarm was sounded about why no-one had responded to the red alarm.

147. RN Kang then provided a further possible reason why she had not responded to the red alarm, by suggesting that she had expected that EN Dodds would respond to her allocated client’s alarms, particularly in light of the earlier yellow alarms triggered by Ms O’Donnell.

148. The Court has made allowances in favour of RN Kang in terms of her comprehension of questions asked and answers given during her evidence, taking into account that English is not her first spoken language. This Court is of the view that RN Kang was not a frank or reliable witness. Her evidence was evasive, contradictory, implausible and unacceptable and she failed to give any coherent account or consistent answer of what she was doing at the critical time and whether she did or did not hear the red alarm. It is incomprehensible that she was unable to hear the red alarm which was sounding for at least 20 minutes. It was clear that on multiple occasions during her evidence she was deliberately untruthful in her evidence in relation to a number of issues as outlined above.

149. Based on the inferences from other evidence, it must be found that the red alarm was going off and that that RN Kang was on the ward at the critical time. Ultimately, she appeared to concede that she may have heard the red alarm in

[84] Transcript 10/11/20 P7.49

[85] Transcript 10/11/20 P10.40

the period prior to the MET call, but did not respond because she was busy doing other things. It is possible that she left the ward at some point to go the toilet, but that would not explain being away for 20-25 minutes. If it was the case that RN Kang had been off the ward for such a long time and returned to find the MET alarm sounding, she would have said so in her evidence. If she was on the ward, there is simply no explanation for how she could have failed to hear a red alarm that was sounding.

Prospects of effective intervention if more timely response

150. A timelier response to the telemetry alarm would have provided an opportunity for resuscitation and medical intervention. However, the effect of the expert evidence was that it would have been very difficult for medical staff to save Ms O'Donnell even if the MET alarm had been sounded earlier.

151. Associate Professor Adams considered whether there might have been an opportunity for an effective intervention if there had been a timely response to the telemetry alarm. He considered two options. The first was placing a pacemaker or an external pacing wire to provide an electric current to trigger the heart to contract. The second option was medication, which was a less likely to prove successful. He opined that "I think there was probably an opportunity missed, but it was followed so quickly by her becoming asystolic that I'm not sure you would have had time to really activate something that would have saved her."[86]

152. Similarly, Professor Besser opined in his report dated 4 February 2020 that "Although Ms O'Donnell had serious cardiac disease, satisfactory detection and management, of her cardiac dysrhythmia could have resulted in a satisfactory outcome, at least in the short term. I agree with Professor Adams statement that it was "a lost chance for resuscitation and effective treatment" although he reflects that attempts at treatment were problematic."[87]

153. Professor King stated in his report that even if the alarm had been attended to immediately, the likelihood of any subsequent interventions preventing death

[86] Transcript 10/11/20 P56.34

[87] Expert report of Professor Michael Besser dated 4 February 2020, tab 32C

would have been extremely low, based on the underlying cardiac and respiratory status at the time, and in keeping with the very poor cardiac prognosis described by Professor Adams.[88]

System improvements since the death of Ms O'Donnell

154. Mr McGrath has been the Director of Nursing and Midwifery Services since August 2019. He prepared a statement dated 12 October 2020. Mr McGrath confirmed in Court that since October 2016, a number of changes have been implemented in Ward 1A.

155. Firstly, the nursing staff are required to undertake telemetry training every two years, completing both a written and physical assessment of competency and monitored by a clinical nurse educator. Previously, a single assessment was the standard. Secondly, a contractual supply and service agreement has been struck with Phillips in relation to the supply of appropriate batteries and monitors. Batteries are required to be changed daily at 10am and 10pm. Thirdly, the location of patients requiring telemetry monitoring has changed with patients now located in Beds 18 -21, 23 – 26, and 17 or 22 if a single room is required. Fourthly, there is an attempt to roster three RNs on each night shift to "spread that skill mix a little evenly."[89] He stated that there is an attempt to assign permanent staff to the telemetry patients, however this is dependent on unplanned and planned leave.

156. Mr McGrath was questioned in relation to alarm fatigue and the culture of alarm neglect in October 2016. He stated that "the culture has changed somewhat in the ward, 1A. It's been a whole of hospital approach, not just for 1A around, around alarms. I think we heard quite clearly from the nurses there's a clear differentiation between the alarms for thing. I would say right now as we speak there'd be absolutely no reason why an alarm wouldn't be responded to, even if you weren't allocated to look after that patient."[90] Later, he stated "I strongly believe that we have a changed culture in Ward 1A, in particular around

[88] Expert report of Professor Gregory King dated 6 January 2020, tab 32B
[89] Transcript 10/11/20 P44.24
[90] Transcript 10/11/20 P46.30

responsibility. And I mentioned earlier before lunch, around a whole of hospital approach, there's, there's a culture at Fairfield now that we're building around if someone enquires about a patient that is not allocated to you, example 1 to 10 and you're not looking after that patient there's an expectation that you still assist that person at any point or at least escalate to the nurse who's looking after that person."[91]

157. Mr McGrath was asked about his response to Professor Adams recommendation that there needs to be a clear plan to address the response to alarms, in particular, Professor Adams' recommendation that "It does not seem clear from staff statements which staff member was ultimately responsible for this. One solution is to always have a single staff member on the ward at all times with responsibility for checking on alarm signals and individual nurses checking any trends with their patients."[92] Mr McGrath indicated that this recommendation had not been adopted. He stated that "there's an 'in charge' allocated to each shift…they would have overall responsibility for alarms, - not, not, sorry. For troubleshooting and any issues. So the nurses would go to that 'in charge' that's part of their role and if the 'in charge' had any concerns their responsibility is to go to the after-hours nurses manager."[93]

158. Mr McGrath agreed that currently the primary goal for effective cardiac monitoring on Ward 1A was to have an escalation of incidents to a medical team. Mr McGrath was asked what his recommendation and expectation would be to a situation where a nurse was attending to a patient with a high falls risk, who wanted to go to the bathroom and a red alarm was triggered elsewhere. His response was "What I would expect is that that patient was put back to, if there's a red alarm, put back to bed and address the red alarm. Priority at that point would be the red alarm."[94]

[91] Transcript 10/11/20 P49.22
[92] Transcript 10/11/20 P47.26
[93] Transcript 10/11/20 P47.47
[94] Transcript 10/11/20 P48.45

159. Mr McGrath confirmed that currently there would be occasions where the rostered staff would reflect the same staffing mix which occurred on 11 October 2016, that being two RNs, one EN and one AiN.

160. The Court makes no recommendations in respect of Fairfield Hospital's practices and procedures, staffing levels and training in relation to the use of cardiac telemetry, in light of:

    a. Improvements in procedures to deal with batteries;

    b. Improvements to sharpen responsibilities on Ward 1A and assigning responsibilities to RNs;

    c. The introduction of refresher training to reinforce responsibilities, perils of alarm fatigue.

Conclusions

161. A red telemetry alarm was audibly sounding throughout Ward 1A on 12 October 2016, from at least 04.13 hours (and probably earlier). The alarm was not investigated until 04.40 hours when a MET alarm was sounded by EN Dodds.

162. EN Dodds stated that she had first heard the red alarm at 04.30 hours, but was clearly wrong in terms of the time. It is accepted that she was engaged with another patient at the time she first heard the red alarm.

163. RN Kang gave evasive, contradictory, implausible and unacceptable evidence during this inquiry. She continued to maintain through the majority of her evidence that she did not hear the red alarm sound. This cannot be accepted.

164. RN Mbedla gave evidence that she did not hear the red alarm sound until she was in the process of discarding soiled items in the 'dirty utility' room. It is clear that she must have left the room containing Bed 15 and re-entered the main ward on her way to the dirty utility room, exposing her to the sound of the red alarm and did not respond appropriately.

165. The monitor outside Beds 1 – 4 was not functioning on the night shift from 11 – 12 October 2016. The telemetry units and the other monitors were functioning during the shift. The batteries used in the units were susceptible to battery failure, triggering excessive alarms.

166. There appeared to be a culture of demarcation between the staff, such that each member of staff would largely only deal with their patient allocation, rather than acting co-operatively to assist colleagues. The staffing levels and staffing mix were inadequate to safely administer care responsibly to patients in the ward. The current model outlined in Mr McGrath's evidence appears to still be susceptible to inadequate staffing levels and too much of a focus on the person 'in charge', rather than a plan to deal quickly and efficiently with urgent alarms.

167. Inferences were available on the evidence received that alarm fatigue was seriously affecting staff performance; and that this was largely due to faulty equipment, rather than inappropriate medical parameters being set on the telemetry machines.

168. A number of changes have been implemented in Ward 1A, including additional and regular training for nursing staff with telemetry machines. The repositioning of the telemetry machines more closely to assist with monitoring

169. An early response to the red alarm may have resulted in the resuscitation and treatment of Ms O'Donnell, however, the chances of an effective intervention may have been limited in these particular circumstances.

170. The fact that Ms O'Donnell did not survive is so extremely sad. I again extend my condolences to her family and friends and thank them for their dignity and patience with this lengthy coronial process.

Findings required by s81(1)

171. As a result of considering all the documentary evidence and the oral evidence given at the inquest, I am able to confirm that the death occurred and make the following findings in relation to it.

Identity: **Simone Marie O'Donnell**

Date of Death: **12 October 2016**

Place of Death: **Fairfield Hospital**

Cause of Death: **Cardiac conducting system disease leading to an asystole against a background of a structurally abnormal heart and a congenital cluster of disorders.**

Manner of Death: **Simone O'Donnell died in hospital whilst being monitored for a possible respiratory tract infection and placed on cardiac telemetry monitoring in response to bradycardia with a left bundle branch block and an irregular heart rate of 41-53 beats per minute. Nursing staff on the ward failed to respond to an extended telemetry alarm until after Ms O'Donnell had entered asystole. She was found by nurses to be not breathing with no heart rate. The Medical Emergency Team (MET) was activated and cardiopulmonary resuscitation (CPR) commenced. On arrival of the MET, she was pale, cold with stiff limbs, fixed and dilated pupils and no spontaneous respirations. CPR was ceased and death confirmed.**

Recommendation

Pursuant to s 82(2) of the *Coroners Act 2009*, Coroners may make recommendations connected with a death. I recommend that Registered Nurse Nomsebenzi Mbedla and Registered Nurse Julie Kang be referred pursuant to s. 151A of the *Health Practitioner Regulation National Law (NSW) No 86a of 2009.*

172. I now close this inquest.

Magistrate J Baptie

Deputy State Coroner

8 February 2021