



*Western*

*Australia*

## **RECORD OF INVESTIGATION INTO DEATH**

Ref: 39/16

*I, Barry Paul King, Coroner, having investigated the death of **Christine Pearl Stroner** with an inquest held at the **Perth Coroner's Court** on **21 October 2016** and **26 October 2016**, find that the identity of the deceased person was **Christine Pearl Stroner** and that death occurred on **3 April 2013** at **6 Goyder Place, Bateman**, from **an unascertained cause** in the following circumstances:*

### **Counsel Appearing:**

Mr J T Bishop assisting the Coroner  
Mr D J Harwood (State Solicitor's Office) appearing for Fremantle Hospital  
Ms B E Burke (ANF) appearing for Ms Rodrigues RN

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## INTRODUCTION

1. Christine Pearl Stroner (**the deceased**) was a 69 year old woman who lived with her husband in Bateman.
2. On 2 April 2013 the deceased was admitted to Fremantle Hospital for a laparoscopic cholecystectomy (gall bladder removal) and hiatus hernia repair. Following an uncomplicated operation and a brief period in recovery, she was placed in the surgical short stay unit (**the SSSU**) where she spent the night without any significant problem.
3. At about 2.00 pm on 3 April 2013 the deceased was noted to have a relatively fast heart rate. A nurse looking after her in the SSSU, Mary Rodrigues RN, requested that a doctor attend to review the deceased.
4. On the understanding that a doctor had reviewed the deceased at about 3.00 pm, at about 4.10 pm Nurse Rodrigues transferred the deceased from the SSSU to a transit lounge, where she was to be picked up by her husband, Brian Stroner. Mr Stroner took the deceased home, arriving at about 5.45 pm that afternoon.
5. At home, the deceased told Mr Stroner that she was feeling shaky and had been unable to dress herself earlier that day. Mr Stroner called Fremantle Hospital and was advised to check the deceased's blood sugar levels and to give her the medication supplied.
6. The deceased went to sleep on a bed in the lounge room while Mr Stroner watched TV.
7. Later that evening, Mr Stroner noticed that the deceased had stopped breathing. He called for an ambulance and administered cardiopulmonary resuscitation, but the deceased could not be revived.
8. Forensic pathologist Dr D M Moss conducted a post mortem examination but, despite histology, toxicology, microbiology and biochemistry testing, was unable to identify a definitive cause of death.

9. At Dr Moss' suggestion, an opinion was sought from clinical pharmacologist and toxicologist, Professor David Joyce. Professor Joyce appeared to exclude drug toxicity as a cause of death.
10. On 5 May 2016 Mr Stroner requested that an inquest be held into the deceased's death. By that time, investigations into her death had already been underway for some time.
11. On 21 October 2016 and 26 October 2016, I held an inquest at the Perth Coroner's Court. The documentary evidence consisted of a three volume brief of evidence, comprising statements, reports and medical records.<sup>1</sup> Oral evidence was provided by:
  - (a) Dr Mohamed Ballal, the general surgeon who performed the operations on 2 April 2013;
  - (b) Nurse Rodrigues,
  - (c) Professor Paul Moroz, a professor of surgery and full-time surgeon;
  - (d) Dr John Anderson, the acting director of clinical services at Fiona Stanley Hospital and Fremantle Hospital Group; and
  - (e) Dr Michael Davis, a cardiologist who had treated the deceased in 2002
12. Following the oral evidence, counsel provided brief but helpful oral submissions.

### **THE DECEASED**

13. The deceased was born as Christine Pearl Ingles in Greenwich in England on 17 July 1943, making her

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<sup>1</sup> Exhibit 1, Volumes 1-3

69 years old when she died. She had one sister and enjoyed a happy childhood.<sup>2</sup>

14. She met her husband to be, Mr Stroner, in about 1960 and they married about four years later and had two sons. In about 1980 the deceased and her family immigrated to Australia. At some stage it seems that the deceased took up an office job which she left in 1997.

### **THE DECEASED'S MEDICAL HISTORY**

15. In 1990 the deceased had chronic severe lumbar spondylosis with disc degeneration and left sciatica. In 1994 she underwent a spinal fusion.
16. In about 1999 the deceased experienced a depressive episode following the death of her mother. In 2002 she had another depressive episode, this time linked to Mr Stroner being diagnosed with bowel cancer followed by kidney cancer within a short time. In 2003 and 2004 she underwent electro-convulsive therapy, which ultimately did not lead to an improvement.
17. In September 2002 the deceased was referred by her doctor to cardiologist Dr Michael Davis after six months of shortness of breath and an abnormal stress test. Dr Davis noted that her resting heart rate was 110 bpm and that her blood pressure was 160/90. Examinations and tests did not reveal the cause of these symptoms, but Dr Davis found that she had a borderline horizontal ST depression inferolaterally and that she had a benign congenital coronary abnormality. He concluded that she had no evidence of cardiac disease, but that she needed to undertake a fitness program.<sup>3</sup>
18. In 2008 the deceased was diagnosed with sliding hiatus hernia and in January 2009 she underwent a gastroscopy for stomach polyps and a colonoscopy for diverticular disease.<sup>4</sup> In June of that year she saw her doctor for left

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<sup>2</sup> Exhibit 1, Volume 1, Tab 21

<sup>3</sup> Exhibit 1, Volume 1, Tab 16

<sup>4</sup> Exhibit 1, Volume 3, Other Correspondence

knee pain and in September she was diagnosed with type 2 diabetes.<sup>5</sup>

19. In 2010 the deceased was seen by an orthopaedic surgeon for pain in both knees. He monitored her situation, with a view to total knee replacements in the future.<sup>6</sup>
20. By April 2010 the deceased had been depressed for six years without remission. She often stayed in bed for days at a time and felt worthless because Mr Stroner, whose cancer was in remission, did most of the home chores. She lacked motivation and was forgetful from poor concentration. She also experienced generalised anxiety and anxiety attacks. She was taking opioid analgesics in the form of tramadol and oxycodone, as well as anti-psychotics and antidepressants.
21. By this time the deceased had also experienced social isolation. She had previously had a supportive network of friends and was visited regularly by a son and his family, but they drew away from her because of the entrenched nature of her depression.<sup>7</sup>
22. In January 2011 the deceased experienced chest pain, sweating and nausea, requiring a presentation to the emergency department at Fremantle Hospital where she was diagnosed with serotonin syndrome from the high use of tramadol. For the next four months she suffered from ongoing cervicogenic headaches. In May 2011 she again experienced lower back pain with sciatica, and in September she was diagnosed with gastro-oesophageal reflux disease (GORD) and dysphagia.
23. The deceased's medical situation in March 2012 comprised chronic severe back and knee pain, chronic depression, diabetes 2, GORD from hiatus hernia, iron deficiency and cervicogenic headaches.

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<sup>5</sup> Exhibit 1, Volume 1, Tab 21

<sup>6</sup> Exhibit 1, Volume 1, Tab 21

<sup>7</sup> Exhibit 1, Volume 3, Summaries; Exhibit 1, Volume 1, Tab 21

24. By 4 October 2012 there was a firm plan for the deceased to undergo hiatus hernia repair as well as a cholecystectomy. She was placed under the care of upper gastro-intestinal and hepatobiliary pancreatic surgeon, Associate Professor Mohammed Ballal. Her depression and chronic pain were important factors in determining that the operation should take place in Fremantle Hospital rather than at a day clinic because her post-operative management was expected to be slightly complex.<sup>8</sup>
25. On 17 October 2012 the deceased underwent left total knee replacement with a good result.

### **APRIL 2013 - FREMANTLE HOSPITAL**

26. On 2 April 2013 the deceased was admitted to Fremantle Hospital for the cholecystectomy and hiatus hernia repair. The operation was performed by Associate Professor Ballal that afternoon without complication. By 5.25 pm the deceased was in the recovery room.<sup>9</sup>
27. At 6.35 pm the deceased was transferred to the SSSU to be monitored overnight before discharge the next day. The SSSU was designed for patients having day procedures. It was a multi-specialty ward with a high turnover of patients. It was staffed by nurses who were responsible for post-operative care and observations.<sup>10</sup>
28. That night the deceased underwent hourly observations until 9.00 pm, after which the observations were carried out every four hours until 8.00 am the next morning.<sup>11</sup> The deceased was connected to patient-controlled analgesia (**PCA**) in order to address changes to post-operative pain.
29. Patients at the SSSU were to be reviewed by the relevant treating team before discharge. The team treating the

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<sup>8</sup> ts 5-6 per Ballal, M

<sup>9</sup> Exhibit 1, Volume 3, Ambulatory Surgery Initiative

<sup>10</sup> Exhibit 1, Volume 1, Tab 14

<sup>11</sup> Exhibit 1, Volume 3, Ambulatory Surgery Initiative

deceased consisted of Associate Professor Ballal, a surgical registrar, a surgeon undergoing specialist training and a group of interns.<sup>12</sup>

30. At about 9.40 am on 3 April 2013 the surgical registrar from the treating team, Dr Jacinta Cover, reviewed the deceased and noted that she was drinking well and that her pain was well-controlled. Dr Cover examined the deceased and found her afebrile with stable observations. She wrote in the integrated progress notes that the plan for the deceased included review by a dietician prior to discharge.<sup>13</sup>
31. In the notes, reference is made to the deceased's pain having increased that morning due to her not using the PCA. The deceased was placed on an hourly immediate-release oxycodone protocol with good effect.<sup>14</sup>
32. At 11.30 a dietician reviewed the deceased and provided her with instructions relating to her diet for the next two weeks. The dietician noted that the deceased was 'safe for discharge from dietetics perspective'.<sup>15</sup>
33. The nurse who was primarily looking after the deceased in the SSSU, Nurse Rodrigues, took the deceased's observations at 2.00 pm and noted that the deceased's pain level was 10/10 and that her pulse had increased to 110.<sup>16</sup> Nurse Rodrigues called a doctor to review the deceased and organised for her to be given oxycodone, which occurred at 2.30 pm.<sup>17</sup>
34. Nurse Rodrigues said that she had spoken to the deceased at about 3.30 pm and that the deceased was fine after she had had the oxycodone.<sup>18</sup>
35. It seems clear that within an hour a doctor attended the deceased and cleared her to be discharged, but there are

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<sup>12</sup> ts 21-22 per Ballal, M

<sup>13</sup> Exhibit 1, Volume 3, Integrated Progress Notes

<sup>14</sup> Exhibit 1, Volume 3, Integrated Progress Notes

<sup>15</sup> Exhibit 1, Volume 3, Integrated Progress Notes

<sup>16</sup> Exhibit 1, Volume 3, Integrated Progress Notes

<sup>17</sup> ts 31-32 per Rodrigues, M

<sup>18</sup> ts 37-38 per Rodrigues, M

no notes made by the doctor regarding that attendance. Fortunately, Mr Stroner informed the inquest that the deceased had called him at about 2.30 pm and told him that she had just been seen by a doctor and that she would be ready to be picked up at 4.00 pm.<sup>19</sup> Investigations to determine the identity of the doctor were unsuccessful, though it seems that he or she would have been part of Professor Ballal's team.

36. At 4.30 pm Nurse Rodrigues made an entry in the integrated progress notes indicating that the deceased had been reviewed by a resident medical officer at which time her pulse was 111. The laparoscopy sites were intact with no bleeds. TED stockings were in place and discharge medications had been ordered.<sup>20</sup>
37. In oral evidence, Nurse Rodrigues clarified that she did not see the doctor attend but had been so informed by her colleague. She said that she had done the observation of the deceased's pulse before the doctor came to the SSSU.<sup>21</sup>
38. At about 4.10 pm Nurse Rodrigues arranged for the deceased's transfer by wheel chair to the transit lounge where she would receive discharge medications before Mr Stroner picked her up.<sup>22</sup>
39. The transit lounge was a ward setting, where a registered nurse and enrolled nurses were in attendance to observe the patients and take observations. The patients' integrated progress notes would go with them to the transit lounge, but nurses would not make any entries unless something was out of the ordinary. There were no entries made in the deceased's notes while she was in the transit lounge, possibly indicating that the nursing staff there considered that she was all right.<sup>23</sup>
40. Mr Stroner arrived at the hospital around 4.00 and went to the deceased's bed in the ward, but she had already

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<sup>19</sup> ts 98 per Stroner, B; Exhibit 1, Volume 1, Tab 10

<sup>20</sup> ts 35 and 36 per Rodrigues, M

<sup>21</sup> ts 34 per Rodrigues, M

<sup>22</sup> Exhibit 1, Volume 3, Integrated Progress Notes

<sup>23</sup> ts 39 per Rodrigues, M

been transferred to the transit lounge. When he arrived there, the deceased was weak and shaking. She told him that she had felt extremely ill until about 10 minutes beforehand. She was unable to stand up to dress herself, so a nurse helped her to dress.<sup>24</sup> According to Nurse Rodrigues, that situation was quite normal for a patient who had undergone laparoscopic surgery on the previous day.<sup>25</sup>

41. The nurse in the transit lounge asked the deceased if she was well enough to leave, to which the deceased replied that she had been discharged by a doctor a few hours previously.<sup>26</sup>
42. After waiting in the transit lounge until about 5.15 pm, the deceased and Mr Stroner went home, arriving at about 5.45 pm.<sup>27</sup>

### **EVENTS LEADING UP TO DEATH**

43. When the deceased arrived home she walked from the car to the family room, where a bed was still kept after the deceased's recovery from the total knee replacement operation. She told Mr Stroner that she had been shaking and unable to dress herself in the hospital earlier.<sup>28</sup>
44. Mr Stroner undressed the deceased and she lay on the bed and fell asleep. Mr Stroner called Fremantle Hospital to ask if the deceased should have been discharged, because she did not seem well. He spoke to a nurse who was not familiar with the deceased. She told him that he should check her sugar levels when she woke up because of her diabetes.<sup>29</sup>
45. Mr Stroner sat on a couch next to the deceased's bed. He could hear that her breathing was laboured, but he

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<sup>24</sup> Exhibit 1, Volume 1, Tab 11

<sup>25</sup> ts 38 per Rodrigues, M

<sup>26</sup> Exhibit 1, Volume 1, Tab 11

<sup>27</sup> Exhibit 1, Volume 1, Tab 10

<sup>28</sup> Exhibit 1, Volume 1, Tab 10

<sup>29</sup> Exhibit 1, Volume 1, Tab 10

was not concerned because it was often laboured. At about 7.00 pm he went to the shops to buy the deceased some non-solid foods.<sup>30</sup>

46. When he returned from the shops at about 7.30 pm Mr Stroner sat on the couch next to the deceased and watched TV. At about 9.15 pm he got up to make a hot drink and noticed that the deceased was not breathing. He slapped her legs but she did not respond.
47. Mr Stroner called '000' and followed the instructions of an operator to place the deceased on the floor and do chest compressions. Ambulance officers attended a short time later, but they were unable to revive the deceased. An ambulance officer declared the deceased's life extinct at 10.05 pm on 3 April 2013.

### **CAUSE OF DEATH**

48. On 8 April 2013 pathologist Dr D M Moss conducted a post mortem examination and found evidence of the recent surgery and excess fluid in the lungs. He also noted the abnormal anatomy of the coronary arteries. He arranged for further investigations.<sup>31</sup>
49. Microscopic examination of tissues showed mild fibrosis in the heart and increased neutrophils in the systemic circulation, but no focal area of infection. There was no evidence of bronchopneumonia. The liver was somewhat congested with mild fatty change and the kidneys showed changes consistent with a degree of hypertensive or diabetic nephrosclerosis.<sup>32</sup>
50. The vitreous glucose level was not raised and a blood test showed satisfactory diabetic control. Microbiology testing did not show a specific pathogenic organism.<sup>33</sup>

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<sup>30</sup> Exhibit 1, Volume 1, Tab 10

<sup>31</sup> Exhibit 1, Volume 1, Tab 6

<sup>32</sup> Exhibit 1, Volume 1, Tab 6

<sup>33</sup> Exhibit 1, Volume 1, Tab 6

51. Toxicological analysis showed therapeutic levels of the antidepressant amitriptyline, the anti-emetic metoclopramide, the analgesic paracetamol and the local anaesthetic ropivacaine. The antidepressant sertraline was present in the blood at 0.2mg/L and in the liver at 20mg/kg. It was not clear to Dr Moss from the toxicology report or the literature whether the liver sertraline level was significant.<sup>34</sup>
52. Dr Moss was unable to identify a definitive cause of death; however, he suggested three possible causes.<sup>35</sup>
53. The first possibility was post-operative infection, possibly sepsis, but the lack of significant bacterial growth in cultures, the lack of an obvious focus of infection and the clinical history all raised significant doubts about this possibility.<sup>36</sup>
54. Associate Professor Ballal was asked about the possibility that an infection caused the deceased's death. He said that it was extremely unlikely because sepsis is a process that takes time and produces signs that can be seen. At no time did the deceased show any signs of infection. Secondly, he said that the operation was clean and that the risk of sepsis was mitigated by antibiotics.<sup>37</sup>
55. The second possibility suggested by Dr Moss was the deceased's abnormal coronary arterial system, but it was unlikely in his view that the deceased would reach the age of 69 and that sudden death would be the first sign of a problem.<sup>38</sup>
56. The third possibility suggested by Dr Moss was multiple drug toxicity, but none of the medications detected were at definitely significant levels on their own except for sertraline, which was unclear. He recommended that toxicologist Professor David Joyce be asked for an opinion on the potential of a toxicological contribution to death.<sup>39</sup>

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<sup>34</sup> Exhibit 1, Volume 1, Tab 6

<sup>35</sup> Exhibit 1, Volume 1, Tab 6

<sup>36</sup> Exhibit 1, Volume 1, Tab 6

<sup>37</sup> ts 18 per Ballal, M

<sup>38</sup> Exhibit 1, Volume 1, Tab 6

<sup>39</sup> Exhibit 1, Volume 1, Tab 6

57. Professor Joyce provided a report dated 20 February 2014 in which he concluded that (to paraphrase), subject to his review of the Fremantle Hospital notes, the concentrations of sertraline would not have been likely to have caused the death. He noted that a pre-operative ECG would be the most important piece of information in order to check whether the deceased had an unrecognised defect in cardiac electrical activity.<sup>40</sup>
58. After having had the opportunity to review the Fremantle Hospital notes, which included an ECG dated 10 October 2012, Professor Joyce concluded that the notes did not contain information that would implicate drug toxicity in causing death.<sup>41</sup>
59. Dr Moss was provided with copies of Professor Joyce's reports, a report from Associate Professor Ballal and a review of the case by Professor Paul Moroz (discussed below), but those reports did not assist in providing a definitive cause of death.
60. In Dr Moss' opinion, the cause of death should remain as: 'unascertained'.
61. Cardiologist Dr Davis provided a report in which he noted that the deceased had longstanding tachycardia and that a rate of 111 was not particularly unusual for her. He doubted that the tachycardia had anything to do with her death.<sup>42</sup>
62. Dr Davis noted that ECGs for the deceased in the Fremantle Hospital record occasionally showed a 'longish' QT interval. A QT interval is the relaxation phase of the heart's electrical activity. There is a genetic condition known as long QT syndrome that is associated with sudden heart arrhythmia.<sup>43</sup>

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<sup>40</sup> Exhibit 1, Volume 1, Tab 19

<sup>41</sup> Exhibit 1, Volume 1, Tab 20

<sup>42</sup> Exhibit 1, Volume 1, Tab 16

<sup>43</sup> ts 83 per Davis, M

63. Dr Davis said that in the deceased's case there was a post-operative period in which there were things that might have affected the QT interval, including antidepressant drugs and the stress of an operation. He noted that genetic testing of the deceased had not found any of the common genes for cardiac ion channelopathy, but that result does not completely exclude an as yet unrecognised genetic abnormality.<sup>44</sup>
64. Dr Davis agreed that in recognising a longish QT interval and arrhythmia he had raised the possibility of an arrhythmia, but there was no certainty.<sup>45</sup> He said that he was desperately trying to explain why the deceased died, but he could not come up with an answer. He said that there was nothing in the post-operative observations he had seen that would suggest that an arrhythmia was likely or less likely to have occurred.<sup>46</sup>
65. On the basis of the foregoing, I am unable to find the cause of death. For the purpose of registration under the *Births, Deaths and Marriages Registration Act 1998*, it will remain as: 'unascertained'.

### **QUALITY OF TREATMENT AND CARE OF THE DECEASED**

66. Mr Stroner wrote to the State Coroner's Office with several concerns about the deceased's treatment and care in Fremantle Hospital. In particular, he questioned the decision to discharge the deceased a relatively short time after the surgery. He wondered whether she would have had a better chance to survive had she been in hospital on the evening of 3 April 2013.
67. In the light of Mr Stroner's correspondence, the Court commissioned a review of the deceased's case by professor of surgery and full-time surgeon Professor Paul Moroz. The view Professor Moroz expressed in his report was that the deceased did not receive satisfactory post-

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<sup>44</sup> ts 84 per Davis, M

<sup>45</sup> ts 84 per Davis, M

<sup>46</sup> ts 87-88 per Davis, M

operative care and that her death may have been preventable.<sup>47</sup>

68. In Professor Moroz's opinion, of significant concern was the deceased's heart rate of 111 beats per minute on the afternoon of 3 April 2013 (he understood it to be observed at 4.30 pm). He wrote that the rate was alarming in a post-operative patient who should be ready for discharge and that medical staff should have at least performed a chest X-ray and ECG, as well as blood tests and a physical examination by a surgical registrar.<sup>48</sup>
69. Professor Moroz stated that the post-operative tachycardia could have indicated surgical complications of haemorrhage, organ damage or perforations, or bile leak. The medical complications could have been acute myocardial infarction, cardiac arrhythmia, congestive cardiac failure, pulmonary embolism or pulmonary aspiration.<sup>49</sup>
70. In oral evidence Professor Moroz said that an investigation into the potential surgical and medical complications should have started with a history being taken, followed by a physical examination and chest examination with auscultation and percussion, followed by an ECG and a chest X-ray.<sup>50</sup>
71. Dr Anderson, the acting director of clinical services for the Fiona Stanley and Fremantle Hospital Group, also considered that escalation of the deceased's care should have commenced with a clinical investigation, comprising the taking of a history and a physical examination.<sup>51</sup> He agreed that, if the deceased had an unremitting tachycardia of 111 in association with unremitting pain in association with potential hypotension in a setting of clinical distress, then the cascade of investigations suggested by Professor Moroz would have been appropriate. However, it depended on the deceased's clinical status.

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<sup>47</sup> Exhibit 1, Volume 1, Tab 15

<sup>48</sup> Exhibit 1, Volume 1, Tab 15

<sup>49</sup> Exhibit 1, Volume 1, Tab 15

<sup>50</sup> ts 49 per Moroz, P

<sup>51</sup> ts 66 and 68 per Anderson, J

72. It is readily apparent that those investigations were not undertaken or arranged by the doctor who reviewed the deceased on Nurse Rodrigues' request. What is not clear, due to the doctor's failure to record the results of his or her review, is the deceased's presentation at the time.
73. Dr Anderson considered that it was possible that no further investigations were undertaken because the deceased's condition was not deteriorating, in which case it was also possible that the doctor saw a reduced need to make an entry in the integrated progress notes.<sup>52</sup>
74. Associate Professor Ballal's evidence was consistent with a conclusion that the deceased's recorded observations did not indicate that her condition was deteriorating. He considered that the pain scores were normal and expected in the circumstances, and that the recorded heart rates and respiration rates were apparently related to the pain levels.
75. Dr Davis also said that a high pain score can lead to an elevated heart rate.<sup>53</sup>
76. Associate Professor Ballal said that the heart rate of 110 was a little bit high, requiring an intervention in which nurses would attempt to determine the cause. At the time of the high heart rate, the pain score was 10/10, so he would assume that the heart rate was pain-related. If the deceased were given a painkiller and her heart rate dropped, she would not require further investigation. If her heart rate did not drop, an ECG would be done to ensure that she did not have an arrhythmia of something similar.<sup>54</sup> An ECG was not likely to have shown anything because the deceased appeared to have a normal sinus rhythm.<sup>55</sup>
77. Associate Professor Ballal did not consider that blood tests would have been warranted because there were no

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<sup>52</sup> ts 77 per Anderson, J

<sup>53</sup> ts 86 per Davis, M

<sup>54</sup> ts 15, 16 and 19 per Ballal, M

<sup>55</sup> ts 17 per Ballal, M

signs of an intraoperative complication, and a chest X-ray would not have assisted because there was no indication at the relevant time that the deceased had a fluid overload or a perforation.<sup>56</sup>

78. One of Professor Moroz' main concerns had been the deceased's tachycardia of 111 at 4.30 pm. He agreed that the oral evidence at the inquest was different from that in the hospital records upon which he had based his opinion. He said that, if the deceased's pulse had gone down by the time the doctor reviewed her, he could see why the further investigations had not been done.
79. Professor Moroz agreed that the deceased's tachycardia could have been caused by the deceased's pain, and that the pain may have been the result of insufficient analgesia.<sup>57</sup>
80. It must be recalled that, according to Nurse Rodrigues, the deceased was fine and ready to go home after she was given oxycodone.<sup>58</sup>
81. It is also worth noting that, since the deceased's death, an observation chart known as the adult observation and response to clinical deterioration chart is used in Fremantle Hospital and other public hospitals, perhaps nationally. That chart includes the Adult Deterioration Detection System, or ADDS, which is based on scores accorded to physiological variables and mandates a scale of escalation based on those scores.<sup>59</sup>
82. Dr Anderson demonstrated how, if that chart had been used with the deceased, she would not have been managed differently.<sup>60</sup>
83. In the light of the foregoing, it is most likely that the deceased's tachycardia at 2.30 pm on 3 April 2013 was related to the post-operative pain, and that the pain and the tachycardia had reduced from the use of oxycodone

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<sup>56</sup> ts 17 per Ballal, M

<sup>57</sup> ts 55 per Moroz, P

<sup>58</sup> ts 37-38 per Rodrigues, M

<sup>59</sup> ts 64, 64, 72 and 73

<sup>60</sup> ts 72 per Anderson, J; Exhibit 1, Volume 1, Tab 14

by the time a doctor reviewed the deceased. In those circumstances, there would not have been a clinical reason to undertake further investigations and the decision to discharge the deceased would have been appropriate.

84. At worst, the evidence does not support a finding that the discharge of the deceased at the time was inappropriate.
85. As to the unidentified doctor's failure to make an entry in the notes after reviewing the deceased on the afternoon of 3 April 2013, that failure was regrettable, both from a coronial perspective and a professional one. The lack of adequate notes not only made it more difficult for me to determine the nature and quality of her treatment and care, it left Fremantle Hospital and its staff open to suspicion of incompetence and negligence.
86. As to the question of whether the deceased would have had a better chance of survival had she remained in hospital on the evening of 3 April 2013, in my view that conclusion is self-evident. That view is supported by the evidence of Professor Moroz.<sup>61</sup>
87. However, I am satisfied that the deceased's chance of survival would have likely been only marginally better. It is clear that the deceased went to sleep and that she died while she was sleeping. The evidence makes clear that, if the deceased had been in hospital at the relevant time, it is unlikely that her collapse would have been noticed unless she had been continuously monitored, which would have been unlikely.<sup>62</sup>
88. In my view, the evidence established on balance that the treatment and care provided to the deceased at Fremantle Hospital on 3 April 2013 was adequate.

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<sup>61</sup> ts 56 per Moroz, P

<sup>62</sup> ts 24 per Ballal, M; ts 75 per Anderson, J

## **HOW DEATH OCCURRED**

89. The evidence suggests that the deceased died from complications following a surgical procedure, but it is not possible to ascertain with any certainty the nature of those complications or the degree to which her significant pre-existing co-morbidities may have contributed to her death. In these circumstances I am not able to determine whether death occurred by way of misadventure or natural causes.
90. I therefore make an open finding as to how death occurred.

## **CONCLUSION**

91. The deceased underwent a reasonably straightforward operation that, on all accounts, proceeded without complication despite her significant comorbidities.
92. Not surprisingly, Mr Stroner was shocked and distressed when she died a few hours after returning home. I understand that he remains badly affected by her death.
93. While the evidence at the inquest may have provided answers relating to the care and treatment of the deceased at Fremantle Hospital, it did not, unfortunately, clarify to any significant degree the fundamental issues of the cause of the deceased's death and how death occurred.

B P King  
Coroner  
17 February 2017