



Western

Australia

RECORD OF INVESTIGATION INTO DEATH

Ref: 14 /18

I, Sarah Helen Linton, Coroner, having investigated the death of **David GRIEVE** with an inquest held at the **Perth Coroner's Court, Court 51, CLC Building, 501 Hay Street, Perth** on **12 March 2018** find that the identity of the deceased person was **David GRIEVE** and that death occurred on **1 September 2015** at **Graylands Hospital** as a result of **Coronary Atherosclerosis** in the following circumstances:

Counsel Appearing:

Mr T Bishop assisting the Coroner.
Ms D Underwood (State Solicitor's Office) appearing on behalf of the North Metropolitan Health Service.

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INTRODUCTION

1. David Grieve (the deceased) was an involuntary patient under the *Mental Health Act 2014* (WA) at Graylands Hospital when he died on 1 September 2015. As the deceased was an involuntary patient at the time of his death, he was a 'person held in care' for the purposes of the *Coroners Act 1996* (WA). In such circumstances, a coronial inquest is mandatory.¹
2. I held an inquest at the Perth Coroners Court on 12 March 2018. The inquest focused primarily on the medical care provided to the deceased in the weeks prior to his death, both physical and mental, as well as the events surrounding his death on 1 September 2015. The deceased's family had expressed some concern about the failure to diagnosis his heart related issues prior to his death,² which was addressed by the expert medical witnesses in their evidence.

BACKGROUND

3. The deceased was born on 14 July 1970 in Scotland. He moved to Australia with his family in 1974 when he was four years old.³
4. Growing up in Perth the deceased enjoyed sport and music and had aspirations to make a lot of money so he could spend it on his family. However, although he was clever, he struggled to concentrate and complete courses and was unable to handle stress.⁴
5. The deceased was said to always have been "a bit different,"⁵ and he first began to suffer from psychotic symptoms when he was 17 years old. This led to his first admission to Graylands Hospital in 1987. Between 1987 and 1988 the deceased had more than 20 admissions to Graylands Hospital (Graylands). He was initially diagnosed with schizophreniform psychosis but in 1988 his diagnosis was changed to schizophrenia.
6. From that time he continued to have admissions to Graylands for psychotic relapses, often precipitated by alcohol and marijuana abuse or non-compliance with his medications. Due to his non-compliance with oral medications he was managed with depot injections for many years.
7. The deceased showed impulsive behaviour and poor judgment and had ineffective coping mechanisms, which required maximum support in the community. Due to his mental illness the deceased was never able to gain employment and he received a disability support pension.
8. Prior to his death the deceased was living with his best friend and brother in a rental property in Woodlands. All of them had mental health issues. They were very supportive of each other and were generally self-sufficient

¹ Section 22(1) (a) *Coroners Act*.

² Exhibit 1, Tab 9.

³ Exhibit 1, Tab 9.

⁴ Ibid.

⁵ Ibid, p.1.

although they also received good family support.⁶ The deceased usually attended the Odin Road Medical Centre in Innaloo for his regular medical care and was under the care of the Osborne Park Community Mental Health Service with regard to his mental health issues.⁷

9. It appears that the deceased had stayed generally well on the antipsychotic medication clozapine while living in the community from 1998 until 2013.

HOSPITAL ADMISSIONS 2013 - 2015

10. By 2013 the deceased's diagnosis had been modified slightly to schizoaffective disorder, which is effectively a combination of schizophrenia and a mood disorder and is part of the spectrum of schizophrenia. His illness was treatment resistant and it fluctuated in severity and intensity. At times he was able to live a relatively contented life but at other times he was acutely ill and psychotic and required more intensive treatment.⁸
11. The deceased had extended admissions to Graylands and Sir Charles Gairdner Hospital (SCGH) in March, April and May 2013 due to deterioration in his mental state, which was thought to relate to his non-compliance with his medications. He was eventually restarted on depot medication to improve his compliance.
12. In addition to his mental health concerns, the deceased was noted to have multiple physical medical problems, including Type 2 diabetes, hypertension, high cholesterol and left ventricular hypertrophy (thickened wall of the left ventricle). He was on various medications to manage these conditions.
13. In May 2013 a request was made by Dr Ahmadullah Fazli of Graylands for the deceased to be reviewed by a cardiologist in view of his multiple risk factors for cardiac disease including: hypertension, hyperlipidaemia, diabetes, smoking and recurrent abnormalities on ECG suggestive of anterolateral ischaemia.
14. In September 2013 the deceased was admitted as a voluntary patient at Graylands and an ECG showed 'T wave' inversion. After discussion with the cardiologist at SCGH a thallium study was requested. However, the deceased failed to attend for this investigation.
15. On 15 October 2013 the deceased was readmitted to Graylands. At this time he complained of intermittent chest pains, so he was transferred to SCGH for cardiology assessment. He was admitted to SCGH on 16 October 2013. The deceased reported daily, intermittent, central chest pain on exertion over the previous two weeks, which radiated to his neck and was associated with shortness of breath. The pain was relieved by rest. His risk factors for heart disease were noted as:

⁶ Exhibit 1, Tab 9.

⁷ Exhibit 1, Tab 13.

⁸ T 27.

- Hypercholesterolaemia;
 - Hypertension;
 - Obesity;
 - Smoking; and
 - Type 2 Diabetes.
16. On examination the deceased's heart rate was normal at 76, his blood pressure was slightly raised at 143/73, his heart sounds were normal and his chest was clear. A blood test showed normal serial troponin levels and a chest x-ray was reported to be normal. In view of his symptoms the deceased underwent coronary angiography on 17 October 2013, which showed non-obstructive coronary artery disease. The deceased was prescribed aspirin and a cholesterol lowering medication before he was returned to Graylands. There was a discussion about him restarting the antipsychotic medication clozapine, but at that stage he preferred to continue with his usual medications.
17. In January 2014 the deceased returned to SCGH with a plan to recommence clozapine, a process that is normally done under close medical supervision. An echocardiogram was performed, which was reported to be technically difficult due to his obesity, but the results were generally reassuring. Clozapine was recommenced without incident and he was discharged on 22 January 2014 for follow up at Osborne Clinic.

PRESENTATION TO SCGH 20 AUGUST 2015

18. The deceased presented to the Emergency Department of SCGH on 20 August 2015 with a history of feeling faint, dizzy and stressed for the past three days. Light headedness was mentioned as the primary symptom and he also told the ED staff that he was “mentally unwell.”⁹
19. The deceased denied any chest pain. There was no evidence of cardiac failure but his heart rate was raised at 110/min and his blood pressure was elevated at 160/90. His heart sounds were normal and his chest was clear. It was noted that the deceased had been on clozapine and his ECG showed non-specific T wave inversion, but these changes were similar to his previous ECG in 2004 and 2013, which were attributed to his left ventricular hypertrophy.¹⁰
20. The possibility of clozapine cardiomyopathy was considered and the deceased was reviewed by the Coronary Care Unit Registrar, who also discussed the case with the on call Consultant Cardiologist. It was concluded that there was no evidence of ischaemic heart disease or cardiac arrhythmia and his symptoms were thought unlikely to be cardiac in aetiology. However, it was suggested an outpatient echocardiogram be performed in 3 to 4 weeks.¹¹

⁹ Exhibit 1, Tab 14.

¹⁰ Ibid.

¹¹ Ibid.

LAST GP VISIT

21. The deceased last saw Dr David Chew at Odin Rd Medical Centre on 24 August 2015. Dr Chew reviewed him in relation to his non-mental health medical problems but did note that at that time the deceased seemed more agitated, paranoid and anxious than normal. The deceased's diabetes and hypertension control were reported to be satisfactory during the visit.¹²
22. Dr Chew was aware of the deceased's presentation to SCGH on 20 August 2015 and understood that all his investigations had been reported as being normal.¹³

LAST GRAYLANDS ADMISSION

23. In the days prior to his death the deceased spoke to his mother and told her he had been in hospital to get his heart checked as he had been experiencing breathlessness. He indicated they had sent him home but that he had an appointment to see a heart specialist.¹⁴
24. It became apparent to the deceased's mother that he was deteriorating mentally around this time and she felt that this episode was different to other times as he seemed aggressive towards her and his friend, which was not his nature.¹⁵
25. On 25 August 2015 the deceased's mother contacted the Mental Health Emergency Response Line with concerns that the deceased was not well. In response Hospital in the Home staff assessed him that afternoon. The deceased was found to be hostile, overinclusive and pressured in speech. He admitted to hearing voices on a regular basis but denied that they were causing him distress.
26. The deceased was reviewed again the following day and at that stage it was not felt that there were enough grounds to admit him as an involuntary patient under the *Mental Health Act*.
27. After 29 August 2015 the deceased refused to allow Hospital in the Home staff to visit. Osborne Clinic staff assessed the deceased on 31 August 2015 and he was reported to be hostile and threatening. He was transferred to Graylands with the assistance of police on forms under the *Mental Health Act* so that he could be psychiatrically assessed.
28. The deceased was initially assessed on the secure ward, Pinch, at Graylands. He was aggressive and combative and refused to walk. A Code Black (risk to personal safety of staff or patients) was activated and multiple staff were required to transfer him into the ward. The deceased was restrained for his own safety and placed in a seclusion room. He was given doses of the

¹² Exhibit 1, Tab 13.

¹³ Ibid.

¹⁴ Exhibit 1, Tab 9.

¹⁵ Ibid.

antipsychotic medications haloperidol and clonazepam at 5.20 pm. The observation chart recorded a raised blood pressure but normal pulse, oxygen saturations, temperature and respiratory rate.

29. The deceased was taken out of seclusion at 6.00 pm. His mood remained elevated and irritable and he was expressing delusional, paranoid beliefs. He was given further antipsychotic medication, chlorpromazine, at 6.30 pm. Observations at that time were all normal, apart from a slightly raised blood pressure.
30. A nursing entry at 10.30 pm reported a moderate reduction in agitation one hour after the medication. He was documented to have tolerated the food and fluids given and passed urine. The deceased accepted a sleeping tablet (temazepam) at 10.05 pm to help him sleep. Further observations were recorded at 11.55 pm and all were normal.
31. The following day, being 1 September 2015, the deceased was noted at 4.45 am to have appeared restless and disorganised during the night and his sleep chart indicated he had been awake from 1.00 am, despite the sleeping tablet. Vital observations were recorded to have been performed just after midnight due to concerns of over sedation. The nursing note indicated the observations were normal.
32. Blood tests were taken that morning and showed nothing of major concern, although his low recorded clozapine level was consistent with his suspected non-compliance.
33. A nursing entry at 11.20 am reported that the deceased had been elevated and inappropriate towards female staff and he had been given 2mg of clonazepam at 7.30 am with no effect. Shortly after, at 11.35 am, the deceased was reviewed by a Consultant Psychiatrist, Dr Rajan Iyyalol, and made the deceased an involuntary patient. The deceased was transferred to a segregated secure ward just after 1.00 pm and was assigned a single person room.¹⁶
34. Once on the new ward the deceased remained psychotic and agitated. The progress notes indicate that he was seen to be in a “hyper mood” and was behaving in a sexually inappropriate and agitated manner, to the extent that he required sedation. At 5.30 pm he was given 10mg of haloperidol, an antipsychotic, and at 6.20 pm he was given 2mg of clonazepam, which is a sedative.¹⁷ He was given a dose of the anti-psychotic clozapine and some sodium valproate at 8.00 pm.
35. Of note, the deceased was not given any medications other than his psychiatric medications. In particular, he was not given his blood pressure medications, his cholesterol lowering medication, his diabetic medication or aspirin, although he had been documented as having been taking these medications when he was last seen at SCGH on 20 August 2015.

¹⁶ Exhibit 1, Tab 10.

¹⁷ T 30.

36. At 10.00 pm on the evening of 1 September 2015 the deceased was noted to be sleeping in a chair in the common lounge area of the ward. He was breathing regularly and deeply and snoring. A visual observations checklist recorded a respiratory rate of 16 at that time.
37. At 10.45 pm the deceased's breathing was reported to become "slower" and he was seen to slide from the chair and urinate. The deceased's blood pressure was recorded as 150/70 and his oxygen saturations were only 72%. He was lowered onto the floor and his oxygen saturations increased to 92%. The deceased was then given oxygen while a Code Blue (medical emergency) was activated.
38. When the Duty Medical Officer, Dr Krishnan, arrived the deceased appeared pale and cyanotic. The Medical Emergency Team report recorded a pulse of 134 at 11.06 pm and the first adrenaline dose was given at 11.07 pm. The deceased was given two more doses of adrenaline before the paramedics arrived at 11.27 pm and took over CPR. A further 20 minutes of CPR was performed before a decision was made by all present parties to cease CPR. A final status check showed the possibility of a pulse but the deceased was asystolic on the monitor and there had been a downtime of at least 50 minutes, so his prognosis was poor. All resuscitation was terminated and his death was confirmed at 11.49 pm.¹⁸
39. The formal Certificate of Life Extinct was later completed at 2.10 am on 2 September 2015 but the evidence clearly indicates the deceased had died shortly before midnight on 1 September 2015.

POST MORTEM FINDINGS

40. On 9 September 2015 a Forensic Pathologist, Dr Gerard Cadden, performed an initial macroscopic or 'naked eye' post mortem examination of the deceased. His significant findings from that examination were:
- Intense pulmonary congestion;
 - Apparent cardiomegaly (enlarged heart), well above the anticipated range for a man of that height;
 - Mild atherosclerosis;
 - Significant obesity with a body weight of 123 kg (BMI 39.3 kg/m³); and
 - Rib fracturing in keeping with resuscitation attempts.¹⁹
41. There was no sign of an acute myocardial infarction at the post mortem and no sign of a pulmonary thromboembolism.²⁰
42. The cause of death was initially undetermined while additional investigations were completed and the medical records were obtained.

¹⁸ Exhibit 1, Tab 2 and Tab 12.

¹⁹ T 20; Exhibit 1, Tab 4 and Tab 5, 29.3.2016.

²⁰ T 22; Exhibit 1, Tab 4.

43. Neuropathology found no gross finding such as would readily explain the death. It showed a small vascular lesion in the right frontal lobe, probably a telangiectasia, which was thought to be of no clinical significance.²¹
44. Microscopic tissue review showed florid pulmonary oedema (intense pooling of fluid within the lungs) and the degree of coronary atherosclerosis was more severe than seen at naked eye inspection. Dr Cadden put the focal calcification and narrowing in the order of 50 to 60% of the vessel. Dr Cadden explained that the pooling of fluid in the lungs and coronary vessel disease were indicative of coronary failure.²²
45. Toxicology analysis showed the presence of chlorpromazine, clozapine, haloperidol and temazepam, consistent with the medications known to be given to the deceased on the last days of his life.²³ Dr Cadden suggested that a clinical toxicology opinion be obtained from an expert to consider the issue of the combined drug effect. This was obtained, and the conclusions of that report are discussed further below.

EXPERT PHARMACOLOGICAL OPINION

46. Professor David Joyce is a physician who specialises in the area of clinical pharmacology. At Dr Cadden's request, Professor Joyce reviewed the deceased's toxicology results to address whether the drugs that were identified in toxicology had a role to play in the deceased's death.²⁴
47. Professor Joyce provided a very detailed report in which he explored the possible cause of the deceased's sudden death and the possible association of his death with the medications administered. In particular, clozapine can cause a cardiomyopathy that can include inflammation of the heart muscle and pericardium, although the incidence is very low.²⁵
48. Professor Joyce observed that the deceased's psychiatric state around the time of his death interfered with his ability to be properly examined but he underwent a full cardiovascular assessment at SCGH only 11 days prior to his last Graylands admission.²⁶
49. Professor Joyce expressed the opinion that the cardiology findings indicate that the deceased had coronary artery disease but it was not compromising his myocardial perfusion. He also noted the deceased had left ventricular hypertrophy, probably related to his hypertension. His ECG's indicated a cardiac disorder, which may have reflected the ventricular hypertrophy.²⁷
50. Relevantly, the deceased's echocardiogram did not show any signs of systolic dysfunction or pericarditis that can accompany clozapine treatment. Nor did any of his ECG's show a prolonged QT interval.²⁸

²¹ Exhibit 1, Tab 5 – 25.2.2016 and Tab 7.

²² T 21 - 22; Exhibit 1, Tab 5 – 25.2.2016.

²³ Exhibit 1, Tab 6.

²⁴ T 20.

²⁵ Exhibit 1, Tab 8.

²⁶ Exhibit 1, Tab 8, pp. 2 - 4.

²⁷ Exhibit 1, Tab 8, pp. 2 - 3.

²⁸ Exhibit 1, Tab 8, p. 2.

51. Professor Joyce observed that an ante-mortem blood specimen collected on the morning of 1 September 2015 indicated that the deceased had not been taking clozapine as prescribed before hospital admission. The concentration of clozapine in the post-mortem sample was consistent with a daily dose of 400mg clozapine. Though higher than expected who was thought to have received only one dose thus far, it was well below the concentration that has been associated with death from the drug, when it has been the only drug present. Professor Joyce observed that clozapine does not have potent sedative or respiratory effects and adverse effects on breathing are not anticipated at these levels. Further, the deceased's blood levels of clozapine had been higher than this in life without any apparent ill effects.²⁹
52. Similarly, the post mortem haloperidol concentration was as expected for a dose of 30mg and well below any concentration that has been linked to lethal toxicity.³⁰
53. Based on the known evidence, Professor Joyce expressed the opinion that there was not much reason to suspect the deceased had clozapine cardiomyopathy at the time of his death. However, the presence of pericardial adhesions raised the possibility that he had clozapine related pericarditis at some time in the distant past, well before his death.³¹
54. Professor Joyce observed that any proposal that drugs contributed to the deceased's death has to be reconciled with the fact that the deceased survived for around 5 hours after administration of the last dose of clonazepam and around 6 hours after the last haloperidol dose. The concentrations of all drugs found in the deceased's system should all have been safe, even in combination. Professor Joyce considered whether there was some idiosyncratic sensitivity in the deceased that transformed generally safe therapy in to risky therapy and acknowledged that the deceased's obesity, schizophrenia and uncontrolled agitation, and hypertension-related ventricular hypertrophy all may have played a role, although what role, and to what extent, is uncertain.³²
55. Professor Joyce noted that uncertainty arises partly because the terminal clinical decline was only sketchily described due to the lack of close observation during the last hours of the deceased's life. Close observations might have supplied an opportunity to identify deterioration, diagnose it and manage it. However, Professor Joyce also acknowledged that there is "a dilemma in this,"³³ as the purpose of sedation is to allow agitation, and its attendant dangers to subside but close observation usually requires disturbing the patient, which compromises the benefits of sedation.³⁴
56. Overall, Professor Joyce concluded there did not seem to be enough evidence, either in drug concentration, clinical course, pathological findings

²⁹ Exhibit 1, Tab 8, p. 7.

³⁰ Ibid.

³¹ Exhibit 1, Tab 8, p. 9.

³² Exhibit 1, Tab 8, p. 11.

³³ Exhibit 1, Tab 8, p. 12.

³⁴ Ibid.

or idiosyncratic sensitivity, to implicate the drugs administered to the deceased in the cause of death.³⁵

CAUSE OF DEATH

57. After all investigations were completed, and the opinion of Professor Joyce had been considered, Dr Cadden found that the only findings that had the potential to explain the death was the deceased's coronary heart disease, given the description of events at the time of his death was consistent with a cardiac event on a background of a significantly enlarged heart, coronary vessel disease and a recent agitation event that resulted in sedation.³⁶
58. Faced with the alternatives of leaving the cause of death as unascertained or narrowing the cause of death to cardiac disease, Dr Cadden indicated that he elected to give his opinion that the cause of death was coronary atherosclerosis.³⁷ Dr Cadden explained that he took into account the consequences of leaving the cause of death unascertained for the family in making that decision.³⁸
59. In that context, Dr Cadden formed the opinion the cause of death was coronary atherosclerosis, within the context of the deceased's obesity and known systemic hypertension.³⁹
60. In terms of the exact mechanism of death, I heard evidence from Dr Cadden and Dr Andrew Klimaitis, a Consultant Physician who provided an expert opinion in relation to the general physical care provided to the deceased prior to his death. Various suggestions were made as to a possible role of the deceased's large body habitus, sleep apnoea, hypertension and arrhythmia.⁴⁰ Dr Cadden explained at the inquest that a cardiac arrhythmia (an electrical abnormality in the rhythm of the heart) cannot be addressed at post-mortem, nor can sleep apnoea or obesity-related hypoventilation syndrome, although each of them may have played a role in tipping the deceased into cardiac failure.⁴¹
61. Dr Darryl Bassett, a very experienced Consultant Psychiatrist who reviewed the deceased's psychiatric care, gave evidence that sadly this kind of crisis is not uncommon in a psychiatric setting as schizophrenia can often lead to an overall physical vulnerability, which in times of stress can result in tragedy.⁴²
62. I accept and adopt the conclusion of Dr Cadden as to the cause of death. It follows that the manner of death was natural causes.

³⁵ Ibid.

³⁶ T 22 - 23

³⁷ T 23.

³⁸ T 23.

³⁹ Exhibit 1, Tab 5 – 2.9.2016.

⁴⁰ T 14 – 18; Exhibit 1, Tab 14.

⁴¹ T 23 - 25.

⁴² T 34.

QUALITY OF SUPERVISION, TREATMENT AND CARE

63. Under s 25(3) of the *Coroners Act 1996*, where a death investigated by a coroner is of a person held in care, the coroner must comment on the quality of the supervision, treatment and care of the person while in that care.
64. The deceased had a long history of mental illness. In this inquest, I must comment on the medical care provided to the deceased effectively in the last day or two of his death when he was a person held in care. However, given the circumstances of his death, it is also necessary to give some consideration to his presentation at SCGH some 11 days before his admission to Graylands, where he was investigated for possible heart disease.
65. Dr Klimaitis provided an expert opinion in relation to the general physical care provided to the deceased prior to his death at SCGH and via his general practitioner. Dr Klimaitis reviewed the deceased's medical notes from SCGH and other relevant medical records. This included reviewing his ECG's taken from 2004 onwards. Dr Klimaitis referred to those reports as showing "left ventricular strain."⁴³ The fact that the results were largely unchanged over a long period of time indicated the deceased's heart was still working reasonably well but was having to work a bit harder, which had led to thickening of the left ventricle that was resulting in strain.⁴⁴
66. In relation to the deceased's presentation to SCGH on 20 August 2015, Dr Klimaitis concluded the deceased's complaints were appropriately investigated and treated and it was "reasonable to assume that [the deceased's] symptoms at that time were psychiatric in nature rather than cardiac."⁴⁵ There was no specific pointer to there being a heart problem at the time and the history of normal heart investigation over the previous couple of years provided reassurance.⁴⁶ Dr Klimaitis did not consider there was a pressing need to undertake further cardiology investigation, although it is noted an echocardiogram in a few weeks was part of the treatment plan going forward.⁴⁷
67. Overall, Dr Klimaitis considered the deceased was "managed well"⁴⁸ at SCGH and he did not express any concerns about his treatment or care.
68. Dr Klimaitis also considered the treatment by the deceased's GP, Dr Chew, was reasonable and appropriate.⁴⁹
69. Dr Bassett noted that the deceased's management over the time recorded in the case notes appeared to follow established principles of treatment of schizophrenia during both inpatient and community based care. The

⁴³ T 5.

⁴⁴ T 5 – 7.

⁴⁵ Exhibit 1, Tab 14, p. 1.

⁴⁶ T 8.

⁴⁷ T 8 – 9.

⁴⁸ T 9.

⁴⁹ T 13.

deceased appeared to have understood that he suffered a major mental illness and participated in the choice of treatments.⁵⁰

70. Dr Bassett considered the community mental health team had tried conscientiously to encourage the deceased to take his prescribed medication in the last days of August 2015. His psychotic illness continued to escalate, suggesting he was probably not adherent to his medication regime despite the encouragement. In those circumstances Dr Bassett described the decision to invoke involuntary treatment on 31 August 2015 as appropriate management for his psychotic state and the medications used acutely (haloperidol and clonazepam) were utilised correctly.⁵¹
71. In terms of whether the deceased should have been sent to hospital by the Hospital in the Home Assessment Team at an earlier stage, as raised by his mother, Dr Bassett agreed that the deceased “would have been better served being admitted to a hospital earlier.”⁵²
72. However, Dr Bassett noted that there is presently a cultural emphasis upon management of people with major psychotic disorders in the community and the relevant legislation mandates that the least restrictive option must be used. Dr Bassett referred to the very specific circumstances under which involuntary care is legally permitted under the *Mental Health Act* and noted that the team had to work within those constraints given the deceased was unwilling to be admitted voluntarily.
73. Dr Bassett considered the team acted appropriately within those constraints although he did express his own view that it was regrettable that they were forced to wait until his illness escalated before being able to admit him involuntarily.⁵³ Given the realities of the deceased’s illness, which indicated that he would eventually require hospitalisation, Dr Bassett expressed his personal view that it would be better if the deceased could have been admitted prior to reaching crisis point, to avoid some of the emotional trauma experienced by both the deceased and his family, but that is not how the legislation operates.⁵⁴
74. By the time the deceased met the criteria for involuntary admission he was very ill and required physical restraint, medication and time in an isolated area. Dr Bassett considered the combination of medications given, including sedative medication, was appropriate given the deceased’s highly aroused state. The deceased was under regular nursing supervision and observation and Dr Bassett indicated his physical observations made on 31 August 2015 were all within normal limits. Physical examinations were attempted twice but the deceased was poorly co-operative with them. Dr Bassett agreed that this restricted the ability of the nursing staff to monitor his condition from a physical point of view.⁵⁵

⁵⁰ Exhibit 1, Tab 15.

⁵¹ Exhibit 1, Tab 15, p. 2.

⁵² T 28.

⁵³ T 28.

⁵⁴ T 28.

⁵⁵ T 30 – 31; Exhibit 1, Tab 15, p. 3.

75. Dr Bassett noted that when the deceased was found in an unresponsive state appropriate emergency medical intervention was provided although it was unsuccessful in reviving the deceased.⁵⁶
76. The only concern that Dr Bassett raised about the medical management at Graylands was that he was not administered his current general medical (non-psychotropic) medications. When the deceased had attended SCGH on 20 August 2015 it was noted that he was taking blood pressure medications, a cholesterol lowering medication, a diabetic medication and aspirin. These medications were not administered after his admission to Graylands.⁵⁷
77. Dr Bassett stated that medical practitioners working in a mental health facility should “regard the management of general medical disorders as an essential part of their management strategies” as appropriate psychiatric management of a patient “always includes the appropriate care of any general medical disorders. This includes the administration of appropriate non-psychotropic medications.”⁵⁸ Dr Bassett acknowledged that the deceased was probably not in a sufficiently competent state of mind to provide information about his regular medications, but noted there were medications documented from his previous admission to Graylands.⁵⁹
78. Dr Bassett also noted that the case notes suggested that the deceased “may not have been adherent to his entire medication regime prior to admission on 31 August.”⁶⁰ That is, it was most likely the deceased had ceased taking his general medications at the time he stopped taking his anti-psychotic medications.⁶¹
79. However, Dr Klimaitis gave evidence about the effect of the various medications on the deceased’s physical health and noted that most of the medications were intended as a long-term treatment to reduce the risk of a heart attack or stroke over a period of years, so stopping the tablets for a few days was not a major concern.⁶² Dr Klimaitis described the medications as “primary prevention rather than secondary prevention.”⁶³
80. People who have had heart disease are at higher risk and hence derive more benefit from these drugs, but in the case of the deceased, who had no proven history of underlying heart disease, Dr Klimaitis did not think the deceased’s risk from not taking the medications in the short term was very high. Dr Klimaitis noted that stopping some of the deceased’s medications might have pushed his blood pressure up a little bit higher but he did not consider that to be a major concern in the short term.⁶⁴ Apart from the clozapine, Dr Klimaitis also did not express a concern about the deceased starting and stopping the medications.⁶⁵

⁵⁶ Ibid.

⁵⁷ Ibid.

⁵⁸ T 28 – 29; Exhibit 1, Tab 15, p. 3.

⁵⁹ Ibid.

⁶⁰ Ibid.

⁶¹ T 33.

⁶² T 10 – 11.

⁶³ T 12.

⁶⁴ T 10 – 12.

⁶⁵ T 12.

81. Dr Bassett was in court for Dr Klimaitis' evidence and accepted Dr Klimaitis' opinion that the cessation of medications was unlikely to have had an acute adverse effect in the short term.⁶⁶ Dr Bassett also gave evidence that the cessation of those medications was unlikely to have had an impact on the deceased's mental health.⁶⁷ However, he still maintained that the hospital staff had "an obligation to manage the deceased's medical health as much as his mental health."⁶⁸
82. At the conclusion of the inquest I foreshadowed the possibility of an adverse finding in relation to the non-administration of the deceased's general (non-psychotropic) medications while at Graylands during his last admission. In response further information was provided on behalf of the North Metropolitan Health Service on 25 May 2018 by way of a statement from Dr Samir Heble, a Consultant Psychiatrist and Acting Head of Clinical Services at Graylands. It was submitted that when regard is had to the evidence of Dr Heble there was a sufficient explanation for the non-administration of the medications.⁶⁹
83. Dr Heble had reviewed the deceased's medical records and noted that it was recorded that the deceased was brought into the ward by police officers and was aggressive when he was admitted at 5.10 pm. His aggression resulted in the activation of a 'Code Black' (an emergency code) and he required restraint as he was lashing out at staff. At 6.00 pm he was placed in a seclusion room, which is used for patients who are aggressive and can't be managed in the general side of the secure ward.⁷⁰
84. The deceased was given injectable psychotropic medication to manage his aggression but his mood remained elevated and he was noted to still be psychotic and disorganised at 11.00 pm. At that time the deceased was not in a position to give a coherent history for staff to do an accurate medication reconciliation of his general medications.⁷¹ He had been asked during a mental health assessment prior to going into seclusion about his medications and he had claimed he was on no medications and denied ever having been on clozapine, which was known to be incorrect.⁷²
85. A medication reconciliation is usually performed by a clinical pharmacist as soon as possible after a patient's admission and the Pharmaceutical Review Policy requires a medical reconciliation to be done within 24 hours of admission where possible. It involves consultation with as many sources of information as can be identified, including not only the patient but also a patient's GP, specialist services, community health clinic, community pharmacy and family. The most comprehensive single source of this information is often the community pharmacy but it is usually the patient that provides the identity of the particular pharmacy, which the deceased was not able to do at that time. Further, the deceased's admission occurred

⁶⁶ T 32 – 33.

⁶⁷ T 33.

⁶⁸ T 33.

⁶⁹ Exhibit 1, Tab 17.

⁷⁰ Exhibit 1, Tab 17.

⁷¹ Exhibit 1, Tab 17.

⁷² Exhibit 2, Tab 1, Mental Health Assessment 31.8.2015, 5.50 pm.

outside pharmacy working hours so there was no clinical pharmacist on site at Graylands to commence the process until the following morning.⁷³

86. On the morning of 1 September 2015 the deceased continued to be elevated, psychotic and disorganised and hence was unable to give a relevant and coherent medical history or advise of the identity of his GP or community pharmacy. Dr Heble noted there is no documentation on the deceased's medical file to indicate why he was not prescribed his general medications based on the information provided in the previous discharge summary. However, that discharge summary related to his admission in October 2013 and Dr Heble suggested it was possible the medical staff may not have relied on that information as his general medication regime could have changed since 2013.⁷⁴
87. I accept that explanation but I note that the 2013 discharge summary did nominate a pharmacy in Innaloo (together with a telephone number) where the deceased was to collect his medications. His home address at that time was the same address in Woodlands (a neighbouring suburb to Innaloo) that was recorded on the deceased's admission documents in August 2015, so it would have been reasonable to assume he was still attending the same local pharmacy. In those circumstances, if a medical reconciliation was a priority, it would have been a simple step to make a brief telephone call to the pharmacy to ascertain whether the deceased remained a client.⁷⁵
88. Dr Heble was given an opportunity to further consider the question of the medical reconciliation, with this information in mind, and Dr Heble advised that a call to the clinic is the more common approach, but this can take time as the clinician will often need to read through the patient's hard copy case notes and discern if there are scripts dispensed.⁷⁶
89. Dr Heble also indicated that he had completed a secondary review and identified areas where there was a gap in the medication reconciliation process. Dr Heble indicated there was an opportunity by the Hospital in the Home team to take a best possible medication history prior to the deceased's last admission to Graylands, as well as an opportunity at the hospital on 1 September 2015.⁷⁷ Dr Heble advised that since this incident the following relevant change has been made to pharmacy practice at Graylands, namely that all clinical pharmacists will prioritise admissions and completion of medication reconciliation for new patients (since November 2015).⁷⁸
90. Further, with the advent of My Health Record Dr Heble noted that doctors and pharmacists will be able to look up medications online, which will avoid the problem of having to trace the prescription information through collateral information where the patient is too unwell to provide it.⁷⁹

⁷³ Exhibit 1, Tab 17.

⁷⁴ Exhibit 1, Tab 17.

⁷⁵ Exhibit 1, Tab 16; Exhibit 2, Tab 1.

⁷⁶ Email correspondence to Counsel Assisting from State Solicitor's Office dated 31.8.2018.

⁷⁷ Email correspondence to Counsel Assisting from State Solicitor's Office dated 15.8.2018.

⁷⁸ Email correspondence to Counsel Assisting from State Solicitor's Office dated 15.8.2018.

⁷⁹ Email correspondence to Counsel Assisting from State Solicitor's Office dated 31.8.2018.

91. The other question that remains is how the deceased could have undergone a number of cardiac investigations and not been diagnosed with coronary atherosclerosis, given it was found to be present after his death? This issue was raised directly with Dr Klimaitis during the inquest.
92. Dr Klimaitis gave evidence that “it is very common for people to be walking around with quite severe degrees of coronary atherosclerosis and have no symptoms until they ... drop dead suddenly.”⁸⁰ In that sense, he described it as a “silent disease.”⁸¹
93. Dr Klimaitis described the deceased’s ECG’s as showing features that were not uncommon in people who don’t have coronary artery disease, so they were difficult to interpret. A coronary angiogram showed relatively mild coronary artery disease in 2013, which again was not uncommon. Although an echocardiogram had been foreshadowed, it is looking at the function of the left ventricle and not for coronary artery disease, so it was unlikely to have assisted further.⁸²
94. The deceased in his presentation at SCGH and to his GP prior to his death did not emphasise chest pain, which Dr Klimaitis described as “a fairly prominent symptom”⁸³ of coronary artery disease. In the absence of a complaint of chest pain in combination with shortness of breath and other symptoms that might point to a cardiac cause, Dr Klimaitis expressed the view that it was reasonable to assume that there was a psychiatric issue causing the symptoms the deceased described.⁸⁴
95. With the benefit of the expert opinions of Dr Bassett, Dr Cadden and Dr Klimaitis, I am satisfied that the medical care provided to the deceased at SCGH prior to his death and during his last admission at Graylands was reasonable and appropriate.

CONCLUSION

96. The deceased was a 45 year old man with a long history of psychotic illness. His illness had resulted in multiple hospital admissions over the years, many of them at Graylands Hospital. Over the years he had also developed multiple co-morbidities including obesity, hypertension and type 2 diabetes, that increased his risk of cardiovascular disease. He continued to smoke, also placing him at increased risk of cardiovascular disease.
97. The deceased had experienced some symptoms of heart disease and investigations performed suggested left ventricular hypertrophy, which was most likely as a result of hypertension. However, an angiogram performed in 2013 showed only minor coronary artery disease. The deceased was appropriately managed with anti-hypertensives, aspirin and cholesterol lowering medications, as well as medicine for his diabetes.

⁸⁰ T 14 – 15.

⁸¹ T 15.

⁸² T 14 – 15.

⁸³ T 10.

⁸⁴ T 10.

98. A little less than a fortnight before his death the deceased was reviewed at SCGH for some symptoms that were thought to possibly be cardiac related, but after investigation and consultation with cardiac specialists were attributed to the deceased's psychiatric illness. In the following days the deceased's mental health continued to deteriorate and he was eventually admitted to Graylands on 31 August 2015 in a serious psychotic state. The focus of his medical treatment was on treating his psychosis and calming his disorganised mental state. Over the next 24 hours his mental state began to improve.
99. On the evening of 1 September 2015, while asleep in a chair in sight of nursing staff, the deceased's breathing slowed and he went into cardiopulmonary arrest. Resuscitation attempts were unsuccessful and he died that night. His death was a result of natural causes related to heart disease. I have reviewed his medical care leading up to his death and found that his supervision, treatment and care were reasonable and appropriate in the circumstances.

S H Linton
Coroner
6 September 2018