Coroners Act 1996
[Section 26(1)]

Western *Australia*

RECORD OF INVESTIGATION INTO DEATH

Ref: 8/16

I, Sarah Helen Linton, Coroner, having investigated the death of ***Geoffrey Mark REID*** *with an inquest held at the* ***Perth Coroner's Court, Court 51, CLC Building, 501 Hay Street, Perth*** *on* ***22 to 24 February 2016*** *find that the identity of the deceased person was* ***Geoffrey Mark REID*** *and that death occurred on* ***12 December 2010*** *at* ***Alma Street Centre, Alma Street, Fremantle*** *as a result of* ***combined drug toxicity*** *in the following circumstances:*

Counsel Appearing:

Ms K Ellson assisting the Coroner.
Ms J Hook and Mr J Nicols (State Solicitor's Office) appearing on behalf of Fremantle Hospital and Health Service and Next Step Drug and Alcohol Service.
Ms B Burke (Australian Nursing Federation) appearing on behalf of Ms Mercer and Mr Kay.

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INTRODUCTION

1. Geoffrey Reid (the deceased) died on 12 December 2010. He had a long history of mental illness and illicit drug issues. At the time of his death he was admitted as a voluntary patient and receiving psychiatric treatment at the Alma Street Centre in Fremantle, which is attached to Fremantle Hospital.

2. After his death it became apparent that medications administered to the deceased during his hospital stay played a role in his death, in particular methadone. This raised concerns about the standard of medical care provided to the deceased during his hospital stay. To explore this issue and other aspects of the deceased's death, the State Coroner ordered that an inquest be held into the death of the deceased.

3. I held an inquest at the Perth Coroner's Court from 22 to 24 February 2016.

4. The documentary evidence included a report of the investigation into the death prepared by officers from the Western Australia Police, and the deceased's medical records.[1] A number of witnesses were also called to give oral evidence at the inquest, including medical staff involved in the deceased's care and expert witnesses who reviewed the case and provided their expert opinion about the medical treatment and care provided.

THE DECEASED

5. The deceased was born in Perth, Western Australia, on 26 May 1987. His family moved to Darwin when he was only a couple of months old and he spent his early childhood years with his father, older brother and younger sister in Darwin. The deceased's mother was diagnosed with schizophrenia after they moved to Darwin, while the deceased was still very young. She separated from the deceased's father and returned to Perth alone for treatment.[2]

6. In 1996 the deceased and his family returned to Perth as the deceased and his siblings wished to be closer to their mother. The deceased was approximately ten years old at that time.[3]

7. When the deceased was 13 years of age he was diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) by a local general

[1] Exhibits 1 – 3.
[2] Exhibit 1, Tab 2, p. 2 and Tab 5 [4].
[3] Exhibit 1, Tab 2, p. 2 and Tab 5 [5].

practitioner and prescribed dexamphetamine at a dose of two tablets per day. The deceased later consulted a paediatric specialist in ADHD, who later became involved in some controversy in the medical community in relation to his prescription practices for ADHD medications.[4] According to the deceased's father, in the deceased's case his medication was increased from two to fourteen tablets per day by the specialist.[5]

8. The deceased also reportedly began using cannabis at 13 years of age.[6] In April 2000 the deceased attended hospital with marijuana intoxication.[7]

9. The deceased found schooling difficult and from the age of 15 years the deceased rarely attended high school.[8]

10. The deceased remained on dexamphetamine until he was about 16 years old.[9] Around this time he reported he was experiencing altered perception whilst on dexamphetamine, including periods of sound intensification and depersonalisation followed by a "dreamy period."[10] Some EEG's performed at the time showed no epileptiform changes.[11]

11. In his teenage years the deceased became involved in criminal activity, resulting in a short period of detention at Rangeview Detention Centre in 2004, when he was 17 years of age.[12] He was subsequently released on a 9 month Intensive Supervision Order.[13]

12. The deceased was later diagnosed with schizophrenia.[14] He was commenced on an anti-psychotic medication, risperidone, in 2005.[15]

13. After the deceased was released from detention he continued to engage in criminal behaviour and his illicit drug use escalated from smoking cannabis to using speed, which had a tendency to make him psychotic. He later progressed to heroin use.[16]

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[4] Western Australia, *Parliamentary Debates*, Legislative Assembly, 7 May 2009, 3586d-3604a (Mr M.P.Whitely (Bassendean)) [13].
[5] Exhibit 1, Tab 5 [8].
[6] Exhibit 1, Tab 6, p. 1.
[7] Exhibit 1, Tab 6, p. 1.
[8] Exhibit 1, Tab 5 [10] and Tab 6, p. 2..
[9] Exhibit 1, Tab 6, p. 1.
[10] Exhibit 1, Tab 6, p. 1.
[11] Exhibit 1, Tab 6, p. 1.
[12] Exhibit 1, Tab 2, p. 2 and Tab 5 [10].
[13] Exhibit 1, Tab 2, p. 2.
[14] Exhibit 1, Tab 5 [9].
[15] Exhibit 1, Tab 6, p. 1.
[16] Exhibit 1, Tab 5 [11].

14. As a young adult the deceased was involved in an attempted armed robbery in company, which resulted in him serving a 16 month prison term in 2007. While in prison the deceased attempted suicide by cutting his wrists and he was transferred to the secure ward at Graylands Hospital.[17]

15. During his prison term the deceased was introduced to the methadone program and he continued on the program after his release from prison.[18] However, the deceased also continued to abuse drugs, both illicit drugs and his prescription medications.[19]

16. The deceased had regular hospital admissions due to relapses of his chronic paranoid schizophrenia. The relapses were often triggered by drug use and stress. He was also admitted on some occasions due to drug overdoses, both intentional and accidental.[20] He was a well-known client of the Alma Street Centre at Fremantle Hospital.

17. On 26 November 2010 the deceased presented to Fremantle Hospital Outpatients requesting his usual medications. He was in good spirits, bright and reactive at that time. He was supplied with a one week 'Webster pack'.[21]

18. A couple of days later he presented to the hospital's Triage requesting a supply of his usual medications. He had phoned the hospital the day before to advise that he had left his other supply on a bus. A five day script was provided to the deceased.[22]

19. The next day, on 29 November 2010, the deceased told an occupational therapist at Fremantle Hospital that he had lost the medication after becoming heavily intoxicated. It was noted that he had an increase in auditory hallucinations and self verbal commands to harm others and himself, although he emphatically denied any intention to commit these acts. Outpatient review was arranged for the following day.[23]

LAST HOSPITAL ADMISSION

20. The deceased's last admission was on 30 November 2010 at Fremantle Hospital. The deceased was brought to hospital by his Cockburn case manager for non-compliance with his clozapine

[17] Exhibit 1, Tab 2, p. 2 and Tab 5 [11] – [12].
[18] Exhibit 1, Tab 2, p. 2 and Tab 5 [13].
[19] Exhibit 1, Tab 2, p. 2.
[20] Exhibit 1, Tab 6, pp. 2-4.
[21] Exhibit 1, Tab 2, p. 3 and Tab 6, p. 4.
[22] Exhibit 1, Tab 2, p. 3 and Tab 6, p .4.
[23] Exhibit 1, Tab 2, p. 3 and Tab 6, p. 4.

medication. This had led to exacerbation of his schizophrenia symptoms, such as hearing voices, seeing things, bad thoughts and thoughts of self-harm.[24] He was admitted as a voluntary patient on an open ward.[25]

21. The deceased was reviewed during the afternoon of his admission by a Consultant Pyschiatrist, Dr Bell, in company with an intern, Dr Nicole Filar, and a registered nurse. It was noted that the deceased had been engaging in significant drug use and specifically admitted to using heroin and OxyContin daily. He reported that his last use of methadone was 19 weeks before.[26] The deceased indicated to staff that he felt safe in hospital and hoped that he wouldn't be tempted to harm himself while admitted.[27]

22. The deceased's initial treatment plan involved a graded increase of his clozapine medication and there was an indication by Dr Bell on that first day of admission that the deceased could also be restarted on methadone, at a starting dose of 20ml (based on information from his previous hospital admission in April).[28] It is relevant to note at this stage that all the evidence indicates that it is extremely uncommon for a person to recommence methadone while a hospital inpatient (as opposed to allowing them to continue with their current methadone therapy), with a suggestion it might only occur once or twice a year or not at all in a given year.[29]

METHADONE AND CPOP

23. Dependence on opioids is a significant community problem in Australia. Over time, doctors have established that the negative impacts of opioid dependency can be significantly reduced by treatment. The treatment is usually provided as a combination of medication and psychosocial support. The medication can eliminate withdrawal and reduce cravings and/or block the euphoric effect of further opioid use.

24. Opioid substitution treatment is provided in Western Australia through the Community Program for Opioid Pharmacotherapy (CPOP), which is managed jointly by the Department of Health and the Drug and Alcohol Office. The initial goal of the treatment is to reduce and stop the use of illicit opioid drugs by

[24] Exhibit 1, Tab 6, p. 4.
[25] Exhibit 1, Tab 7.
[26] Exhibit 1, Tab 6, p. 4.
[27] Exhibit 1, Tab 6, p. 4.
[28] Exhibit 2, Integrated Progress Notes 30.11.2010, 17.00
[29] For example, see T 34 – 35 – 22.2.16.

substituting them with a regulated, safer alternative. It has been described as "harm minimisation management"[30] as it still involves a form of ongoing drug dependency, which carries its own risks.

25. The treatment replaces short-acting opioids, such as heroin and oxycodone, with a long-acting opioid that can be taken orally. Methadone and buprenorphine are the two opioid substitution medications approved for use in Australia. They can be prescribed for short-term and longer-term maintenance treatment. The ultimate longer-term aim is the achievement of an opioid-free state, although that does not always occur.[31]

26. In order to prescribe methadone or buprenorphine for the treatment of drug dependence (as opposed to short-term pain relief), medical practitioners require prior authorisation from the Department of Health Chief Executive Officer to become a CPOP prescriber. The process requires the medical practitioner to complete a training and assessment package.[32] Authorised prescribers must also obtain an individual authority for each client being commenced on opioid substitution treatment.[33]

27. One of the major providers of opioid substitution treatment in Western Australia is Next Step, which is the State Government's alcohol and drug service provider. Next Step operationally manages CPOP in collaboration with the Health Department and also provides a range of free in-patient and out-patient services to people with drug and alcohol problems. Next Step has a number of clinics across the metropolitan area including, relevantly for this matter, in Fremantle.[34] As of 1 July 2015 Next Step is now integrated with the Mental Health Commission, so it is now part of the mental health system.[35]

28. Methadone is a sedative drug that can cause significant respiratory depression at the effective treatment dose if the patient is not opioid dependant and tolerant to the effect of opioids. To manage the sedative effects safely, a process of planned step-wise dose escalation is utilised by Next Step to allow patients to develop tolerance to the sedative and respiratory depressant effects of methadone, and allow them to be treated with higher doses.[36]

[30] Exhibit 4, Explanatory Notes on Methadone Treatment.
[31] Exhibit 1 Tab 17E.
[32] Exhibit 1 Tab 17E.
[33] Exhibit 1, Tab 17E.
[34] T 32 – 22.2.16.
[35] T 32 – 33 – 22.2.16.
[36] Exhibit 1, Tab 17C.

29. When commencing a patient on methadone the prescribing doctor takes into consideration the patient's prior history of opioid use and dependence and the likely level of tolerance to opioids that the patient would have developed. The patient's drug use and experience of opioid intoxication or withdrawal in the weeks and days prior to commencing methadone is assessed. An examination of the patient for needle track marks, and signs of intoxication or withdrawal is undertaken and urine testing may be performed. The doctor also takes into consideration any other prescribed or illicit drugs the patient is known to be taking, the patient's general health and mental state, the setting in which treatment is being commenced and the urgency to reach an effective treatment dose.[37]

30. Once the assessment is complete the prescribing doctor determines: a starting dose, the size of each dose increase, the time interval between dose increases and the frequency of patient review. The amount by which the dose increases with each step can vary and the time interval (number of days) between dose increases can also vary. The starting dose in the community is generally in the range of 20 – 25mg and the most common methadone dose increase is 5mg, with increases occurring every 2 to 3 days. These low doses and slow rate of induction are used because the patients are often also consuming large amounts of alcohol and taking other illicit and prescribed sedative drugs in an uncontrolled way, which can increase the risk of overdose.[38]

31. It is recommended that patients being started on methadone are reviewed regularly. In a community setting patients initially attend a pharmacist for supervised daily dosing and the pharmacist assesses the person's suitability for each dose. Pharmacists observe the patient for signs of intoxication or withdrawal and ask the patient if they think the dose is too high or too low. Patients who present to a pharmacy acutely intoxicated have their day's dose of methadone withheld and the pharmacist contacts the prescribing doctor for advice about what to do.[39]

32. Community patients also attend their doctor for frequent clinical reviews. During the commencement of treatment these medical reviews occur every two to three days and a new prescription based on the clinical assessment is provided. Formal observations, such as blood pressure, pulse and respiratory rate are only undertaken and recorded for community patients if

[37] Exhibit 1, Tab 17C.
[38] Exhibit 1, Tab 17C.
[39] Exhibit 1, Tab 17C.

visual observations of the person's speech and behaviour raise concern.[40]

33. After taking a dose, methadone blood levels increase gradually to a peak three to four hours after the dose and then gradually decline. It is not intended for a patient taking methadone to be intoxicated by the dose but simply to have their psychological and physical withdrawal symptoms alleviated.[41]

34. Early evidence of dose related toxicity can be obtained by observing the patient three to four hours after they have taken the dose. The clinical signs of toxicity are sedation with drowsiness, slurred speech and unsteady gait. The pulse rate and breathing become slower, the blood pressure lowers and the pupils are constricted. Nausea and vomiting can develop. With increasing sedation the patient can fall into a deep sleep with obstructed breathing and loud snoring. The rate of breathing progressively slows as toxicity increases. The patient becomes increasingly cyanosed, breathing stops and then the heart stops.[42]

35. The risk of lethality is increased during the first week of treatment when patients are developing tolerance to methadone. The risk is further increased when patients are taking a combination of sedative drugs, particularly alcohol, benzodiazepines, anti-depressants and antipsychotics.[43]

36. In view of the risks involved in prescribing methadone, buprenorphine (used in Subutex and Suboxone), which can also be used to manage opiate craving and dependence but has a safer profile than methadone, is becoming more commonly used, particularly in a hospital setting.[44] Buprenorphine doesn't interact with other medications in the same way or as often as methadone, so overdose is less likely. However, if buprenorphine is combined with large amounts of other sedatives it could also be fatal, so it is not completely safe, but it is a safer option than methadone.[45] However, there was evidence at the inquest that people who take methadone are often reluctant to change to buprenorphine as they don't like the way it makes them feel.[46] This doesn't mean a doctor should always offer methadone if it is not considered a safe option, but it is relevant to the decision.[47]

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[40] Exhibit 1, Tab 17C.
[41] T 32 – 23.2.2016.
[42] Exhibit 1, Tab 17C.
[43] Exhibit 1, Tab 17C.
[44] T 45 – 22.2.16.
[45] T 14 – 15 – 22.6.16.
[46] T 14 – 22.6.16.
[47] T 14 – 22.6.16.

THE DECEASED'S METHADONE HISTORY

37. The deceased was a client of Next Step's South Metro Community Alcohol and Drug Service from 2005. He received treatment for opiate dependency in the form of prescribed methadone. His dose dispensing occurred at Fremantle Pharmacy. He was apparently compliant with his treatment until 24 August 2010 when he decided that he wanted to discontinue his methadone. Thereafter his dosing became erratic.[48]

38. On 30 August 2010 the deceased telephoned the Next Step service and advised that he wished to discontinue methadone treatment and go "cold turkey." At that time his prescribed methadone dose was 100mg but he had not dosed since 24 August 2010. In line with his expressed intention to cease treatment, the deceased's dose was reduced to 50mg for 30 August 2010 and 31 August 2010 and he was given a follow up appointment for 1 September 2010. Efforts were made by a number of Next Step staff around this time to persuade the deceased to change his mind and continue his treatment, but they were unsuccessful.[49]

39. A further prescription for 30 mg of methadone was provided to the deceased on 10 September 2010 but it is not clear whether he filled the prescription.[50]

RE-INDUCTING THE DECEASED ON METHADONE

40. As noted above, when the deceased was first seen by a Consultant Pscyhiatrist on admission to Fremantle Hospital on 30 November 2010 the initial plan was that he would be restarted on a 20mg dose of methadone. That plan was subsequently changed the following morning before any methadone was given. The intern, Dr Filar, made a note in the medical record on 1 December 2010 that methadone was ceased (although no dose had been given yet) as it was unsafe to restart it after a period of non-compliance and also because general practitioners who specifically prescribe methadone must reinduct a person on methadone. Dr Filar cannot recall how that decision was made but it is most likely that the decision was made in consultation with her supervising registrar or consultant.[51]

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[48] Exhibit 1, Tab 17A.
[49] Exhibit 1, Tab 17A.
[50] Exhibit 1, Tab 17A.
[51] Exhibit 1, Tab 21 [17].

41. The intern, Dr Filar, was tasked with reviewing the deceased, as well as putting the rest of the Consultant's plan into action. She conducted a physical examination of the deceased on 1 December 2010. Her physical examination of the deceased found him to be grossly normal.[52] Dr Filar noted the deceased was overweight and he reported smoking one packet of cigarettes a day.[53] In the afternoon Dr Filar performed a mental state examination and noted that the deceased was irritable and agitated but cooperative until she questioned him about his methadone use, at which point he stormed off before she could finish the assessment.[54] She recorded that he was preoccupied with methadone.[55] Nurses noted that he was drug seeking but also that he needed drugs for his withdrawal symptoms.[56] Dr Filar planned to discuss with her consultant, Dr Bell, what to do about the deceased's methadone and how to manage his withdrawal symptoms.[57]

42. On 2 December 2010 Dr Filar spoke to the deceased because he had been asking nursing staff to see a doctor about his methadone. Nursing staff had recorded in his medical record that he was irritated and fixated on his withdrawal symptoms from drugs and methadone. He wanted to get back on to methadone and was annoyed that no one seemed to be arranging it.[58]

43. The Fremantle Hospital Dual Diagnosis Nurse Belinda Mercer, who liaised with drug and alcohol services on behalf of patients, had already tried to see the deceased to perform an assessment by this time. He had been irritable and unwilling to speak to her.[59] Nurse Mercer had been told by other staff that the deceased wanted to recommence methadone. The only way the deceased could do so was via Next Step, so after attempting to see the deceased Nurse Mercer left a telephone message with Next Step asking for the deceased's case manager to contact her about the deceased.[60]

44. Dr Filar was aware from reading the medical notes that Nurse Mercer had earlier been in to see the deceased. The deceased told Dr Filar that his withdrawal symptoms had increased and he complained of vomiting, diarrhoea, headaches and sweating but he denied any tremor or 'flu like' symptoms. From her observation of the deceased, he did not appear to be in any

[52] Exhibit 1, Tab 6, pp. 4-5.
[53] Exhibit 1, Tab 21 [18].
[54] Exhibit 1, Tab 21 [19].
[55] Exhibit 1, Tab 21 [19].
[56] Exhibit 1, Tab 21 [19].
[57] Exhibit 1, Tab 21 [19].
[58] Exhibit 1, Tab 36 [12].
[59] T 87 – 22.216.
[60] T 84 – 85; Exhibit 1, Tab 37 [11]; Exhibit 2, Integrated Progress Notes, 02.12.10 (14.45).

obvious distress or discomfort, despite his description of his symptoms.[61] It was explained at the inquest that this is not unusual. People withdrawing from opiates can often have a divergence between their subjective and objective symptoms, in that their subjective experience of withdrawal can be a lot more uncomfortable than what is objectively obvious to clinicians.[62]

45. Dr Filar explained to the deceased that she could not legally prescribe him methadone for his drug withdrawal symptoms and it needed to be prescribed by a doctor from Next Step. She offered him some other medications, including diazepam, to help reduce the withdrawal symptoms he had reported and she wrote a note to nursing staff requesting that a drug and alcohol review be arranged. She also asked for his withdrawal symptoms to be monitored.[63]

46. Later that afternoon Dr Filar accompanied Dr Bell when she reviewed the deceased. The deceased spoke of hearing voices and said the only thing that helps the voices was drugs. He remained preoccupied with his withdrawal symptoms. Dr Filar's impression was that the deceased was suffering from opioid withdrawal, which was why he was demanding methadone. Dr Filar recorded Dr Bell's plan to give the deceased 5mg diazepam twice daily and also 10mg PRN (as needed; up to 80 mg per day) to manage his withdrawal symptoms and wrote it up on his medication chart. Routine tests were ordered and routine observations were requested to be taken four times per day.[64]

47. On 3 December 2010 Nurse Mercer spoke to the deceased's Next Step Case Manager, Ross Appleton, and advised that the deceased was an inpatient at Alma Street Centre and he wanted to recommence methadone. Nurse Mercer was advised that the deceased, or the deceased's case manager at Alma Street, could make an appointment with Next Step for the deceased to be assessed for re-induction to methadone.[65]

48. That same day Dr Filar spoke to Dr Bell about a plan for the deceased over the weekend. She then recorded in the notes Dr Bell's view that if the deceased sought to leave the hospital, other than to walk in the hospital grounds, it would be appropriate to make him an involuntary patient.[66]

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[61] Exhibit 1, Tab 21 [21].
[62] T 7 – 22.2.16.
[63] Exhibit 1, Tab 21 [22].
[64] Exhibit 1, Tab 21 [23] – [25].
[65] Exhibit 1, Tab 17A, Tab 37 [13] – [14] and Tab 40 [9].
[66] Exhibit 1, Tab 21 [27].

49. It is noted that over the weekend the deceased still complained he was experiencing withdrawal symptoms.

50. Dr Barratt-Hill was the psychiatric registrar in the Cockburn Team at Fremantle Hospital based at the Alma Street Centre, working with Consultant Psychiatrist Dr Bell and the intern Dr Filar.[67] Dr Barratt-Hill knew the deceased prior to this hospital admission but he had not been his treating doctor in any previous admission at Fremantle Hospital.[68] He was aware of the deceased's diagnosis of chronic schizophrenia and believed the deceased to be generally co-operative although he suffered emotional dyscontrol and was sometimes abusive or frustrated.[69]

51. Dr Barratt-Hill was not involved in the decision to admit the deceased nor his initial assessment and treatment. Dr Barratt-Hill first assessed the deceased on 6 December 2010, several days into his admission.[70] He reviewed the deceased with Dr Filar and a mental health nurse. The deceased complained of visual and auditory hallucinations but Dr Barratt-Hill was not convinced he had true hallucinations and thought he might have been having intrusive thoughts instead.[71] Dr Barratt-Hill was aware of the plan to continue to titrate the deceased's clozapine dose and to generally monitor his mental state, and no change was made to that plan.[72]

52. During Dr Barratt-Hill's review the deceased also complained of ongoing symptoms of opiate withdrawal. He reported experiencing diarrhoea, headaches, nausea, sweats and hot and cold flushes. Dr Barratt-Hill did not record any observations of objective signs of withdrawal, such as tremors, sweating or increased heart rate, but did record his impression of possible opiate withdrawal.[73] Dr Barratt-Hill's response was to increase the deceased's dose of diazepam to 10mg twice a day to treat his withdrawal symptoms, as his current dose of 5mg was not holding him. He did not, at that time, appear to be over sedated.[74] The deceased also did not appear to be experiencing severe acute withdrawal, which might have warranted a larger dose increase.[75]

53. On 6 December 2010 the deceased telephoned Next Step and booked an appointment for 9 December 2010.[76] Nurse Mercer

[67] Exhibit 1, Tab 18.
[68] Exhibit 1, Tab 18 [12].
[69] T 5 – 24.2.2016; Exhibit 1, Tab 18 [13].
[70] Exhibit 1, Tab 18 [16].
[71] Exhibit 1, Tab 18 [17].
[72] Exhibit 1, Tab 18 [18].
[73] Exhibit 1, Tab 18 [19].
[74] Exhibit 1, Tab 18 [20].
[75] Exhibit 1, Tab 18 [21].
[76] Exhibit 1, Tab 17A.

attempted to see him again that day but he was asleep.[77]

Appointment at Next Step

54. On 9 December 2010 the deceased attended the Next Step premises in Fremantle for his appointment. As he was a voluntary patient, he was permitted to attend unaccompanied. He had asked for some PRN diazepam before he left the hospital for the appointment and was told to wait until after he had been to the appointment.[78] It seems the deceased made his way to the Next Step Fremantle clinic without incident.

55. The deceased was first assessed by his case manager, Mr Appleton, with a view to re-inducting him onto methadone. Mr Appleton has no independent recollection of seeing the deceased so his evidence was taken from his contemporaneous notes.[79] The deceased reported to Mr Appleton that he had been using opiates (heroin or OxyContin) for the last three months after ceasing his methadone treatment, with the last use of opiates on 28 November 2010 (two days prior to his admission to Alma Street on 30 November 2010). However, it is recorded in the Next Step medical record that when the deceased called to make an appointment on 6 December 2010 he told the nurse on duty that he was using heroin whilst an inpatient.[80] The deceased underwent a urine test, which was positive for benzodiazepines but not for heroin, so if he was using heroin in hospital it had not been immediately prior to the appointment as heroin takes two or three days to clear from the urine after the last use.[81]

56. The deceased reported to Mr Appleton that he was experiencing withdrawal symptoms of hot and cold flushes, aches, headaches and not sleeping well. He stated he wanted to overcome his current withdrawals and wanted the safety and stability of being back on a methadone maintenance treatment programme.[82]

57. The deceased's current medications at that time were recorded by Mr Appleton as quetiapine 200mg twice a day, clozapine, diazepam 10mg twice a day and Temazepam at night.[83]

58. He was next assessed by Dr Jean Cox, a very experienced doctor who has worked as a medical officer at Next Step since 1998 and specifically at the Fremantle Clinic since 2003. Dr Cox had not met the deceased before as he usually saw a different Next Step

[77] T 86 – 22.2.16.
[78] Exhibit 1, Tab 34 [13].
[79] T 3 – 23.2.2016.
[80] Exhibit 1, Tab 35 [25](b).
[81] Exhibit 1, Tab 35 [25](f), [33] and Tab 40 [19]..
[82] Exhibit 1, Tab 17A and Tab 40 [14].
[83] Exhibit 1, Tab 35 [25](f).

doctor.[84] Despite her many years at Next Step, the deceased is the only hospital inpatient Dr Cox has ever seen in the clinic.[85]

59. Dr Cox's role was to medically assess the deceased and determine appropriate treatment in the context of him seeking re-induction to methadone.[86] Dr Cox recalls that the deceased did not appear intoxicated or sedated when she assessed him. The deceased reported that he was feeling uncomfortable and had muscle aches and pains (common symptoms of opioid withdrawal).[87] Dr Cox also noted that the deceased had told Mr Appleton he was experiencing other common physical withdrawal symptoms. In addition, Dr Cox observed that the deceased had signs of recent intravenous drug use in the form of a visible injection site at his left elbow.[88] Based on all of this information, Dr Cox made a note that the deceased was "withdrawing from opiates."[89]

60. Dr Cox was aware that the deceased had previously been on a methadone maintenance programme and his maximum dose had been 100mg, which was last taken on 24 August 2010, and then lesser doses of 60mg on 30 and 31 August 2010 after which he ceased methadone use.[90] After assessing the deceased Dr Cox recommended resumption of the deceased's methadone maintenance treatment programme, which was what the deceased requested.[91] Dr Cox did not consider putting the deceased on buprenorphine rather than methadone as the deceased had been on methadone previously and was keen to return to methadone. In Dr Cox's experience patients who have been on methadone "really don't like going on buprenorphine," so it was not an option she explored.[92]

61. In 2010 Dr Cox's usual practice when restarting a patient on methadone was to start at a dose of 30mg and increase the dose in 5mg increments each day, up to a maximum of 40mg in the first week. However, given the deceased was an inpatient, Dr Cox decided to vary her usual practice. She started the deceased on the standard 30mg dose with increments of 10mg per day, to a maximum of 50mg in the first week.[93]

62. Dr Cox explained her reasoning for suggesting a higher incremental dose was because the deceased was in hospital and hospital staff were trying to stabilise his clozapine. Dr Cox

[84] Exhibit 1, Tab 35 [21].
[85] T 18 – 23.2.16; Exhibit 1, Tab 35 [22].
[86] Exhibit 1, Tab 35.
[87] Exhibit 1, Tab 35 [30].
[88] Exhibit 1, Tab 35 [37].
[89] Exhibit 1, Tab 35 [32].
[90] Exhibit 1, Tab 35 [39] – [40].
[91] Exhibit 1, Tab 17A.
[92] T 20 – 23.2.16.
[93] T 22 – 23.2.16; Exhibit 1, Tab 35 [42] – [43].

believed if she increased his methadone dose at a higher rate it would help him get past his withdrawal symptoms sooner, which would help the doctors in managing his psychiatric treatment.[94] Dr Cox would not have suggested prescribing such a dosing regime if the deceased had not been a hospital inpatient.[95] Dr Cox was reassured about the safety of her plan by her belief that the deceased would be regularly observed by hospital staff, particularly if he was being given extra medication.[96] Dr Cox anticipated he would most likely have his general observations and conscious state checked every four to six hours because he would have been strictly observed while his psychiatric medications were being titrated.[97]

63. Dr Cox was aware at the time she was recommending the deceased be restarted on methadone the deceased was already taking quetiapine and clozapine, both of which can cause drowsiness. However, she was also aware that he had taken those medications previously when he was on methadone at much higher doses, so she was not particularly concerned about the effect of the combination of those drugs on him.[98]

64. Dr Cox sent a letter by fax to Dr Barratt-Hill at Alma Street Centre giving advice on a gradual regime for re-induction of the deceased to methadone. She also sent through a script with her authorisation number, although she understood the hospital doctors would have to write their own prescription.[99] She did not telephone the doctor as she assumed that the fax would provide sufficient information and the doctor would ring her if he had any queries. She did not specify in the fax any particular dangers of methadone as she assumed, as a doctor, he would know of those risks and the potential cumulative effects with the other medications the deceased was taking.[100]

65. Dr Cox also scheduled an appointment for her to review the deceased on Monday, 13 December 2010.[101] She would usually have reviewed a patient sooner than this time after recommencing methadone but because the weekend intervened, the Monday was the next available time.[102]

66. As noted above, a significant reason behind the usual low starting dose and low dose increase in the community is the

[94] T 21 – 23.2.16; Exhibit 1, Tab 35 [44].
[95] Exhibit 1, Tab 35 [45].
[96] Exhibit 1, Tab 35 [46], [49].
[97] T 22, 26, 30 - 23.2.16.
[98] Exhibit 1, Tab 35 [50].
[99] T 27 – 23.2.2016 and Exhibit 2, Tab H.
[100] T 24 – 25, 27 - 23.2.2016.
[101] Exhibit 1, Tab 17A and Tab 35 [52] – [54].
[102] Exhibit 1, Tab 35.

concern that the patients are also consuming large amounts of alcohol and other illicit and sedative drugs in an uncontrolled way, which can lead to risk of overdose and death.[103] In this case, as the deceased was in a controlled hospital environment where there is generally greater supervision of the person than in the community, it was assumed by Dr Cox the risk to the deceased while re-inducting onto methadone was reduced. Later events proved the falsity of some of this assumption, but the experts generally agreed at the inquest that it was not an unreasonable assumption for Dr Cox to make at that time.

Review at Alma Street after Next Step Appointment

67. After the deceased returned to hospital from his Next step appointment he requested the PRN diazepam he had asked for in the morning and was given 10mg PRN diazepam.[104]

68. That afternoon the deceased was reviewed by Dr Bell, Dr Barratt-Hill, Dr Filar and a mental health nurse. The deceased reported that he continued to experience withdrawal symptoms but that they were decreasing in intensity. He also reported continuing auditory hallucinations in the form of voices telling him to get on drugs again. The deceased told the doctors that he felt more positive about the future now that he knew he was to recommence his methadone. He believed that being on methadone would prevent him from using drugs again.[105]

69. Dr Barratt-Hill had some limited experience with patients on methadone, estimating that he would generally treat one to two patients a year at Alma Street who are on methadone.[106] His usual practice when informed a patient is taking methadone is to call Next Step to discuss the patient's current methadone dose and whether it should be continued while the patient is in hospital (which usually occurs).[107]

70. Although he hadn't been involved in the process before, Dr Barratt-Hill did not consider it unusual in this case that the deceased was to be recommenced on methadone. He believed the deceased required assistance to stop using illicit drugs and noted that methadone had helped him to manage his drug addiction in the past. However, as Dr Barratt-Hill had no prior experience of re-inducting a patient on to methadone, he was content to be guided by the experts at Next Step.[108]

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[103] Exhibit 1, Tab 17C.
[104] Exhibit 1, Tab 34 [13].
[105] Exhibit 1, Tab 18 [22] – [23].
[106] Exhibit 1, Tab 18 [24].
[107] Exhibit 1, Tab 18 [26].
[108] T 13 – 24.2.2016; Exhibit 1, Tab 18 [27].

71. Dr Barratt-Hill received the facsimile from Dr Cox, which he understood to be a prescription for methadone for the deceased covering the period 9 to 13 December 2010. It was accompanied by a note advising of the recommended doses and that an appointment had been made for Dr Cox to review the deceased on Monday, 13 December 2010. Nothing in Dr Cox's plan seemed unreasonable and Dr Barratt-Hill understood Dr Cox to be an expert in the area and, therefore, he had no reason to question her advice.[109]

72. At the time Dr Barratt-Hill thought he had been given sufficient information in the fax to make relevant treatment decisions for the deceased and the methadone doses recommended by Dr Cox were written up on the deceased's medication chart.[110] Dr Barratt-Hill mentioned at the inquest that with the benefit of hindsight, it would have been helpful to have been informed about the risks associated with re-induction onto methadone as well as how often observations were required, given what later occurred indicates the deceased probably should have been observed more regularly.[111]

73. Dr Barratt-Hill's plan at that time was to wean the deceased off diazepam once his methadone treatment was recommenced. He reduced the deceased's diazepam dose that day to 10mg in the morning and 5mg at night. The medication chart indicated Dr Barratt-Hill's plan thereafter was to reduce the dose to 5mg twice a day after a further three days and then to 5mg daily after a few more days.[112] As for his clozapine, the plan was to continue to titrate his clozapine dose as an inpatient, to ensure compliance, at a rate of 25 mg per day.[113]

74. Dr Barratt-Hill confirmed that this medical plan for the deceased was approved by Dr Bell, who was present at the review on the afternoon of 9 December 2010 after the Next Step fax had been received by the hospital.[114] Dr Bell also believed at that time that they had sufficient information from Next Step to proceed with the plan.[115]

75. The medications at Alma Street are dispensed by hospital employed pharmacists. A clinical pharmacist, Ms Mary Kamel, dispensed the deceased's first methadone dose and delivered it to the ward for storage in the Dangerous Drugs cupboard prior to it

[109] T 14 – 24.2.2016.
[110] Exhibit 1, Tab 18 [28] – [29].
[111] T 12 – 15 – 24.2.2016.
[112] Exhibit 1, Tab 18 [30].
[113] Exhibit 1, Tab 18 [31].
[114] T 18 – 24.2.2016.
[115] T 20 – 24.2.2016.

being administered. Ms Kamel indicated in her statement that usually patients prescribed methadone while at Alma Street were already on methadone, so they simply required continuation of their usual methadone treatment while in hospital, which was confirmed with their community prescriber first.[116]

76. In this case, as the deceased was having to recommence methadone, the prescription was given by Dr Cox, a Next Step doctor with expertise in prescribing methadone. Hospital medical staff charted the methadone exactly as Dr Cox recommended. Ms Kamel indicated her usual practice would still be to check that the doses were within the recommended range by the standard medication reference texts. In this case, the doses prescribed by Dr Cox were within the recommended dosing range recorded in the Australian Medicines Handbook (AMH) and MIMS Online.[117]

77. The hospital clinical pharmacist must also check for drug interactions, which Ms Kamel did in this case. None of the drugs prescribed for the deceased were contraindicated for use concurrently with methadone. Although there were potential effects from the interaction of his prescribed drugs, according to Ms Kamel the potential interactions of the medications are well known amongst medical, nursing and pharmacy staff; in particular that opioids, benzodiazepines and antipsychotics have a sedating effect.[118]

78. Ms Kamel indicated in her statement that she is always concerned if a patient is prescribed more than two antipsychotics and an opioid at the same time, as in this case, and she would recommend close monitoring by medical and nursing staff. However, she noted that the deceased had been on similar medication combinations previously with no adverse drug interactions and he was being monitored generally on the ward as well as having twice daily observations due to his clozapine titration. She considered this to be sufficient.[119]

79. As a sidenote, Dr Allan Quigley, a Consultant Addiction Medicine Specialist who is currently the Director of Clinical Services of Next Step and the WA Alcohol and Drug Authority, expressed some concern about the current MIMS guidelines in relation to methadone.[120] He was concerned that the MIMS guidelines indicate dose increases of 5 to 10 mg are acceptable for methadone. Dr Quigley believes that those guidelines might need to be reconsidered, both in light of the deceased's death and

[116] Exhibit 1, Tab 39.
[117] Exhibit 1, Tab 39 [19].
[118] Exhibit 1, Tab 39 [21].
[119] Exhibit 1, Tab 39 [22] – [23].
[120] Found at Exhibit 1, Tab 39 as an attachment – printout from www.mimsonline.com.au.

general knowledge about methadone and its effects. Dr Quigley explained that methadone is an unusual drug in that the difference between a safe dose and a dose that can lead to overdose is often very small.[121] Accordingly, if a doctor and pharmacist unfamiliar with methadone prescribing practices were simply guided by the MIMS guidelines they could be very close to prescribing doses that could kill the patient.[122] Dr Quigley described the current information provided as "quite alarming," as it might reassure hospital doctors and hospital pharmacists that potentially unsafe dose increases are acceptable. I will ensure that a copy of my finding is provided to the Australian Government's Therapeutic Goods Administration and to MIMS online.

Recommencement of methadone doses

80. The deceased was given his first dose of methadone by Nurse David Kay at 5.00 pm on 9 December 2010. He was administered a dose of 30mg.[123]

81. From that date the deceased's methadone was administered orally once daily at 8.00 am in the morning. It was not kept on the ward and was delivered to the ward by the hospital pharmacy.[124] The deceased was administered the medication by nurses under supervision. He was not in a position to stockpile the methadone, given it was administered in liquid form.[125]

82. The deceased was given a methadone dose of 40mg at approximately 8.00 am on 10 December 2010.[126] Dr Barratt-Hill last saw the deceased at about 9.00 am on the morning of 10 December 2010, roughly one hour after his second dose.[127] At that time Dr Barratt-Hill did not observe any signs of over sedation or an indication that he was being inappropriately affected by the methadone. The deceased expressed some frustration at being restricted to the ward environment so Dr Barratt-Hill gave him permission for one hour unescorted leave if he wished (although there is no record that he later took this leave).[128] Dr Barratt-Hill also had a discussion with the deceased about his aggressive behaviour and the need to follow hospital rules regarding physical contact with other patients. The

[121] T 42 – 43 – 22.2.16.
[122] T 48 – 22.2.16.
[123] Exhibit 1, Tab 23 [16] and Exhibit 2, Tab 1X.
[124] Exhibit 1, Tab 18 [29].
[125] Exhibit 1, Tab 7.
[126] Exhibit 2, Tab 1W.
[127] T 22 – 24.2.2016.
[128] T 11 – 24.2.2016.

deceased apologised for his behaviour. No other concerns were raised at that time.[129]

83. The deceased was given a dose of 50 mg on the morning of 11 December 2010.[130] Later that morning the deceased complained of having vomited twice. He requested his medication be administered again as he claimed to have first vomited thirty minutes after his morning medication was administered. His request was denied.[131] It was explained at the inquest that the dose would have been absorbed within 20 minutes of it being taken by the deceased, so he would have been unlikely to have lost much of the dose by vomiting thirty minutes later.[132]

84. The deceased was given Panadol 1g and Metoclopromide 10mg (an anti-nausea medication) at 12.40 pm after he complained of nausea and a headache and he was given Panadol 1g again at 5.15 pm. Throughout the day he appeared settled, with no formal thought disorder or delusional thinking evident. He claimed to still have auditory hallucinations but was not distressed.[133]

85. The deceased was given Temazepam 10mg and CPZ 50mg at 10.30 pm on request and then went to bed. At 3.10 am the following morning he was given more Panadol after further complaint of a headache and he then returned to bed and slept for seven hours.[134]

EVENTS ON FINAL DAY, 12 DECEMBER 2010

86. On the morning of 12 December 2010 the deceased got up and went to the courtyard where patients generally socialise. He engaged appropriately with other patients but when approached by Clinical Nurse Suzanne Artemjev, who had been allocated the deceased as one of her patients on the morning shift, he was slightly irritable and dismissive. She had cared for him in the past and knew that this behaviour was not unusual for the deceased, so she was not concerned.[135]

87. The deceased had breakfast and attended the morning medication round to receive his prescribed medications. The medication round takes place in the dining room during breakfast time.[136] The deceased was given a dose of 50mg of

[129] T 23 – 24.2.2016; Exhibit 1, Tab 18 [32].
[130] Exhibit 2, Tab 1W.
[131] Exhibit 1, Tab 6.
[132] T 64 – 22.2.16.
[133] Exhibit 1, Tab 6.
[134] Exhibit 1, Tab 6 and Tab 19 [1].
[135] Exhibit 1, Tab 6 and Tab 19 [3].
[136] Exhibit 1, Tab 19 [4].

methadone at 8.00 am.[137] He did not appear sedated or behave in an unusual way at the time the methadone was dispensed.[138]

88. Nurse Artemjev approached the deceased several times in the morning to attempt to assess his mental state. She wanted to interview him in one of the interview rooms for this purpose. However, the deceased was dismissive and evasive, avoiding eye contact and walking away from Nurse Artemjev when she approached.[139]

89. Nurse Artemjev was aware that the deceased had been granted an hour's unescorted leave for that day so she monitored him to see if he showed any indication of wanting to take the leave as he would need to be properly assessed before he left.[140] He did not, however, indicate a desire to take the leave.

90. In addition to other contact, patients are also checked routinely at one and a half to two hourly intervals throughout the day. At the 10.00 am routine check Nurse Artemjev noted that the deceased was wandering aimlessly around the ward and on approach he appeared somewhat sedated. On questioning the deceased about this, Nurse Artemjev noted that he started giggling and said that this was due to the methadone that he had received as part of the morning medication. He said that the methadone was "making him feel stoned."[141]

91. Nurse Artemjev was aware from the medication chart that the deceased's medications include clozapine, methadone and Valium (diazepam). She thought that his apparent sedation was due to these medications, especially the Valium, and was not concerned despite the deceased's comments.[142]

92. The deceased reacted irritably when asked to have his physical observations taken (blood pressure, pulse respirations and temperature) which Nurse Artemjev believed were scheduled to be taken twice a day because of his clozapine titration. When Nurse Artemjev tried to touch the deceased's arm in a calming gesture he hit her hand away and made a brief abusive comment in a low voice before walking away.[143] Nurse Artemjev considered this behaviour to be consistent with the deceased's usual pattern of behaviour and she did not try to persist with taking his observations nor seek assistance from other staff. Instead, she observed him from a distance with the plan to try and take his

[137] Exhibit 2, Tab 1W.
[138] Exhibit 1, Tab 38 [31].
[139] Exhibit 1, Tab 19 [5].
[140] Exhibit 1, Tab 19 [6].
[141] Exhibit 1, Tab 19 [7].
[142] Exhibit 1, Tab 19 [8].
[143] Exhibit 1, Tab 6 [8].

observations at a later stage when he might be less agitated and more amenable to nursing interventions.[144]

93. As noted above, Nurse Artemjev understood the primary purpose of taking the observations was to monitor any adverse side-effects which might be attributable to his reintroduction to clozapine medication. Nurse Artemjev was aware the deceased had previously been on the medication without any adverse side-effects, which reassured her that his observations were not urgent.[145]

94. After that time the deceased continued to wander the corridor wards aimlessly and also went outside to join other patients.[146]

95. At about 10.45 am Nurse Artemjev noted an increase in the deceased's level of sedation, evidenced by some unsteadiness and mildly slurred speech. He was also seen looking for the ward guitar in the wrong corridor. Nurse Artemjev suggested he lie down until the sedation had worn off but he reacted irritably again and continued to refuse to have his physical observations taken.[147]

96. At about 11.30 am the deceased finally followed what Nurse Artemjev described as her "strong suggestion" to lie down. He went to his bedroom and slammed the door behind him.[148]

97. Nurse Artemjev checked on the deceased at midday and offered him lunch. He was lying on his side and appeared drowsy but was breathing evenly and steadily. Nurse Artemjev noted that the deceased's room was "excessively warm,"[149] which was consistent with a general engineering problem in rooms on that corridor that had been reported but was proving difficult to fix. Nurse Artemjev observed the deceased's face was slightly red but attributed it to the room being hot.[150]

98. Nurse Artemjev checked on the deceased again at approximately 12.30 pm, at which time he was still lying on his right sleep. He was asleep and appeared to be breathing undisturbed.[151]

99. Just before handover to the next shift at 1.00 pm, Nurse Artemjev visually checked the deceased by quickly looking through the door to his room. She noted him as being still

[144] Exhibit 1, Tab 6 [8].
[145] Exhibit 1, Tab 19 [8].
[146] Exhibit 1, Tab 6 and Tab 19 [8].
[147] Exhibit 1, Tab 19 [9] – [10].
[148] Exhibit 1, Tab 19 [11].
[149] Exhibit 1, Tab 19 [12].
[150] Exhibit 1, Tab 19 [12] – [13].
[151] Exhibit 1, Tab 19 [14].

asleep.[152] She also looked quickly into his room again at about 1.15 pm to make sure he was still in his room, and noted he still appeared to be asleep.[153] Nurse Artemjev then attended to another patient who was experiencing acute abdominal pain and required medical review.[154]

100. Nurse Artermjev states that at 1.30 pm she made an entry in the deceased's Integrated Progress Notes recording the nursing care she had provided to the deceased as a patient during her shift, in order to hand over patient care to the afternoon shift.[155] There is an entry in the Integrated Progress Notes by Nurse Artemjev indicated to have been written at 1.30 pm but it comes after the entry by Dr Todd in relation to the MET Call at 2.15 pm. It appears that Nurse Artemjev had started to make the entry by indicating the date and time but did not get further before events overtook her.[156]

101. Nurse Artemjev checked on the deceased again at 2.10 pm as she wanted to see if he would let her take his physical observations. She found the deceased still lying on his side but with his face turned downwards. He was non-responsive and his colour was cyanosed. No pulse was palpable so Nurse Artemjev called a Code Blue at 2.14 pm and the Medical Emergency Team arrived at 2.15 pm. Resuscitation was attempted for thirty minutes, including the administration of naloxone, but the deceased could not be revived. He was pronounced dead at 2.45 pm.[157]

102. The deceased's father had not seen the deceased for approximately five months and was not aware that the deceased was at Fremantle Hospital until he was contacted by the hospital and told of his death that afternoon.[158]

CAUSE AND MANNER OF DEATH

103. On 15 December 2010 the Chief Forensic Pathologist, Dr Clive Cooke, conducted a post mortem examination of the deceased. The deceased's body organs appeared to be generally healthy, other than some congestion of the lungs, and there were no injuries other than changes consistent with medical resuscitation attempts. Toxicology analysis showed a number of prescribed-type medications, including very high levels of methadone. The agents identified have a combined sedating effect, which may

[152] Exhibit 1, Tab 19 [15].
[153] Exhibit 1, Tab 19 [16].
[154] Exhibit 1, Tab 19 [17].
[155] Exhibit 1, Tab 19 [18] and Exhibit 2, Integrated Progress Notes.
[156] Exhibit 2, Integrated Progress Notes.
[157] Exhibit 1, Tabs 6 and 19 [20] and Exhibit 2, Integrated Progress Notes.
[158] Exhibit 1, Tab 5 [15].

result in impairment of consciousness, coma and death. At the conclusion of all investigations, Dr Cooke formed the opinion that the cause of death was combined drug toxicity.[159]

104. Dr David Joyce is a clinical pharmacologist and toxicologist who works as a specialist physician in the area of human drug therapy and human toxicology. Dr Joyce was asked to prepare a report for this court in relation to the death of the deceased in view of the cause of death being proposed as combined drug toxicity.[160] As well as the report, Dr Joyce also gave further oral evidence at the inquest. His opinion was informed by the post mortem report of Dr Cooke and the results of the toxicology analysis, as well as other records relating to the deceased's medical care prior to this death.

105. Dr Joyce noted that the important result from the Chemistry Centre analysis of the first sample collected from the deceased at the time of mortuary admission was the detection of methadone at a concentration of 0.38mg per litre. Analysis of the post mortem specimens also found methadone and a metabolite of methadone. In addition, the following other drugs were found:

- clozapine (an antipsychotic drug);
- quetiapine (another antipsychotic drug);
- diazepam (Valium, a benzodiazepine) and its metabolite;
- chlorpromazine (also an antipsychotic and sedative); and
- paracetamol.[161]

106. There was no evidence that the deceased had taken either heroin or oxycodone in the days before his death.[162]

107. Based upon the toxicology results, and the other information provided as to the circumstances surrounding the deceased's death, Dr Joyce formed the opinion that methadone is the most likely explanation for the deceased's death. Dr Joyce explained that the witness accounts of the deceased appearing over-sedated, coupled with the concentration of methadone in the mortuary admission sample, was consistent with the deceased experiencing some degree of methadone toxicity. Although the concentration found might be tolerated safely by a person who is accustomed to taking opioid drugs, it was likely to cause severe toxicity and possibly death in a person not well accustomed to taking methadone and opiate drugs.[163]

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[159] Exhibit 1, Tabs 11 and 12.
[160] Exhibit 1, Tab 10.
[161] T 70 – 71 – 22.2.16; Exhibit 1, Tab 10, p.4 and Tab 12.
[162] T 71 – 72 – 22.2.16.
[163] T 72; Exhibit 1, Tab 10, p. 7.

108. Dr Joyce noted that with the deceased's history of opiate exposure he would have been expected to tolerate methadone better than a naïve person. Indeed, based on what was known of his opiate use in the past, Dr Joyce would have expected him to be very tolerant.[164]

109. However, Dr Joyce explained that tolerance is lost when someone stops taking the drug and in this case the deceased by all accounts had not been taking opiates for at least the nine days he was in hospital. It is not well quantitated how quickly people lose tolerance, and it is not necessarily the same for every person. However, Dr Joyce indicated that it is known that a lot of tolerance can be lost to opiates by the end of the first week of abstinence.[165] The overall evidence in this case suggests the deceased had lost some of his tolerance and regained some sensitivity to methadone prior to his death.[166] This meant that he was more susceptible to the toxic effects of the methadone he was administered than expected.

110. In addition, there was a possible small contribution from the other sedatives the deceased was taking; namely the diazepam, chlorpromazine and quetiapine. In sufficient concentrations diazepam and chlorpromazine can have a significant effect on respiratory depression and benzodiazepine drugs such as diazepam are particularly common in methadone deaths. However, in this case their levels were too low for Dr Joyce to consider them significant contributors to the deceased's respiratory depression and sedation. The concentration of quetiapine was also too low for Dr Joyce to conclude it had any significant effect. Therefore, Dr Joyce concluded the most potent respiratory depressant in this case was the methadone, which was present at a sufficient level to cause severe opioid toxicity and death in many people even without the contributing effect of the other medications.[167]

111. One other possible explanation put forward for the deceased's unexpected death was cardiac arrhythmia or heart rhythm disturbance. It is a known pathway to death for people taking methadone. In addition the drug chlorpromazine and some other drugs the deceased was also prescribed, have a similar ability to cause heart rhythm disturbance. Dr Joyce noted that the level of chlorpromazine and the other drugs detected in the specimens taken from the deceased were low, so the question of cardiac

[164] T 72 – 74 – 22.2.16.
[165] T 73 – 74 – 22.2.16.
[166] T 72 – 73 – 22.2.16.
[167] Exhibit 1, Tab 10, p. 7.

arrhythmia would lie more over the methadone in this case than any other drugs.[168]

112. As to the likelihood that the methadone taken by the deceased caused a heart rhythm disturbance, Dr Joyce pointed to the ECG's performed on the deceased, which indicated that he was not at any constitutional risk of an arrhythmia from methadone. In addition, the fact that he had historically tolerated a dose of 100mg a day of methadone was a good practical test of his resistance.[169]

113. Dr Joyce accepted the fact that the deceased was lying down with his face turned into the pillow may have also played a critical role in obstructing his breathing,[170] but this was within the context of the deceased already experiencing respiratory depression due to the sedating effect of the methadone.

114. In conclusion, Dr Joyce emphasised the primary role of the methadone in the cause of death but accepted that the other drugs are properly included in the cause of death because they do have some small sedating ability and there is a small possibility that the deceased might have survived if he had only taken the methadone.[171]

115. I accept and adopt the conclusions of both Dr Cooke and Dr Joyce as to the cause of death being the result of the toxic effect of drugs administered to the deceased. I find that the cause of death was combined drug toxicity.

116. There is no evidence to suggest that the deceased had access to any methadone, or other drugs, other than was prescribed and administered to him by hospital staff. In those circumstances, I find that the manner of death was by way of misadventure.

COMMENTS ON SUPERVISION, TREATMENT AND CARE

117. The deceased's death raised concerns as to how his medical care and supervision was managed at Alma Street Centre and in particular, the appropriateness of his methadone dosing by the Alma Street medical staff in conjunction with the Next Step staff and why the alarm was not raised earlier on the 12 December 2010.

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[168] T 75 – 22.2.16.
[169] T 76 – 77 – 22.2.16.
[170] T 83 – 22.2.16.
[171] T 79 – 80 – 22.2.16.

The methadone dosing

118. Dr John Edwards is a medical practitioner who has been working in his own specialist addiction medicine practice in Perth since the late 1990's. He was one of the first general practitioners in Western Australia to be registered to prescribe methadone in the community. Dr Edwards estimates he has looked after between five to six thousand patients since that time and currently he personally manages about 200 patients on opiate replacement therapy and his practice, Cambridge Clinic, manages approximately 500 patients. As well as addiction problems, many of the patients also have mental health problems and pain issues. Dr Edwards is the Chairman of the Opioid Pharmacotherapy Advisory Committee, which advises on State policy on opiate replacement therapies, and is also on the Mental Health Commission Advisory Council and on the Drug and Alcohol Advisory Board. It suffices to say that Dr Edwards has an extensive personal understanding of the management of patients on methadone as an opiate replacement therapy in Western Australia as well as the policy and procedures that comprise CPOP.[172]

119. Dr Edwards was asked to provide his expert opinion on aspects of the medical care provided to the deceased. Having been provided with relevant materials, Dr Edwards agreed with the conclusion of Dr Cox that it was appropriate to restart the deceased on methadone on 9 December 2010, as it would be helpful both in stabilising his mood and his psychotic illness.[173] Indeed Dr Edwards believed that if anything, it would have been better to have started the deceased on methadone much sooner after he was admitted to hospital than he was in fact started.[174]

120. As to the starting dose, Dr Edwards noted that methadone is a dangerous medication and there is a level of mortality even when the prescribing regulations are closely followed, so there is always a balance of risk. However, the fact that the deceased had tolerated doses of up to 100 mg of methadone previously indicated that he was capable of being tolerant of methadone. Further, the rate of mortality is generally higher when the person is engaging in chaotic behaviour with illicit drugs. In this case, given the deceased's history of methadone use and the fact that he was in a hospital setting where he was able to be monitored, Dr Edwards concluded that it was quite reasonable to commence

[172] T 6 – 22.2.16.
[173] T 7 – 22.2.16
[174] T 8, 13 – 22.2.16.

the deceased on 30 mg in that setting.[175] I note also that Dr Quigley, in general, agreed.[176]

121. Dr Edwards explained that the significance of the hospital setting was that in a community setting the observation is generally limited to brief contact once a day with a pharmacist. In comparison, in hospital there are always staff moving about the ward and taking general note of his gross behaviour, as well as some more specific technical observations such as blood pressure readings from time to time. As more of the factors that could lead to overdose are controlled, and there is a better opportunity to observe, it should be safer in hospital.[177]

122. Dr Edwards observed that what is known of the documented deaths from methadone is that the patients seldom die from methadone alone. There is usually a combination of multiple other drugs, particularly sedative drugs, involved.[178] The effect is cumulative and can be complicated by the timing of when other drugs are taken and a lack of understanding by the patient of the long-acting sedating effect of methadone (unlike short acting opiates such as heroin).[179]

123. To manage this risk, Dr Edwards explained it is possible to split the dose of methadone into two or three portions through the day, to allow an opportunity to observe the effect of each dose before the next one is given. It is not really an option available in the community setting but could have been managed temporarily in a hospital setting. However, it would still be necessary to have the patient on a single dose at some stage prior to discharge, given that is how the methadone would be administered in the community.[180]

124. The difficulty in this case was that the deceased's period of abstinence from methadone had reduced his tolerance, but the rate of reduction was difficult to predict. Accordingly, the cautious approach would have been to start with a smaller amount and increase slowly and observe, because each case is individual. However, Dr Edwards noted that it is "always a battle because the person themselves always wants you to give them more."[181] There is also a risk that if the person's opiate craving and withdrawal is not fairly rapidly controlled they will require more of other sedative drugs, or keep using illicit drugs, which

[175] T 7 – 8 – 22.2.16.
[176] T 41 – 22.2.16.
[177] T 9, 29 – 22.2.16.
[178] T 9 – 22.2.16.
[179] T 10, 18 – 22.2.16.
[180] T 10 – 22.2.16.
[181] T 12 – 22.2.16.

will compound the risk situation.[182] Dr Quigley agreed with Dr Edwards that the risk a patient might revert to illicit drug use was a real one if the patient wasn't stabilised on a treatment dose quickly.[183]

125. That appears to have possibly occurred in this case, where the deceased's repeated complaints about withdrawal symptoms while waiting to be restarted on methadone led to other medications, such as diazepam, being prescribed. Dr Edwards noted the diazepam was a considerable dose and it has a long half-life, so the effects can linger on for some days after it is taken. Although the deceased would have developed some tolerance to diazepam too, it was still relevant to consideration of the overall sedative effect of his medications.[184] However, Dr Edwards noted that the hospital charts showed the deceased was intended to be weaned off diazepam in an appropriate way.[185] Dr Edwards also noted that the deceased required less PRN diazepam after his first methadone dose, which confirmed that he had been withdrawing and was now feeling more comfortable. This was further confirmation that providing methadone was appropriate in this case.[186]

126. Bearing all of this information in mind, Dr Edwards indicated that even in light of what occurred with the deceased, he would still consider initiating methadone in hospital at a level more than the current recommended maximum starting dose of 25mg because he would have confidence that it would be managed and observed better than in the community. However, his statement was based on the proviso that he was able to communicate with the ward staff and be satisfied that there was an understanding of the treatment, a factor that was absent in this case.[187]

127. Nevertheless, Next Step appears to have taken the more cautious approach in light of these events. As Dr Cox described it, "[t]hings have changed in the light of experience."[188] Accordingly, Next Step doctors now more often start even lower than the recommended maximum. In her own practice, Dr Cox indicated she will now usually start a patient on 20mg and bring him or her up slowly to 40mg over the following week.[189] Dr Cox also stated that, after what happened with the deceased, she would not vary her practice for a hospital inpatient.[190]

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[182] T 12 – 13 – 22.2.16.
[183] T 41 – 22.2.16.
[184] T 18 – 19 – 22.2.16.
[185] T 19 – 22.2.16.
[186] T 19 – 22.2.16.
[187] T 15 – 16 – 22.2.16.
[188] Exhibit 1, Tab 35 [47].
[189] Exhibit 1, Tab 35 [47].
[190] Exhibit 1, Tab 35 [51].

128. As to the dosing increments, Dr Cox had originally thought that in the controlled hospital environment, a rapid dose escalation was safe and appropriate. Dr Quigley agreed that, given what was known to Dr Cox at the time, the dosing increase was not inappropriate. However, Dr Quigley also expressed the view that a resumption of methadone at 30mg but proceeding steps of 5mg up to the 50mg maximum would have been a more cautious approach.[191]

129. In retrospect, Dr Cox agreed with Dr Quigley that a slower increase of 5mg per day, rather than 10mg, would have been a more cautious approach. However, she has reached that conclusion with the benefit of hindsight and the knowledge that the hospital staff were not conducting the observations as regularly as she believed.[192]

Supervision of the deceased

130. It is apparent from the evidence before me that all of the hospital staff who were involved in the deceased's care were surprised and concerned by the deceased's sudden and unexpected death. Although there had been signs throughout the morning that the deceased was adversely affected by his methadone and showing signs of toxicity, those signs were not recognised by Nurse Artemjev, the nurse who was caring for him.

131. Nurse Artemjev described herself as "extremely shocked" by the deceased's death. She had known him for many years, having often looked after him, and generally had a good rapport with him. On the morning of his death she believed she had not seen anything in his presentation that seemed unusual for him.[193] There was evidence before me that the death had had a profound and lasting impact upon her.

132. It was submitted by counsel on Nurse Artemjev's behalf that a significant reason for Nurse Artemjev not recognising that the deceased was at risk of death until it was too late was that Nurse Artemjev was not given any specific instructions or requirements for supervising the deceased in relation to his methadone medication. His only specific observation protocol was in relation to his clozapine medication, which required his vital signs to be checked twice daily (although I note there was some confusion in the evidence as to whether the original six hourly observations

[191] Exhibit 1, Tab 17C, p.3.
[192] T 24 – 23.2.16.
[193] Exhibit 1, Tab 19 [22].

had ever been formally varied).[194] To the best of Nurse Artemjev's knowledge there were no protocols or procedures on the ward for extra supervision of people prescribed methadone and she had not cared for a patient being re-inducted onto methadone before.[195]

133. Other nurses who had dealt with the deceased's in the days before agreed that they were given no specific instructions relating to the deceased's resumption of methadone medication and the risks of over-sedation [196]

134. It became clear at the inquest that the reason the nursing staff were not given any specific instructions about the type of observations required or areas of risk while the deceased was being re-inducted onto methadone was because the hospital doctors involved in the deceased's medical management were also unaware of the particular risks of methadone re-induction. This is not a criticism of the hospital doctors as it was generally acknowledged during the inquest that it was an extremely rare event for a hospital in-patient to be re-inducted onto methadone, so the specific risks involved were not well known to doctors outside the specialist addiction medicine area.

135. Unfortunately, although the risks were well known to Dr Cox, who was an expert in that area, she did not convey that information to Dr Barratt-Hill as she made the incorrect assumption that the doctors at Alma Street Centre would be aware of those risks. As noted above, Dr Barratt-Hill explained at the inquest that he was familiar with patients continuing methadone treatment but had no experience with patients being re-inducted onto methadone and was not aware of the particular risks involved in the early re-induction period.

136. In making that statement I do not intend to criticise Dr Cox as it was acknowledged by Dr Quigley during the inquest that in 2010 it was not an unreasonable assumption for Dr Cox to make. Dr Quigley explained that in 2010 a CPOP prescriber wouldn't necessarily communicate observation instructions to a hospital taking on a methadone dose escalation plan as the CPOP prescriber may well have assumed that the hospital staff were familiar with the risks of prescribing combinations of sedative medication, including methadone, and that the patient was being

[194] Exhibit 1, Tab 19, Response to Questions, Q. 1. Dr Barratt-Hill could find no documentation to indicate that the documented six hourly observations at the commencement of the deceased's admission were reduced in frequency by a doctor, although the Integrated Progress Notes clearly show that observations were only being attempted to be taken twice a day later in his admission, which he often refused – T 21 – 24.2.2016.
[195] Exhibit 1, Tab 19, Response to Questions, Q. 6.
[196] Exhibit 1, Tab 20.

regularly observed.[197] However, following the death of the deceased, CPOP prescribers now have a better understanding of the limited knowledge of CPOP and procedures within hospitals surrounding methadone.

137. Dr Cox acknowledged during her evidence that, having given the matter considerable thought, she accepts that in retrospect it would have been useful for her to ring the doctor at hospital after sending the fax to discuss the deceased's methadone programme, rather than just provide written instructions. Dr Cox indicated that, knowing what she knows now about the hospital staff's general lack of understanding about methadone, it would have been a good idea to ring Dr Barratt-Hill and discuss with him the plan and suggest regular observations be taken to see if there was any build-up effect with the methadone and other drugs the deceased was on.[198] Similarly, she agreed it might have been helpful to also put that information in her letter.[199]

138. Dr Cox also believes it would be better if patients came to Next Step with a hospital staff member, so the Next Step staff could talk with them about the hospital treatment.[200]

139. However, I reiterate that Dr Cox has reached these conclusions with the benefit of hindsight and with a better understanding of the lack of experience most hospital doctors will generally have with methadone. I have had no evidence put before me that it was unreasonable at the time Dr Cox was treating the deceased to believe the hospital doctors already had that knowledge.

140. At the conclusion of her evidence Dr Cox agreed with my suggestion that what occurred could best be described as a communication failure between Next Step and the doctors in the hospital staff in relation to what was required as far as monitoring of a patient being re-inducted onto methadone.[201]

141. As it is now better understood that hospital doctors will generally have little or no experience with prescribing opioid pharmacotherapies, CPOP has introduced a change in policy indicating that opioid substitution treatment in general should not be initiated in hospital and an alternative treatment more familiar to hospital staff should instead be selected.[202] If, however, in exceptional cases methadone treatment is being considered, the risk of overdose should be discussed directly with

[197] Exhibit 1, Tab 17C, p.4.
[198] T 25 – 23.2.2016.
[199] T 28.– 23.2.2016.
[200] Exhibit 1, Tab 35 [56] – [57].
[201] T 32 – 33 – 23.2.2016.
[202] Exhibit 1, Tab 17D [1].

the hospital consultant in charge of the patient.[203] Dr Quigley suggested they should be told that if a patient is being commenced on opioid substitution treatment with methadone, then during the first week of treatment the patient should have additional observations taken each day at three to four hours after their daily dose of methadone, when any excessive sedative effects are most likely to be observed.[204]

142. That is different to the continuation of treatment for patients already on the methadone or buprenorphine program, which is supported (provided there is appropriate consultation with a CPOP provider) as it is attended by considerably less risk to the patient.[205]

143. Based upon the above information, I accept that the nursing staff, and in particular Nurse Artemjev, were disadvantaged in their care of the deceased as they were not given clear information about the risks attenuated with re-inducting a patient on methadone and the particular need in that context to take regular observations and look for signs of over-sedation.

144. However, even acknowledging that Nurse Artemjev was disadvantaged by the lack of clear instructions about how to manage the deceased while he was engaging in methadone re-induction, there is evidence before me to support the conclusion that Nurse Artemjev should have realised that the deceased required medical review some hours before his death.

145. The morning nursing shift coordinator on 12 December 2010, Clinical Mental Health Nurse Shiu (Lester) Lee, indicated in her statement that she did not receive reports of anything unusual that day in relation to the deceased, noting that drowsiness is not necessary unusual for patients on a psychiatric ward and might not automatically be reported to the coordinator. It is also apparently not unusual for patients at Alma Street to sleep or rest in their bed during the day time, especially on the weekend.[206] However, Nurse Lee also indicated in her statement that if Nurse Artemjev had reported to her that the deceased had said he felt 'stoned' and that he was unsteady on his feet and slurring his words, Nurse Lee would have considered it appropriate to check his vital signs immediately and seek a review by the duty doctor and nurse manager on duty.[207]

[203] Exhibit 1, Tab 17C, p.4 and Tab 17E.
[204] Exhibit 1, Tab 17C.
[205] Exhibit 1, Tab 17D [2].
[206] Exhibit 1, Tab 38 [21] - [22], [33].
[207] Exhibit 1, Tab 38 [23].

146. Nurse Lee also stated that she was not aware of any specific protocol for monitoring patients on methadone other than checking on them periodically, but as a matter of general nursing she would expect that a nurse might keep an eye out for unusual drowsiness where a patient allocated to them is taking 'Schedule 8' medication.[208]

147. Another nurse from Alma Street who was involved in the deceased's care, Nurse Kay, acknowledged during the inquest that he had no specific training on methadone but he did have general knowledge about looking for signs of sedation and intoxication and he would inform a doctor to get guidance in those circumstances.[209] Nurse Kay explained that in his experience those signs might be because of the sedative effects of prescribed medications or there might be concern that the patient has had access to non-prescription substances.[210] In particular, Nurse Kay said that if a patient had said to him that he was feeling 'stoned', that would have been enough for him to report it and get a doctor to review him.[211]

148. Dr Barratt-Hill's evidence was that if he had been told of the reports of what Nurse Artemjev saw in relation to the deceased appearing sedated, it would have prompted him to order observations and ensure the duty doctor was called as "the presentation was consistent with a drug toxicity"[212] Even without specifically knowing it related to methadone, it would have been apparent that it could have arisen from the multiple medications the deceased was taking in combination as well as the possible he had used illicit drugs. Dr Barratt-Hill was surprised, in those circumstances, that a doctor was not called by Nurse Artemjev.[213]

149. Expanding to witnesses beyond the hospital, Dr Cox indicated that she would have expected that if the deceased had shown signs of intoxication a medical officer would be called by the nurse to assess him.[214] Similarly, Dr Quigley expressed his view that he would expect an experienced nurse would have been concerned at some of the symptoms the deceased was exhibiting on the day of his death. In particular, he emphasised the deceased's unsteady gait as a concern, particularly as it would present a falls risk as well as concerns about his general sedation.[215] Dr Quigley also indicated that in his view it would have been helpful to have the deceased medically reviewed when

[208] Exhibit 1, Tab 38 [27].
[209] T 35 – 23.2.2016.
[210] T 42 – 23.2.2016.
[211] T 47 – 23.2.2016.
[212] T 24 24.2.2016.
[213] T 27 – 28 – 24.2.2016.
[214] T 23 – 23.2.2016.
[215] T 65 – 66 22.2.16.

he said that he was feeling stoned and began to show signs of significant sedation, so that a decision could have been made about subsequent observations and where he should be nursed so that he could be more frequently observed.[216] In Dr Quigley's opinion, more intensive monitoring of the deceased's respiratory rate, conscious state, pulse and blood pressure when he retired to bed at 11.30 am "should have picked up a progressive deterioration in the deceased."[217] Dr Joyce formed a similar view.[218]

150. In that regard, there was evidence that the deceased refused to have his physical observations taken by Nurse Artemjev a number of times, and it was acknowledged by a number of witnesses that in those circumstances the nurse's options are limited, particularly when the patient is voluntary (as was the deceased). As a result, a nurse will usually accept an initial refusal, go away and come back later to try again.[219] Dr Barratt-Hill agreed with the nurses' general approach, noting that taking observations under duress can also affect the validity of the observations.

151. Nevertheless, even acknowledging that Nurse Artemjev's approach to deferring the deceased's physical observations was reasonable, the evidence before me indicates that, simply based on what the deceased said and the behaviour he exhibited, there was sufficient information to prompt Nurse Artemjev to seek a medical review.

152. In reaching that conclusion, I accept that Nurse Artemjev was a highly experienced clinical nurse who was doing her best to provide appropriate nursing care to the deceased, who was not always an easy patient to manage. There was no evidence that she was uncaring, it was merely that she underestimated the seriousness of the situation. This may have been, in part, because she was at times distracted by other patients needs, for whom she was also responsible that morning. In those circumstances, Nurse Artemjev failed to appreciate the seriousness of the symptoms of sedation the deceased was exhibiting, although another nurse in the same situation might well have sought a medical review. When Nurse Artemjev did realise that the deceased had become unresponsive she acted appropriately and immediately called a medical emergency. Unfortunately, it was too late by that time to save the deceased.

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[216] T 67 – 68 – 22.2.16.
[217] Exhibit 1, Tab 17C, p. 2.
[218] Exhibit 1, Tab 10, p. 7.
[219] T 44 – 45 – 23.2.2016; T 89.

153. For the future, Dr Quigley suggests that it,

> "would be prudent for hospital ward staff to undertake six hourly observations of all in-patients with a recent history of illicit opioid use as these patients not infrequently use illicit drugs smuggled into the hospital or take illicit drugs when on day leave from the hospital. Patients with a history of illicit drug use who are observed at any time while in hospital to be drowsy with unsteady gait and slurred speech require an urgent medical review and very close monitoring until their observations return to normal."[220]

Dr Quigley's recommendation applies to all patients, not simply those on opioid replacement therapy.

Concluding Comments

154. None of the experts called at the inquest could recall another death from methadone overdose in a hospital setting in Western Australia, as compared to 10 to 14 deaths of community based methadone patients each year. Patients are generally allowed to continue with the methadone programme while in-patients, so the numbers suggest that hospitals are generally a safe environment for patients prescribed methadone in those circumstances.[221]

155. However, the doctors called as witnesses also could not recall another specific case of a patient being re-inducted onto methadone while a hospital in-patient, and all agreed it was a very uncommon practice back in 2010 as well as in 2016.[222] It was the rarity of this occurring, within the context of the staff at Alma Street Centre having mental health experience and training but not specialised drug and alcohol experience and training, that has set the framework for the events that led to the deceased's death.

156. When the hospital staff referred the deceased to Next Step, it enabled the methadone re-induction to occur, but there was little in the way of communication between the Next Step doctor and the Alma Street doctor about how the process could occur safely. Assumptions were made on both sides about what information was already known, and what needed to be conveyed between the parties, without any direct conversation between them. As a result, important information about how the deceased should be cared for was not communicated to the nursing staff caring for the deceased.

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[220] Exhibit 1, Tab 17C, p 3.
[221] T 30, 45 – 22.2.16.
[222] T 34 – 35 – 22.2.16.

157. As Dr Quigley observed, in the past doctors have perhaps made assumptions that hospitals are safe places to start pharmacotherapies but they are now learning that they are not safe places, in terms of staff experience, knowledge or understanding or methadone and what might occur during induction or re-induction onto methadone.[223] This is particularly so in the hospital psychiatric units, where it is likely the patient will be on a lot of other medications that may interact with the methadone.[224]

158. For this reason, there has been a move away from methadone to buprenorphine as the preferred drug if there is going to be an induction in the hospital setting (which is increasingly rare), as it is a much safer drug for use in those circumstances.[225]

159. In addition, all of the doctors who gave evidence, including Dr Cox and Dr Barratt-Hill, agreed that given how rarely it would occur, a better practice in the future would involve a formal referral process by the hospital by way of letter including the patient's current medications, and direct communication between the Next Step doctor and senior doctors involved in the patient's care about the reasons for starting a person on pharmacotherapy and the risks and the need for monitoring. Clear and comprehensive communication is the key.[226]

CHANGES IMPLEMENTED SINCE 2010

160. While giving his evidence Dr Edwards observed that "perhaps, 70 or 80 per cent of people who attend a mental health service or are admitted to hospital for mental health treatment will have a co-occurring problem with drugs or alcohol, and a substantial number of those will be with opiates."[227] Despite these statistics, Dr Edwards noted that there has been a problem in Western Australia in the past in that there was a separation of mental health treatment and drug and alcohol treatment. This was the case in 2010 and Dr Edwards pointed to this separation of services to explain how it was possible to have a mental health ward with staff who didn't know how to treat someone with methadone.[228]

[223] T 44, 51 – 22.2.16.
[224] T 44 – 22.2.16.
[225] T 45 – 22.6.16.
[226] T 40 – 22.2.16; T 33 – 23.2.16; T 10 – 24.2.16.
[227] T 13 – 22.2.16.
[228] T 13 – 22.2.16.

161. However, Dr Edwards indicated at the inquest that there has been a change in this State in the last 12 months where drug and alcohol and mental health have been combined. He expressed the hope that this will lead to drug and alcohol care being shifted towards more of the core business of mental health treatment, and similarly that mental health treatment is seen as being able to be managed within the drug and alcohol context, so that both services are better informed."[229] This is what Dr Edwards' clinic has been doing for many years and he noted that having things co-located means that people are less likely to miss out on some elements of care.[230]

162. Dr Ajay Velayudhan is the Medical Co-Director of the Fremantle Hospital Mental Health Service, which provides inpatient services at the Alma Street Centre as well as community based services.[231] Dr Velayudhan was able to provide figures indicating that in 2015 there were 16 inpatients at Alma Street who received methadone.[232] Dr Velayudhan was not aware of any patients who have been inducted onto methadone while at Alma Street since the deceased's death and indicated it was a very rare event.[233]

163. This was consistent with the evidence of Dr Quigley, who agreed that it would be very unlikely for a person who is a hospital patient today to commence methadone for opiate substitution therapy. However, Dr Quigley did note that methadone has also been prescribed in hospitals for people with chronic pain in a tablet form, known as Physeptone. Dr Quigley mentioned there have been a significant number of methadone-related deaths involving Physeptone, which has recently led to a reduction in patients being prescribed Physeptone.[234] Accordingly, Dr Quigley suggested that it would be helpful for the Department of Health to have a policy covering starting patients on methadone, whether it be methadone in liquid form as an opiate substitute or Physeptone, because the same problems may still arise.[235]

164. Dr Velayudhan explained at the inquest that a lot of changes have occurred with management of CPOP patients, and generally how methadone is managed, at the Alma Street Centre since the deceased's death in 2010. Dr Velayudhan provided a copy of the Department of Health's current Operational Directive on Management of CPOP Patients in a Hospital Setting, which includes reference to methadone syrup as well as Subutex and

[229] T 13 – 22.2.2016.
[230] T 13 – 14 – 22.2.16.
[231] T 41 – 24.2.16.
[232] T 42 – 24.2.16.
[233] T 42 – 43 – 24.2.16.
[234] T 47 – 48 – 22.2.16.
[235] T 48 – 22.2.16.

Suboxone.[236] However, the guideline is generally directed towards continuation of methadone treatment for patients already on the program, and there is currently no specific hospital guideline in relation to the specific risks in relation to re-induction onto methadone.[237]

165. Dr Velayudhan indicated that at present, if a patient requested to be re-inducted onto methadone while an inpatient at Alma Street it would be treated on a case by case basis with extensive consultation with Next Step as to how to go about it and what would be the best time to do it.[238] Dr Velayudhan agreed that if a decision was made to proceed with re-induction while the patient remained an in-patient, lessons learnt from this case would indicate that there would also need to be written communication between the hospital doctors and Next Step doctors to ensure all necessary information was provided.[239]

166. Dr Velayudhan also agreed with Dr Quigley's suggestion that it might be helpful to modify the current guidelines to add a specific directive in relation to the use of methadone in psychiatric patients, or at least to expand on what is currently provided in relation to methadone.[240] Dr Velayudhan also agreed that "it is time we brought addiction medicine and psychiatry together and drafted some guidelines around use of opioid substitution treatment in psychiatric patients in general."[241]

RECOMMENDATION 1

I recommend that the Department of Health give consideration to amending the current operational directive OD 0598/15 to cover all use of methadone in a hospital setting, whether as an opioid substitute or otherwise. In particular, the directive should include information about the specific risks associated with commencing or re-commencing a patient onto methadone with guidelines on how such a patient is to be safely managed.

[236] Exhibit 3, Tab 4.
[237] T 43, 45, 50 – 24.2.16.
[238] T 51 – 52 – 24.2.16.
[239] T 52 – 53 – 24.2.16.
[240] T 45 – 24.2.16.
[241] T 45 – 46, 49 – 24.2.16.

167. Dr Velayudhan acknowledged that there have been some steps taken since 2010 to bring psychiatry and addiction services together but indicated that in his view there is greater scope for more collaborative work between addiction specialists and psychiatry in WA Health. He agreed that one such move could be to base an addiction specialist in Alma Street, as suggested by Dr Quigley and supported by Dr Barratt-Hill (with the acknowledgement that its implementation would be a funding challenge).[242]

168. Dr Quigley suggested that, if an Addiction Medicine Consultant could not be funded to be based in the hospital, it would be highly desirable for metropolitan hospital clinical liaison psychiatrists to be trained as CPOP prescribers,[243] but Dr Velayudhan indicated that the Alma Street Centre currently doesn't have the capacity to spare staff to do that training and gain experience at somewhere like Next Step.[244]

169. Dr Velayudhan did indicate that they have already tried to implement some innovative methods to provide more holistic health care in Alma Street, such as having a general practitioner on site more often to manage chronic physical conditions such as metabolic syndrome, and he suggested that perhaps an addiction medicine registrar spending at least a day a week in Alma Street Centre might similarly be of benefit.[245]

RECOMMENDATION 2

I recommend that the Department of Health and/or the Mental Health Commission give consideration to funding and placing an Addiction Medicine Consultant within the Alma Street Centre to ensure that the goal of integrating mental health and drug and alcohol services is progressed.

RECOMMENDATION 3

I recommend that the Department of Health give consideration to funding and facilitating CPOP training for psychiatrists based within the Alma Street Centre.

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[242] T 9 – 24.2.2016.
[243] Exhibit 5.
[244] T 48 – 24.2.16.
[245] T 46 – 47 – 24.2.2016.

170. Dr Velayudhan also indicated that Alma Street nursing staff are arranging a staff forum so that staff from Next Step can come and speak to Alma Street staff members and speak about issues in managing patients with substance abuse.[246]

171. In addition, across the ward a new procedure has been implemented in relation to physiological observations that has introduced a stricter guideline for monitoring patients and clear escalation guidelines if issues arise with their observations. The new policy originated from a change in structure for mental health services when the mental health services became more closely aligned with the rest of the hospital with the effect that the general hospital procedures, with an emphasis on physical health, were incorporated into the mental health unit. The procedure places a greater emphasis on physical observations while on the wards and the need to escalate issues to the treating team. The chart is often referred to as the 'rainbow chart.'[247] Since the new procedure has been implemented, Dr Velayudhan has noticed an improving trend in compliance with observation and escalation. Dr Velayudhan considered this to be the major change that he believes has improved outcomes for patients in the Alma Street Centre.[248]

172. However, during the inquest it became apparent that the new procedure may overlook a common feature on mental health wards, namely patients refusing observations. Dr Velayudhan agreed during questioning at the inquest that it is more common on mental health wards than in other parts of a hospital for patients to refuse to have their observations taken. He explained the reasons for refusal can include, it being seen as an intrusion or annoyance or it may be just an expression of some control over the situation when they are otherwise experiencing a loss of control.[249] In questioning by counsel on behalf of some of the nurses, Dr Velayudhan agreed that the new observation procedure could perhaps be improved further in the mental health area by including some guidance on what nurses should do when a patient refuses observations.[250]

173. However, relevantly to this case, even without a direction regarding refusal of observations, on the current procedure if a patient appears drowsy, unsteady, over-sedated or intoxicated

[246] T 48 – 24.2.16.
[247] T 48 – 24.2.16.
[248] T 43 – 44 – 24.2.16.
[249] T 55 – 24.2.16.
[250] T 49 – 24.2.16.

they should be examined by the treating team or duty medical officer.[251]

174. Following the inquest hearing I have been provided with submissions on behalf of Fremantle Hospital and Health Service, which note that there is also a guideline relevant to this issue already in use at Alma Street Centre. It appears to have been provided as part of the brief of evidence, although it was not specifically discussed during the inquest. The guideline, titled "Physiological observations: frequency in mental health service," has applied since December 2014 to all nursing, medical and allied health staff of the Fremantle Mental Health Service in the acute healthcare setting (including Alma Street Centre). The purpose of the guideline is to ensure that appropriate physiological observations to recognise and respond to clinical deterioration are measured and documented. In particular, the guideline provides guidance for nurses at Alma Street Centre as to what should occur when a patient refuses to have his observations taken.

175. The guideline was not in effect at the time of the deceased's death in 2010. If it had been, it would have prompted the relevant nursing staff to inform the Nursing Co-ordinator when the deceased refused his physical observations. This would have prompted a review of his care plan and notification of the medical treating team.[252]

176. I am satisfied that the new guideline provides appropriate guidance to nursing staff at Alma Street Centre as to what should occur when a patient refuses to have their physical observations taken. Accordingly, I do not propose to make a recommendation in this regard.

177. Looking to another change in practice since 2010, as previously noted the majority of methadone related deaths involve a combination of other drugs as well as methadone. In Dr Quigley's experience benzodiazepines are the drugs that most commonly appear in the toxicology reports of those who have died from poly-drug use in combination with methadone or buprenorphine. In those cases, the dose of benzodiazepines detected is usually quite high, significantly more than the usual therapeutic dose.[253] These results are obviously concerning and have led Next Step to develop policy guidance for community prescribers as to appropriate doses of benzodiazepines when a patient is to be started on methadone. Dr Quigley advised that the maximum

[251] Exhibit 3, Letter from Dr Velayudhan dated 4.12.2015, p. 6.
[252] Submissions of the Fremantle Hospital and Health Service in Response to the Coroner's Draft Recommendations filed 24 June 2016.
[253] T 62 – 63 – 22.2.16.

recommended dose is 20mg of diazepam or the equivalent drug in those circumstances. Therefore, if a patient about to start methadone is on a higher dose of diazepam, it is recommended that their dose be reduced first. If a patient is starting buprenorphine, a higher dose of diazepam, to a maximum of 30mg is permitted, given the smaller risk of respiratory depression associated with that drug.

178. This knowledge of the risk of benzodiazepines in association with methadone has developed since the deceased's death in 2010.[254] In addition, current recommended starting doses for methadone, based on treating people in the community setting, have become increasingly conservative and are now down to 20mg - 25mg today, so the risk of overdose in the commencement or re-induction phase should be further reduced.[255]

CONCLUSION

179. The deceased was a man struggling with mental health issues as well as addiction issues. He was a relatively young man, at only 23 years of age, but his health issues had led him to look old before his time and had greatly impacted on his quality of life.

180. At the time of the deceased's last hospital admission at the end of 2010, the main concern was the acute exacerbation of his schizophrenia. His withdrawal from opiates was a secondary concern, particularly given he was not showing any concerning signs of physical withdrawal.

181. After some period of time as a hospital in-patient the deceased's mental condition was gradually improving and he was reporting feeling positive regarding the future. As part of his future planning, the deceased had decided to take the important step of re-engaging with the methadone program. While it took some time to arrange, on 9 December 2010 the deceased saw a Next Step doctor and the recommenced methadone doses in hospital.

182. The doses were calculated to rapidly reduce the deceased's withdrawal symptoms in the hope that this would assist in his psychiatric treatment. Based on his previous history of opioid use, it was believed by the doctors and pharmacists that the doses were set within safe limits.

183. Regrettably, due to an unexpectedly significant reduction in his tolerance to methadone prior to 9 December 2010, within days

[254] T 63 – 22.2.16.
[255] T 41 – 22.2.16.

the deceased was overcome by the toxic effects of the methadone he was prescribed and died while still in hospital.

184. The evidence heard at the inquest supports the conclusion that this was an entirely unexpected and extremely rare event, for a methadone patient in a hospital setting. Nevertheless, steps have been taken by the Directors of both Next Step and Alma Street Centre to ensure that it does not reoccur.

185. As part of the inquest, the experts have also suggested some further positive changes that could assist in ensuring the safety of mental health patients who have drug and alcohol issues and I have made recommendations relying upon their expertise.

S H Linton
Coroner
28 June 2016