



**CORONERS COURT
OF NEW SOUTH WALES**

Inquest:	Inquest into the death of W
Hearing dates:	1- 4 May 2018; 29 August 2018; 11 July 2018
Date of findings:	12 September 2018
Place of findings:	NSW Coroners Court - Glebe
Findings of:	Magistrate Elizabeth Ryan, Deputy State Coroner
Catchwords:	CORONIAL LAW – drug withdrawal management centre – inpatient with multiple dependencies - was death caused by multidrug toxicity - were buprenorphine doses appropriate – recommendations.
File number:	2015/100620
Representation:	Counsel Assisting the Coroner: Mr S Beckett i/b the Crown Solicitor's Office. South Western Sydney Local Health District, Nurses D Cole, T Wilson and A Kaur: Mr P Rooney i/b McCabe Curwood. Dr G Whitton: Mr M Hutchings i/b Makinson d'Apice Lawyers. Nurses and Midwives' Association, Nurses G Stockwell, B Soto and C Prior: Ms B Haider.

Findings:	<p>Date of death: W died on 4 April 2015.</p> <p>Place of death: W died at Corella Lodge, Fairfield NSW 2165</p> <p>Cause of death: W died as a result of multidrug toxicity.</p> <p>Manner of death: W died when he was administered an excessive amount of buprenorphine medication, resulting in toxicity, respiratory depression and death.</p>
Recommendations:	<p><u>To the Chief Executive Officer, South Western Sydney Local Health District:</u></p> <p><u>Recommendation 1</u> That in determining whether to admit a patient with complex needs to Corella Lodge at Fairfield Drug Health Services, consideration be given to admitting the patient earlier rather than later in the week, so as to allow maximum medical coverage.</p> <p><u>Recommendation 2</u> That consideration be given to a review by a group of addiction medication specialists convened by the Local Health District, of the <i>DHS Medication Guidelines for Inpatient Detoxification</i> in light of the <i>NSW Clinical Guidelines: Treatment of Opioid Dependence (2018)</i>, with respect to the prescription and administration of buprenorphine. Areas for review should include appropriate dosing guidelines, guidance about the effects of buprenorphine when administered with other sedating drugs, and clarification of the terms 'PRN' and 'breakthrough' doses and when these are appropriate.</p> <p><u>Recommendation 3</u> That consideration be given to further training for nurses working in Corella Lodge with respect to the following:</p> <ul style="list-style-type: none"> • The DHS Medication Guidelines for Inpatient Detoxification • The NSW 2018 Clinical Guidelines: Treatment of Opioid Dependence • Clinical management and monitoring of sedation in inpatients including the co-administration of benzodiazepines and buprenorphine • Clinical judgment in PRN administration of buprenorphine and breakthrough doses • The steps to be taken where a patient is found unexpectedly to be intoxicated.

	<p><u>Recommendation 4</u></p> <p>That a copy of the DHS Medication Guidelines for Inpatient Detoxification be available at the Nurses' Station at Corella Lodge.</p> <p><u>Recommendation 5</u></p> <p>That Corella Lodge consider introducing a sedation chart to observations kept for patients who are administered buprenorphine and/or benzodiazepines.</p>
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Non Publication Orders

Pursuant to section 76(1)(b) of the Coroners Act 2009, I make a non-publication order with respect to the following evidence:

1. The name of the deceased, which appears in these findings as 'W'
2. The names of members of W's family where doing so would tend to identify W
3. The names of W's children
4. Paragraph 6 of the statement of L dated 29 April 2015
5. All crime scene photographs tendered in the inquest.

Section 81(1) of the *Coroners Act 2009 (NSW)* [the Act] requires that when an inquest is held, the Coroner must record in writing his or her findings as to various aspects of the death.

These are the findings of an inquest into the death of W.

The role of the Coroner

An inquest is different to other types of court hearings. It is neither criminal nor civil in nature. It does not determine whether a person is guilty of an offence, and it does not make findings and orders that are binding on parties.

A Coroner presiding over an inquest is required to confirm that a particular death occurred and make findings as to:

- the identity of the person who died
- the date and place of the death
- the cause and manner of the death.

In addition, under section 82 of the Act a Coroner may make recommendations that are considered necessary or desirable in relation to any matter connected with the death, including in relation to health and safety.

Introduction

1. On 4 April 2015 W died at Corella Lodge, a drug withdrawal facility located on the grounds of Fairfield Hospital in South Western Sydney.
2. W was 38 years old and he had a longstanding dependence on alcohol and other drugs. He had voluntarily sought treatment at Corella Lodge and was admitted there as an inpatient on 2 April 2015. However on the afternoon of 4 April he was found on his hospital bed unresponsive and not breathing. Attempts to revive him were not successful, and he was pronounced deceased at 7.25pm that night.
3. The post mortem report of forensic pathologist Dr Istvan Szentmariay could not ascertain the cause of W's death. Although Dr Szentmariay noted the presence of numerous prescription medications in W's post mortem blood sample, he commented that their possible interaction could not be easily assessed. He also raised the possibility that W had died as a result of alcohol and/or drug withdrawal.
4. The inquest heard evidence about the cause of W's death from the following medical experts:
 - Dr Bridin Murnion, specialist in clinical pharmacology and addiction medicine

- Dr Alex Wodak, specialist in addiction medicine and former director of Alcohol and Drug Services at St Vincent's Hospital, Sydney.

Their expert opinion, namely that W's death was as a result of multidrug toxicity, is addressed below.

5. The inquest into W's death focused on the cause and manner of his death, in particular whether the withdrawal medication he received at Corella Lodge caused or contributed to his death.

W's life

6. W was 38 years old when he died. At the time of his death he had separated from his long term partner L but they maintained a close relationship. Together they had four children who are now aged between twelve years and three years.
7. At the close of the inquest L provided a written tribute to W in which she expressed how much she and W's family loved him and miss him. In particular she wrote of her sorrow that their four children will grow up without their father's love and support. She attended each day of the inquest, together with W's father G, and W's brother M and sister-in-law J.
8. For many years W struggled with drug dependence. His brother M described their teenage use of alcohol, cannabis and ecstasy. By 2015 W was drinking heavily and was dependent on the semi-synthetic opioid oxycontin and the benzodiazepine rivatril. W was also using the anti psychotic drug Seroquel and the anti depressant mirtazapine (Avanza), which he had been prescribed for depression and anxiety.
9. In March 2015 W realised he had to get help with his addictions. He had had a car accident in which a passenger in the other car was a child.
10. L, W and his brother searched for a suitable drug rehabilitation centre. They found a place for W at Corella Lodge, a residential facility operated by Drug Health Services within the South Western Sydney Local Health District. Corella Lodge is a 15 bed facility which provides inpatients with drug withdrawal management services.

W's initial assessment on 30 March 2015

11. On 30 March 2015 W accompanied by L had an outpatient assessment at Corella Lodge. They were interviewed by clinical nurse specialist Chloe Prior. Nurse Prior is a registered nurse with extensive experience in drug and alcohol rehabilitation. She noted W was drowsy throughout the interview. Nurse Prior found W suitable to be admitted as an inpatient to Corella Lodge, for assisted withdrawal from alcohol and benzodiazepines.
12. Nurse Prior wanted W to have an early admission as she was keen to capitalise on his motivation for change. However she was also aware his

withdrawal management was likely to be complex due to his dependence on multiple drugs. She therefore arranged for him to be admitted on Thursday 2 April, the day before the Easter weekend started, so he could receive a review by a doctor on his arrival.

13. At the meeting W expressed concern when Nurse Prior told him about the diazepam he would be given to assist his withdrawal. W did not think the amounts would be enough to prevent him experiencing serious discomfort and distress. W repeated these fears to his brother M. Despite this he assured M he was committed to overcoming his addictions for the sake of his children. M told W he and the family were very proud of him.
14. At the end of the meeting on 30 March Nurse Prior asked L to try to ensure W did not overdose during the three days leading up to his admission. At home over this period L noticed W was sleepy and unable to remain awake. She suspected he had obtained and used drugs.
15. On the morning of 2 April L drove W to Corella Lodge. She noticed his breath smelt of alcohol and she suspected he had again taken drugs.

Dr Singh's assessment on 2 April

16. W arrived at Corella Lodge at about 9.30am and was medically reviewed by Dr Mamta Singh. At that time Dr Singh was a resident doctor at Fairfield Hospital. She is now a psychiatric registrar at Campbelltown Hospital.
17. Like Nurse Prior on 30 March, Dr Mamta noted W was drowsy throughout the review. She asked him about the nature and quantity of drugs he was currently using. W told her he was consuming 27 standard alcoholic drinks each day, as well as daily use of benzodiazepines, Seroquel and Avanza. He also described daily use of oxycontin.
18. It should be noted there is some discrepancy in the evidence about W's oxycontin use. According to Dr Singh's notes, W told her he had been using 40mgs of oxycontin on a daily basis. However in her notes taken on 30 March Nurse Prior recorded that W had used 20mgs every second day of the past month. While he was in Corella Lodge W described to a fellow patient daily use of oxycontin at significantly higher levels.
19. Dr Singh formed the view that W was dependent on alcohol, benzodiazepines, opioids and anti depressants.
20. Like Nurse Prior, Dr Singh thought W's dependencies made him a higher-risk patient in terms of withdrawal treatment. There were two main reasons for this. First, there are known risks associated with withdrawal from alcohol which are described below. Secondly, as W was dependent on a number of other substances he was likely to need a combination of withdrawal medications. These would require careful monitoring due to their interactive sedative effects.

21. Dr Singh was also aware that over the Easter weekend of 3 and 4 April there would be no resident medical officer at Corella Lodge. Nevertheless she was confident there were mechanisms in place to sufficiently manage these risks. W's condition would be regularly monitored by experienced nursing staff, with phone access to an 'on call' medical specialist.

Principles of withdrawal management

22. Withdrawal occurs when drug dependent people stop or considerably reduce their drug use.

23. To better understand the withdrawal treatment W received, the court was assisted with evidence about the key principles of safe withdrawal management, as they applied to W's dependencies.

24. Currently applying in all NSW Health Areas are the newly published NSW Ministry of Health *NSW Clinical Guidelines: Treatment of Opioid Dependence 2018*. I will refer to these as 'the 2018 Clinical Guidelines'. They are a revised version of guidelines that have been produced by NSW Health since 2008.

25. In use at Corella Lodge at the time of W's admission was a set of guidelines authored by Dr Peter McCaul, then and now a Staff Specialist in Addiction Medicine employed by Fairfield Drug Health Services. These are titled *Drug Health Services Medication Guidelines For Inpatient Detoxification*. I will refer to them as 'the DHS Medication Guidelines'.

26. According to the 2018 Clinical Guidelines, the key elements of safe withdrawal management are:

- frequent observations during which the patient's clinical features are assessed
- reassurance and encouragement; and
- medication to reduce the intensity of withdrawal and provide symptomatic relief.

27. Withdrawal from drugs is not without its risks. In particular, managing withdrawal in a person like W with concurrent dependencies needs extra clinical vigilance. This is particularly so where other sedating drugs are administered in combination with the withdrawal drug buprenorphine. The 2018 Clinical Guidelines caution that buprenorphine when combined with other sedating substances such as benzodiazepines '*can be extremely dangerous and may result in respiratory depression, coma and death*'. At the inquest all medical experts acknowledged this risk and emphasised the importance of careful patient monitoring.

28. W had been assessed as needing help with withdrawal from alcohol, benzodiazepines and opioids. While at Corella Lodge he was administered standard withdrawal medications of buprenorphine and diazepam.

29. Benzodiazepine withdrawal is usually mild and its symptoms are treated with a long-acting benzodiazepam such as diazepam.

30. Diazepam is also the treatment of choice for alcohol withdrawal. Alcohol withdrawal typically commences 6-24 hours after the patient's last drink, and is characterised by anxiety and agitation, sweating and nausea. A minority of patients can suffer major alcohol withdrawal involving seizures and even life-threatening conditions such as delirium tremens.
31. The principal treatment option for managing opioid withdrawal is the semi-synthetic opioid buprenorphine. Patients suffering opioid withdrawal usually show objective and observable signs such as yawning, sweating, dilated pupils, runny nose, vomiting and diarrhoea. Opioid users are sometimes known to overstate the severity of their withdrawal symptoms, anxious for more medication to alleviate the discomfort and distress they expect to experience.
32. Prescribing of buprenorphine is not a simple process. Medical experts confirm that buprenorphine should not be commenced until after the onset of opioid withdrawal symptoms. This is because administering buprenorphine when another opioid has recently been used can precipitate severe withdrawal. Therefore clinicians usually administer a conservative initial dose of buprenorphine. The patient is then monitored for precipitated withdrawal. If there are no such signs, and if the patient is still experiencing withdrawal signs and symptoms, a second dose to alleviate those symptoms is recommended.
33. The court heard that in addition to making general observations of the patient, drug health clinicians use withdrawal scales to measure the severity of clinical features of withdrawal. The scales are also useful in recording changes in the severity of such symptoms over time. There are scales specific to different drugs. They typically contain itemised symptoms and signs, against which a patient is assigned a score to indicate the severity of each symptom.
34. Of relevance to this inquest, one such item on the Opiate Withdrawal Scale chart is '*dilated pupils*'. Pupils in this condition are considered to be one of the indicators of opioid withdrawal.

The events of 2 and 3 April 2015

35. At 5.50pm on 2 April W commenced alcohol withdrawal treatment with diazepam. He was also administered his prescribed doses of Seroquel and Avanza for management of his mental health issues. To Nurse Prior he voiced anxiety that his diazepam dosage would not be enough. She explained to him the need to gradually reduce for the detoxification to be effective. She also reassured him that nursing staff would regularly monitor his symptoms.
36. During the night of 2 April Enrolled Nurse Donna Cole carried out observations of W's vital signs, and charted his symptoms for alcohol and opioid withdrawal. These scores were relatively low.
37. On 3 April W continued to voice anxiety that his dosage of diazepam was insufficient. At midday and at 6.35pm he was agitated and insisted he required

more diazepam. Nurse Cole became concerned he was attempting to make phone contact outside the facility, perhaps to obtain drugs. She told him his phone calls would be closely monitored. I should note in passing that there is no evidence any drugs were illicitly brought in to W at Corella Lodge.

38. Throughout his stay at Corella Lodge W was administered regular doses of diazepam, with the last dose given at 9am on 4 April. There is no evidence that the doses of diazepam he received were inappropriate. However they are relevant to the cause of W's death, as will be seen below.

The first dose of buprenorphine

39. On 3 April the Nurse in Charge overnight was Registered Nurse Glenda Stockwell. She was assisted by Registered Nurse Aminder Kaur.
40. At 8pm on 3 April W showed his first signs of having commenced opioid withdrawal. He complained of anxiety, agitation, diarrhoea, and stomach and muscle cramps. Nurse Stockwell noted he was sweating. Nurse Kaur assessed the severity of his symptoms using the Opioid Withdrawal Chart, giving them an aggregate score of '8'. She discussed this with Nurse Stockwell and they decided to ring the 'on call' medical consultant.
41. Over the 2015 Easter weekend this role was performed by Dr Gilbert Whitton. Dr Whitton is a Senior Staff Specialist employed with the South Western Sydney Local Health District.
42. Dr Whitton's duties demonstrate the overstretched nature of drug and alcohol services in NSW. During that weekend he was the 'on call' doctor for a number of other Local Health Districts besides South West Sydney. His role did not enable him to actively monitor patients or to physically attend at facilities. Usually he did not have access to a patient's medical notes when giving advice, and would be reliant on information given by the caller. This was the case when Nurse Stockwell rang him at about 8pm.
43. Nurse Stockwell described W's signs and symptoms. In Dr Whitton's view some of these were specific to opioid withdrawal, making it appropriate to commence withdrawal medication. He asked Nurse Stockwell if Corella Lodge used a dosage protocol for buprenorphine. Nurse Stockwell replied they did, describing the relevant DHS Medication Guidelines to Dr Whitton as follows:
- *4-8mgs as an initial dose*
 - *4-8mgs as a second dose after 1.5 hours*
 - *4-8 hours as a breakthrough dose.*
44. Dr Whitton made an order for buprenorphine in the above terms. This is also how Nurse Stockwell recorded the order in her Clinical Notes.
45. It should be noted that the order diverges from the DHS Medication Guidelines in two ways: the DHS Medication Guidelines recommend 4mgs as the initial

dose, and they describe the second as well as the third doses as 'PRN' – that is, 'when required'.

46. At 8.30pm W received his first dose of buprenorphine, being an amount of 4mgs.

The second dose of buprenorphine

47. At about 9.55pm that night Nurse Kaur took a further set of observations of W. She also assessed his opioid withdrawal symptoms, assigning them an aggregate score of '6'. She again discussed these results with Nurse Stockwell, following which they administered 8mgs of buprenorphine to W. W was also given his prescribed doses of diazepam, Avanza and Seroquel.

The condition of W's pupils

48. A feature of the opioid withdrawal assessment conducted by Nurse Kaur at 9.55pm assumed great importance in this inquest. On W's Opioid Withdrawal Chart the word '*pinpoint*' was handwritten against the item '*dilated pupils*'. The word '*pinpoint*' was written over the handwritten numeral '0'. A score of '0' is used to indicate that the relevant withdrawal symptom, in this case dilated pupils, is not present.
49. According to the 2018 Clinical Guidelines, pinpoint or constricted pupils are a reliable indication that a patient is in a state of opioid intoxication. In Dr Whitton's words, such a patient is at risk of respiratory depression and death. At the inquest all clinicians, nursing staff included, expressed their awareness that a patient with pinpoint pupils was at serious risk and needed an immediate medical review, with no further sedating medication administered.
50. The evidence is unclear as to who made the '*pinpoint*' entry on W's chart that night.
51. Nurse Kaur stated she did not write the word '*pinpoint*' in the chart. She recalls that at 9.55pm W's pupils were not pinpoint, and that she therefore wrote the numeral '0' against this item.
52. Nurse Stockwell too denied writing '*pinpoint*' on W's chart. Her evidence is that when she administered the second dose of buprenorphine to W she had not seen the Opioid Withdrawal Chart. Nor had Nurse Kaur made any reference to pinpoint pupils. Had she done so, Nurse Stockwell stated she would certainly not have given W any more buprenorphine. She acknowledged that a patient with pinpoint pupils represented a dangerous situation.
53. However, Nurse Stockwell acknowledged that she did become aware that night of the '*pinpoint*' notation on W's chart. She said that about an hour after she had administered the second dose of buprenorphine, she prepared W's Clinical Notes against the time 22.00. In her Clinical Notes she handwrote a number of symptoms, including the term '*pupils pinpoint*'. She said this was because she had just noticed the '*pinpoint*' notation on his chart.

54. Nurse Stockwell was then asked what she had done once she realised she had given 8mgs of buprenorphine to a patient in such a condition. At first she replied she had made sure to conduct further observations of W throughout the night. She then acknowledged there was no evidence of this having occurred. In fact the next time observations were taken of W was at 8.50am the next day.
55. Following her discovery of the '*pinpoint*' notation Nurse Stockwell did not call Dr Whitton to advise him of it; nor did she seek any other medical advice.

Were W's pupils in a pinpoint condition?

56. An issue arose as to the accuracy of the 9.55pm notation on W's Opioid Withdrawal Chart that his pupils were in a pin-point condition, indicative of opioid intoxication.
57. At the inquest Dr Whitton expressed doubt about whether W's pupils were in fact in this condition. He noted that W was recorded as showing symptoms commonly seen with opioid withdrawal, such as agitation, nausea, sweats and cramps. This comment was also made by Dr McCaul when he gave evidence at the inquest.
58. In Dr Alex Wodak's opinion however the '*pinpoint*' observation was likely to have been accurate. He based this conclusion on W's sedated condition the following day which is described below, followed by his death from drug toxicity.
59. Dr Bridin Murnion acknowledged that W's other signs and symptoms on the night of 3 April were commonly seen with opiate withdrawal. However she maintained a degree of scepticism about the severity of W's opioid withdrawal. In Dr Murnion's opinion W's withdrawal was '*for the most part mild*'. She commented that the score of '8' was heavily reliant on self-reported symptoms such as muscle cramps and anxiety, rather than objective signs of withdrawal which can more easily be measured by an impartial observer such as pupil dilation, yawning and runny nose, none of which W displayed. Furthermore, other components of the Opioid Withdrawal Score such as agitation and anxiety were equally seen with withdrawal from alcohol and benzodiazepines. This is one of the reasons why Dr Murnion considered W to have been a complex patient for withdrawal management.
60. Given the comments of Drs Whitton and McCaul, the evidence does not permit it to be established with certainty that W's pupils were in a pinpoint condition that night.
61. However in my view this finding is able to be made on the balance of probabilities. The expert comments of Dr Murnion at par 59 above make a case that W's withdrawal symptoms were not significant. As will be seen, Dr Murnion's opinion is also that W had a relatively low tolerance to opioids. To these features may be added the temporal proximity of the '*pinpoint*' notation,

to W's condition the following day, being a state of sedation followed by opioid toxicity and collapse.

62. Perhaps the most persuasive evidence however is the recording of '*pinpoint pupils*' itself. There is no explanation as to why such an observation would have been recorded, if it were not the case that W's pupils were seen to be in this condition.

63. The evidence is sufficient to establish that W's pupils were in fact in a pinpoint condition on the night of 3 April.

The third dose of buprenorphine

64. At about 6am on 4 April Nurse Stockwell observed W to be asleep. At 7am she conducted a handover to incoming Nurse in Charge Beatriz Soto. She was unable to remember if she told Nurse Soto about W's pinpoint pupils.

65. At about that time Nurse Soto recorded that W was woken by staff but did not turn up for breakfast.

66. At 8am W's Opioid Withdrawal score was measured at '4', with symptoms of anxiety, diarrhoea, bone pain and sweats. He was given diazepam. Then at 9am he was given a further 8mgs of buprenorphine.

67. In her evidence Nurse Soto said that before she administered the third buprenorphine dose she had noticed the '*pinpoint*' notation of the previous night. However she had not been concerned because by then W's pupils were no longer in this condition, indicating to her his intoxication had passed. As to why she had administered 8mgs, she said that as he had received a total of 12mgs the previous evening she thought his dosage needed to be slowly decreased.

W's somnolence on 4 April

68. On 4 April the nursing staff on duty at Corella Lodge were Nurse Soto and Enrolled Nurses Tina Wilson and Donna Cole.

69. As noted, that morning W had to be woken for breakfast but he did not attend. He had to be woken again for lunch but he did not want anything to eat. The Clinical Notes record that at 2pm he again had to be woken to discuss discharge and rehabilitation options.

70. The nursing staff were not concerned about W's somnolence, as in their experience some patients did choose to spend the day in bed. Additional observations were not conducted, nor was any advice sought from the 'on call' medical consultant.

71. At the inquest Dr Murnion and Dr Wodak expressed concern at the lack of response to W's drowsiness on 4 April, noting that for a patient receiving buprenorphine and other sedating medications, increasing somnolence is an

early warning sign of impending toxicity. In their opinion W's drowsiness ought at the least to have triggered increased monitoring.

The resuscitation attempts

72. At 3.40pm that afternoon Nurse Wilson went to W's room and found him lying on his bed without any signs of breathing or of a pulse. Nurse Wilson called for help and Nurse Cole responded. Nurse Cole immediately called an ambulance and assisted its crew to find Corella Lodge, which is not easily accessed from Fairfield Hospital.
73. The witnesses' accounts of attempts to resuscitate W are confused. According to Nurses Wilson and Soto, Nurse Wilson alone performed CPR until the ambulance crew arrived. It is not clear why this would have been the case. Nurse Wilson claimed it was because there was no one to help her. She was asked why she had not asked Nurse Soto to assist. She replied that she thought Nurse Soto had gone into shock, and may not even have stayed in the room. When questioned further however Nurse Wilson agreed it was possible Nurse Soto had in fact been in the room performing suctioning and applying an oxygen mask.
74. For her part Nurse Soto said she had brought the resuscitation trolley into W's room, then suctioned fluid from his mouth and operated the oxygen mask. (This was corroborated by Nurse Cole). She said Nurse Wilson at no time indicated she was getting tired from performing CPR.
75. There was dispute among the witnesses as to whether fellow patients had assisted with resuscitation. However it was accepted that some had helped to remove W's mattress from under him so the CPR efforts would be more effective.
76. When the ambulance crew members arrived they were not able to revive W. He was taken to Fairfield Hospital and was pronounced dead at 7.25pm that night.
77. Confused as the above accounts are, there is no evidence which enables me to find that the attempts by Corella Lodge staff to resuscitate W were inadequate. Nor is it possible to say that his death might have been prevented had the resuscitation effort proceeded in a different manner.
78. At the inquest senior managers of South Western Sydney Local Health District acknowledged that providing timely emergency assistance after hours to Corella Lodge inpatients is a challenge. Although Corella Lodge is located on the grounds of Fairfield Hospital there is no easy access route between the two. Nor is the Hospital specifically resourced to supply emergency services to Corella Lodge.
79. It is for these reasons that after W's death Corella Lodge's admission policy was substantially revised. This and other changes implemented since W's death are discussed below.

What was the cause of W's death?

80. Expert opinion about the cause of W's death was received from Dr Murnion and Dr Wodak. They gave their evidence in conclave at the inquest.
81. In the opinion of both experts, W's death was not the result of drug or alcohol withdrawal, but rather the synergistic toxicity of the drugs administered to him. In other words, his medications combined to create an effect which was greater than the sum of their individual parts.
82. Based on W's pre-admission assessments Dr Murnion thought he had a relatively modest tolerance for opioids, even taking into account the discrepancies in his self-reported usage levels. This made him more sensitive to the synergistic toxicity of the withdrawal drugs he was administered. As a result, in Dr Murnion's opinion the co-administration of buprenorphine and benzodiazepine had brought about a fatal respiratory depression.
83. Dr Murnion also pointed to evidence that on 4 April W had to be woken a number of times. She considered his drowsiness to have been an early warning sign of impending toxicity. She was not dissuaded from this opinion by the evidence that around 2pm W was apparently able to have a lucid conversation with nursing staff about rehabilitation options. In her opinion this did not preclude him from experiencing toxicity very soon afterwards.
84. Dr Wodak concurred, but also took into account the effect of the other drugs which had been administered to W including quetiapine and mirtazapine. In his opinion these drugs in combination with benzodiazepine and buprenorphine proved fatal for him.
85. The cause of W's death is thus able to be identified as multidrug toxicity. Further, the court is able to find on the balance of probabilities that the drugs identified by Drs Murnion and Wodak as causative of W's toxicity were administered to him while he was in Corella Lodge. There is no physical or forensic evidence that W accessed drugs from any other source while he was there. In addition, W's post mortem blood samples largely contained only substances which had been administered to him during his admission.

Were the buprenorphine doses appropriate?

86. Given the finding that W died from multidrug toxicity as a result of medication administered to him, the question arises whether his doses of buprenorphine were appropriate. On this point the court was assisted with the expert evidence of Dr Murnion and Dr Wodak, as well as that of Dr Whitton and Dr McCaul. All have extensive experience in the field of addiction medicine.
87. All four expert witnesses were careful to acknowledge that prescribing withdrawal medication is not easy. As Dr Wodak described it, medical and nursing staff aim to ensure a withdrawal process that is both safe and comfortable for the patient. The maxim is to prescribe as little medication as possible, but not so little that the patient is distressed and uncomfortable to the

point of abandoning their detoxification and leaving the facility. Dr Wodak emphasised the importance of reassurance and emotional support to patients in this condition. In his opinion most withdrawal centres were not sufficiently funded to offer this support to the necessary degree.

88. Dr Murnion, Dr Wodak, Dr Whitton and Dr McCaul agreed that W's initial buprenorphine dose of 4mgs was clinically justified, given that at 8pm on 3 April he was displaying signs and symptoms of opioid withdrawal.
89. There was also consensus that if W's pupils had been in a pinpoint condition 1.5 hours later, it would certainly not have been appropriate to administer any further sedating medications. This included the second buprenorphine dose, given at 9.55pm that night.
90. The four medical witnesses were then asked about the appropriateness of the second and third buprenorphine doses, if it were assumed that W's pupils had not been in a pinpoint condition. There was some divergence in their positions on this question.
91. Dr Murnion and Dr Wodak did not consider there was sufficient clinical basis to administer a second dose of 8mgs, given that W's withdrawal symptoms had subsided somewhat. They also took into account that W was being co-administered other sedating medication. Both thought a lesser dose of 2-4mgs would have been appropriate.
92. As regards the second dose, Dr Whitton said the nursing staff appeared to have interpreted his medication order in a manner different to what he had intended. According to his understanding of what he had ordered, after waiting at least 1.5 hours after the first dose to ensure there had not been a precipitated withdrawal, the nursing staff had the option of administering no further buprenorphine, or administering a dose of 4-8mgs. Since by 9.55pm W's symptoms had not worsened but still existed, it was not unreasonable to give him a second dose of 4mgs. It would also have been reasonable not to administer any further buprenorphine.
93. In Dr McCaul's opinion, and again assuming the absence of pinpoint pupils, a second dose of 8mgs was not excessive; however since W's withdrawal symptoms appeared to be subsiding a 4mgs would have been preferable.
94. Regarding the third dose on 4 April, Dr Murnion and Dr Wodak considered W's score of '4' on the Opiate Withdrawal Chart indicated his withdrawal symptoms were settling, and did not provide a sufficient clinical basis for such a quantity of buprenorphine. Dr Whitton agreed. Dr McCaul thought a lesser dose of 4mgs may have been appropriate, given the withdrawal symptoms were reducing.
95. The weight of medical evidence therefore is that even had W's pupils not indicated any sign of opioid intoxication, the amount of buprenorphine given to him at 9.55pm was excessive; and further that there was little clinical justification for a third dose of 8mgs the next morning.

96. Other evidence tends to support the expert findings that W was administered too much buprenorphine. Over the 12-hour period following 8.50pm on 3 April, W received a total amount of 20mgs buprenorphine. By comparison the 2018 Clinical Guidelines for buprenorphine recommend a range of only 8-12mgs for the patient's first 24 hours. This consists of an initial 8mgs dose followed by an additional 'PRN' dose of 4-8mgs for '*uncomfortable withdrawal*'.
97. I find that W was administered an excessive amount of buprenorphine while he was a patient at Corella Lodge. The buprenorphine which he received in combination with other sedative drugs resulted in toxicity, respiratory depression and death.

Referral to the Nursing and Midwifery Council

98. At the close of the evidence Counsel Assisting the Coroner submitted it would be open to the court to make a referral of Nurse Glenda Stockwell to the Nursing and Midwifery Council. Pursuant to Section 151A(2) of the *Health Practitioner Regulation National Law (NSW)* [the National Law], a coroner may give a transcript of evidence to the relevant health profession Council, if the coroner:

... has reasonable grounds to believe the evidence given ...in proceedings conducted before the coroner may indicate a complaint could be made about a person who is or was registered in a health profession.
99. The grounds for complaint in the National Law include that a clinician is not competent because he or she lacks knowledge or skill, or that his or her knowledge, skill, judgment or care is significantly below the standard to be expected of a clinician of an equivalent level of training or experience.
100. The relevant Council with respect to nurses is the Nursing and Midwifery Council of NSW.
101. In order to take such action a coroner need only have reasonable grounds to believe the evidence may indicate such a complaint could be made. It is a low threshold, reflecting the National Law's strong focus upon public health and safety.
102. I accept the submission of Counsel Assisting that there is a factual basis upon which to find reasonable grounds for belief that the evidence may indicate a complaint could be made about Nurse Glenda Stockwell.
103. It is not in dispute that Nurse Stockwell was the Nurse in Charge on the night of 3 April, and the senior nurse responsible for the administration of the Schedule 8 drug buprenorphine. On the night of 3 April she administered to W 8mgs of buprenorphine, in circumstances where she ought to have known at the time, and in fact did know shortly afterwards, that he had been recorded as having pinpoint pupils.

104. Nurse Stockwell was well aware that pinpoint pupils are a strong indication of opioid intoxication. Despite this she did not advise the 'on call' medical officer of the situation, did not direct increased monitoring of W's condition, and did not advise the incoming Nurse in Charge on 4 April that W had pinpoint pupils the previous night.
105. In considering the question of referral I have taken into account that in the interests of public health and safety, great care is needed in the administration of Schedule 8 drugs such as buprenorphine. I have also taken into account that drug health clinicians are well aware that pinpoint pupils are a sign of intoxication, that administration of additional opioids to a patient in such a condition is likely to increase intoxication, and that immediate medical review of such a patient is required.
106. The above evidence may indicate a complaint could be made about Nurse Stockwell's conduct, described in pars 103 and 104 above.
107. Ms Haider representing Nurse Stockwell urged against this position. She submitted that it was by no means clear on the evidence that W's pupils were in a pinpoint condition that night.
108. For the reasons given above I have found that the evidence supports a finding that W's pupils were in this condition. I will add that in my view there would have been a basis for referral even had it not been possible to make such a finding. Nurse Stockwell acknowledged she became aware of the clinical record that W's pupils were constricted soon after she had administered 8mgs buprenorphine. Nevertheless she took no action to verify the observation, to conduct increased observations of W's condition, or to seek medical review. This evidence of itself indicates a complaint could be made about her conduct.
109. It is with regret that I make this referral. So far as I am aware Nurse Stockwell acted in good faith and with the intention of alleviating W's discomfort and distress. Furthermore it is well known that drug health work is important work which is difficult and under resourced. But there is an undeniable public health interest in ensuring that such work is performed with competence and knowledge.
110. I therefore direct that a transcript of the evidence at the inquest, including witness statements and a copy of these findings, be forwarded to the Executive Officer of the Nurses and Midwifery Council of NSW, pursuant to section 151A(2) of the National Law. I further direct that the transcript of Nurse Stockwell's oral evidence at the inquest not form part of the material referred to the Council.
111. The reason for excluding Nurse Stockwell's oral evidence is that it was given with the protection of a certificate issued under section 61 of the *Coroners Act 2009*. The certificate precludes the use of her oral evidence in proceedings, which are well understood to include tribunals which hear and

determine disciplinary complaints. Section 61 also precludes the use of evidence of *'any information, document or thing obtained as a direct or indirect consequence of the person having given evidence'*. I wish to avoid the risk that the integrity of the Council's processes is inadvertently compromised as a result of exposure to protected evidence.

Recommendations

112. In addition to referral of Nurse Stockwell to the Executive Officer of the Nursing and Midwifery Council, Counsel Assisting the Coroner proposed that five recommendations be made pursuant to section 82 of the Act.
113. The recommendations focus upon improving admission procedures and nurses' training within Corella Lodge. In his closing submissions on behalf of South Western Sydney LHD, Mr Rooney told the court that South Western Sydney LHD considered the five recommendations to be appropriate.
114. For the reasons that follow, I make the recommendations proposed by Counsel Assisting. I will address each in turn.

Recommendation 1: That in determining whether to admit a patient with complex needs to Corella Lodge at Fairfield Drug Health Services, consideration be given to admitting the patient earlier rather than later in the week, so as to allow maximum medical coverage.

115. The inquest heard evidence from Dr Michael Edwards, a consultant psychiatrist with expertise in Addiction Psychiatry. In June 2015 he became the Medical Director of Drug Health Services for South Western Sydney LHD.
116. After W's death Dr Edwards conducted a review of patient admissions to Corella Lodge. He concluded that Corella Lodge was not suitable for managing high acuity patients, due to its inability to provide emergency after hours services. Under a new admissions policy, Corella Lodge no longer admits patients whose predicted withdrawal severity falls within the *'moderate to severe'* range, or those with a likelihood of withdrawal complications. Instead these patients are referred to general wards in public hospitals so they may have direct access to 24 hour medical cover. Dr Edwards considered it likely W would not have been admitted to Corella Lodge under the new admissions policy.
117. Other changes within Corella Lodge include a mandatory medical face to face review of each patient on a daily basis for the patient's first three to four days of admission; and a daily clinical review of each patient by the medical officer on weekdays, and by the 'on call' medical officer on weekends.
118. The above changes make it less likely that a patient with complex needs will be admitted to Corella Lodge. The changes are also intended to provide those who are admitted with a higher degree of medical supervision.

119. However on my understanding it remains the case that medical review of patients over the weekend and on public holidays will continue to be performed by way of phone communication with the 'on call' consultant. No doubt this is for reasons of limited resources. I make the proposed recommendation, with the aim of mitigating the risks associated with medical review that is not on a face to face basis.

Recommendation 2: That there be a review by a group of addiction medication specialists convened by the Local Health District, of the *DHS Medication Guidelines for Inpatient Detoxification* in light of the *NSW Clinical Guidelines: Treatment of Opioid Dependence (2018)*, with respect to the prescription and administration of buprenorphine. Areas for review should include appropriate dosing guidelines, guidance about the effects of buprenorphine when administered with other sedating drugs, and clarification of the terms 'PRN' and 'breakthrough' doses and when these are appropriate.

120. When the DHS Medication Guidelines and the 2018 Clinical Guidelines are compared it can be seen there are discrepancies between their recommended buprenorphine doses, in particular for the patient's first 24 hours of withdrawal.
121. It is plainly desirable that dosing guidelines in use at Corella Lodge are consistent with those used in equivalent centres. At the inquest Dr Edwards and Dr McCaul expressed support for a review of the DHS Medication Guidelines with a view to their better integration with the 2018 Clinical Guidelines.
122. Dr McCaul stated that other important areas for review in the DHS Medical Guidelines included guidance about the effects of buprenorphine when administered with other sedative drugs; and clarification of terms such as 'PRN' and 'breakthrough' doses and when these are appropriate. I agree that these aspects of buprenorphine administration need to be included in the review.

Recommendation 3: That further training be provided to nurses working in Corella Lodge with respect to the following:

- The DHS Medication Guidelines for Inpatient Detoxification
 - The NSW 2018 Clinical Guidelines: Treatment of Opioid Dependence
 - Clinical management and monitoring of sedation in inpatients including the co-administration of benzodiazepines and buprenorphine
 - Clinical judgment in PRN administration of buprenorphine and breakthrough doses
 - The steps to be taken where a patient is found unexpectedly to be intoxicated.
123. The inquest revealed gaps in the education of nurses at Corella Lodge, regarding the clinical decisions that need to be made when administering buprenorphine.

124. In particular nursing staff appeared to have insufficient guidance about matters such as when 'PRN' and 'breakthrough' buprenorphine doses are appropriate; and the impacts of co-administration of buprenorphine with other sedating drugs. In addition, the lack of response on 3 April 2015 to the notation of W's pinpoint pupils gave rise to concern about nurses' understanding of how to respond to signs of opioid intoxication. Further, it did not appear that nurses received specific training in the use of the DHS Medication Guidelines.
125. At the inquest evidence was heard from Ms Stephanie Hocking, who is acting General Manager of Drug Health Services for South Western Sydney LHD. She acknowledged that W's death had given rise to some concern about the level of nurse education at Corella Lodge. Evidence was also heard from Ms Sharon May, who is the Director of Nursing within South Western Sydney LHD Drug Health Services.
126. The two witnesses told the court of changes that have been made at Corella Lodge since W's death, which include:
- employment of a full time Clinical Nurse Educator at Fairfield Drug Health Services
 - an improved staff/patient ratio during day shifts at Corella Lodge
 - increased educational and recreational activities for patients.
127. These changes are welcome and should assist nursing staff at Corella Lodge to focus on their primary role of caring for patients who are undergoing assisted withdrawal.
128. In my view the specific training areas referred to in this recommendation are necessary and need to be attended to as soon as practicable.

Recommendation 4: That a copy of the DHS Medication Guidelines for Inpatient Detoxification be available at the Nurses' Station at Corella Lodge.

129. It was unclear from the evidence whether a copy of the DHS Medication Guidelines was easily accessible to nursing staff at Corella Lodge. If not it needs to be.

Recommendation 5: That Corella Lodge introduce a sedation chart to observations kept for patients who are administered buprenorphine and/or benzodiazepines.

130. According to Dr Murnion a sedation chart is known to be a more reliable means of detecting opioid induced respiratory depression, than is respiratory rate monitoring. She considered use of such a chart in W's case would have helped to identify his evolving medication toxicity. There is merit to this recommendation, as a way of better managing the known risks associated with buprenorphine especially when co-administered with other sedative drugs.

Conclusion

131. W's family loved him greatly and it is especially sad that he did not live to see his four children growing up. I hope this inquest has helped to answer some of his family's questions about his death, and that they will accept the sincere sympathy of us all at the Coroner's Court.
132. I also want to acknowledge how important it is that our community understands the need for drug health services. These are critical in helping dependent people and their families move towards better lives. Human and systems errors occur in all areas of life. Of course this is not to excuse what went wrong in W's case, or to diminish in any way the value of his life. I mention it only to emphasise that the circumstances of his death should not discourage any person in need from seeking the help of drug treatment services. There is no evidence that there is a patient safety problem generally with drug treatment centres in NSW, or with buprenorphine as a withdrawal medication. What this inquest highlighted is the importance of careful clinical decisions, when buprenorphine is administered with other sedating medications.
133. I thank everyone who assisted this inquest, including the many clinical witnesses. I note the inquest was attended by senior managers of the South Western Sydney Local Health District, and I am encouraged by their indication of support for the recommendations that have been made.
134. I thank especially the assistance I have received from all legal representatives, in particular Counsel Assisting the inquest Mr Simeon Beckett and Ms Hainsworth of the Crown Solicitor's Office.

Findings required by s81(1)

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

Date of death

W died on 4 April 2015.

Place of death

W died at Corella Lodge, Fairfield NSW 2165.

Cause of death

The cause of W's death is multidrug toxicity.

Manner of death

W died when he was administered an excessive amount of buprenorphine medication, resulting in toxicity, respiratory depression and death.

Recommendations made pursuant to s82

To the Chief Executive Officer, South Western Sydney Local Health District:

Recommendation 1

That in determining whether to admit a patient with complex needs to Corella Lodge at Fairfield Drug Health Services, consideration be given to admitting the patient earlier rather than later in the week, so as to allow maximum medical coverage.

Recommendation 2

That consideration be given to a review by a group of addiction medication specialists convened by the Local Health District, of the *DHS Medication Guidelines for Inpatient Detoxification* in light of the *NSW Clinical Guidelines: Treatment of Opioid Dependence (2018)*, with respect to the prescription and administration of buprenorphine. Areas for review should include appropriate dosing guidelines, guidance about the effects of buprenorphine when administered with other sedating drugs, and clarification of the terms 'PRN' and 'breakthrough' doses and when these are appropriate.

Recommendation 3

That consideration be given to further training for nurses working in Corella Lodge with respect to the following:

- The DHS Medication Guidelines for Inpatient Detoxification
- The NSW 2018 Clinical Guidelines: Treatment of Opioid Dependence
- Clinical management and monitoring of sedation in inpatients including the co-administration of benzodiazepines and buprenorphine
- Clinical judgment in PRN administration of buprenorphine and breakthrough doses
- The steps to be taken where a patient is found unexpectedly to be intoxicated.

Recommendation 4

That a copy of the DHS Medication Guidelines for Inpatient Detoxification be available at the Nurses' Station at Corella Lodge.

Recommendation 5

That Corella Lodge consider introducing a sedation chart to observations kept for patients who are administered buprenorphine and/or benzodiazepines.

I close the inquest.

Magistrate E Ryan

Deputy State Coroner
Glebe

12 September 2018