CORONERS COURT
OF NEW SOUTH WALES

Inquest:	Inquest into the death of Zhong Liu
Hearing dates:	15–18 February 2021; 26 May 2021
Date of findings:	8 June 2021
Place of findings:	NSW Coroners Court - Lidcombe
Findings of:	Magistrate Elizabeth Ryan, Deputy State Coroner
Catchwords:	CORONIAL LAW – mandatory inquest – death of a person in a police operation – cause of death – appropriateness of response of NSW Police Force officers and of psychologist case worker – availability of NSW Real Time Prescription Monitoring Scheme.
File number:	2018/123983
Representation:	Counsel Assisting the inquest: D Ward of Counsel i/b NSW Crown Solicitor's Office. South Eastern Sydney Local Health District: P Rooney of Counsel i/b Makinson d'Apice Lawyers. The NSW Commissioner of Police: R Coffey of Counsel i/b Office of the General Counsel, NSW Police Force. X Lai: D Lloyd SC i/b Kennedys Law. Dr M Younan: G Gregg of Counsel i/b Meridian Lawyers. Police Officers M Paulo, E Smith, B Lotter, G Milligan and A Bennett: P Madden of Counsel i/b Walter Madden Jenkins. Dr C Le: L McPhee of Counsel i/b MDA National.

Findings:	**Identity** The person who died is Zhong Liu. **Date of death**: Zhong Liu died on 18 April 2018. **Place of death**: Zhong Liu died at St George Hospital, Kogarah NSW. **Cause of death:** The cause of Zhong Liu's death is unable to be ascertained. A number of contributing factors were identified, whose respective contributions could not be quantified. **Manner of death:** Zhong Liu died in the course of a police operation, while he was suffering a mental health episode.
Non-Publication Order	On 13 January 2021 orders were made pursuant to section 74 of the *Coroners Act 2009* (NSW) [the Act], prohibiting the publication of certain material. Corresponding orders were made pursuant to section 65 of the Act. Copies of the orders have been placed on the Registry file.

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.

The role of the Coroner

1. Pursuant to section 81 of the Act a Coroner must make findings as to the date and place of a person's death, and the cause and manner of death.

2. In addition the Coroner may make recommendations in relation to matters which have the capacity to improve public health and safety in the future, arising out of the death in question.

3. These are the findings of an inquest into the death of Zhong (Peter) Liu.

Background

4. Zhong (Peter) Liu was aged 54 years when he died in hospital on 18 April 2018. He had been taken by ambulance to St George Hospital, Kogarah that evening, after collapsing outside his apartment.

5. Earlier that night police had been called to Mr Liu's home, which was on the third storey of an apartment block in Rockdale. Mr Liu suffered from a schizophrenic illness and he had become acutely unwell. In an act that was very uncharacteristic of him, he had tried to choke his elderly mother with whom he lived. Mr Liu's mother ran to neighbours for help and they immediately contacted police.

6. When police officers arrived minutes later they saw that Mr Liu was in the throes of an acute mental health episode. He was highly agitated and had blood on his face and hands. The top part of one of his fingers had been severed. Shortly after the arrival of the police officers he appeared to fall forward down a number of stairs, to the second floor landing where they stood. His agitation continued and he was restrained and handcuffed. Ambulance officers arrived and he went into cardiac arrest. Despite a short return to spontaneous circulation, he could not be revived. He was pronounced deceased at St George Hospital.

Issues at the inquest

7. The inquest examined:

    - the involvement of the St George Community Mental Health Service [the CMHS] in Mr Liu's care and in particular, whether involuntary admission and detention under the *Mental Health Act 2007* [the MH Act] would have been appropriate

    - the appropriateness of the response of NSW Police

    - whether the cause of Mr Liu's death could be ascertained

    - Mr Liu's access to prescription medicines.

8. The third issue, regarding cause of death, required examination due to the fact that an autopsy examination was unable to identify the cause of Mr Liu's death.

This was because a number of contributing factors were identified, whose respective contributions could not be quantified. At the inquest the court sought the assistance of medical experts on this issue.

9. At autopsy, forensic pathologist Dr Rebecca Irvine had found evidence of a condition known as arrhythmogenic cardiomyopathy [ACM]. This is an inherited heart condition which can lead to ventricular arrhythmias and sudden cardiac death, especially during periods of intense physical exertion or stress.

10. However Dr Irvine's examination also found evidence of multiple drug toxicity, specifically a combination of the medications venlafaxine and doxepin. Further, she noted the possible contribution of physiological stress, arising both from Mr Liu's psychotic state and the periods of physical restraint he had experienced. For these reasons she had found the cause of Mr Liu's death to be unascertained.

11. The first and second issues arise from the evidence of interactions Mr Liu had on the day of his death, firstly with psychologist Ms Xiaoyun (Loy) Lai and secondly, with officers of NSW Police who were called to assist when he became acutely unwell.

12. The fourth issue is one which arises all too frequently in coronial inquests. Misuse of prescription medication is a pressing public health issue and is the cause of great harm and heartache. The inquest examined what measures exist to assist doctors to prescribe medications safely, where they believe patients are at risk of this behaviour.

Mr Liu's life

13. Mr Liu was born in Beijing, China on 9 November 1963. He was the son of mother Ling Su and father Yi Liu and he had an older brother, Henry. According to Henry Liu, Mr Liu's childhood was a happy one. In 1987 Henry, an engineer, emigrated to Australia and sponsored his parents and brother to move here as well.

14. After he arrived in Australia Zhong Liu lived with his parents and worked in traditional Chinese massage therapy. Then in the late 1990s Henry Liu started to notice that his brother was unwell. He showed signs of paranoia and believed he was being watched. He was diagnosed with schizophrenia and continued to live with his parents, until his father had to move into a nursing home due to his dementia. Mr Liu and his mother visited him regularly.

15. Mr Liu's family was of Russian and Chinese descent, and Mr Liu and his mother were fluent in both languages. However at the time of his death Mr Liu spoke only limited English.

16. Mr Liu's social world was very limited. He did not marry or have children, and at the time of his death he had not worked for several years. He loved his parents and spent much time with them and with his brother Henry. Otherwise he was socially very isolated and rarely left his home. As his parents grew older he became increasingly distressed at the thought of being left alone once they had died.

Mr Liu's history of mental illness

17. In 2004 Mr Liu came under the care of psychiatrist Dr Richard Wu. Dr Wu developed a sound understanding of Mr Liu's conditions of schizophrenia, depression and anxiety, and how they affected his life and those around him.

18. In 2016 Dr Wu determined it would be in Mr Liu's interests to transfer his care to the CMHS. He provided the CMHS with a transfer letter in which he identified principal treatment issues as follows:

    - that Mr Liu was at risk of developing benzodiazepine dependence, and therefore required consistent supervision and treatment. Dr Wu noted that Mr Liu had a store of the benzodiazepine alprazolam which he had obtained from China, and was visiting more than one General Practitioner [GP] to obtain further prescriptions of this and other medications. He needed to remain under the care of a single GP and a psychologist, preferably Mandarin speaking
    - that Mr Liu was becoming increasingly reclusive. Apart from interactions with his immediate family Mr Liu had no social contacts. Dr Wu wrote that '*this predisposes him to further recurrence of depression, psychosis and indeed, raises questions of his ability for independent living when his mother passes on'*. He could benefit from the services offered by a community-based health service.

19. Dr Wu wrote a similar letter to Dr Chinh Le, a GP whom Mr Liu frequently attended.

20. At around this time Mr Liu's mental health began to deteriorate, with intrusive thoughts of harming his mother. In May 2016 he was admitted to St George Hospital Mental Health Unit as a voluntary inpatient. It was poignant to read the conclusion of his treating team that Mr Liu was seeing the possibility of his mother's death as a way to precipitate his own suicide, and that he was in fact most distressed at the thought of harming her.

21. When Mr Liu was discharged on 3 June 2016, the CMHS allocated psychologist Ms Lai as his mental health clinician and case manager. Ms Lai maintained this role until Mr Liu's death and frequently attended him at his home, usually when his mother Ms Ling was also present. She conducted her meetings with Mr Liu and his mother in Mandarin.

22. In April 2017 Ms Lai noted that Mr Liu's mental state was '*relatively stable'*. She noted further that he was not interested in accepting the help which the CMHS offered for his psycho-social issues. Her impression was that Mr Liu used the service mainly to seek adjustments to his medication.

Mr Liu's medications

23. Mr Liu's anxieties about his medication were a consistent feature of his mental health history. The evidence establishes that he frequently made his own decisions to increase his dosages. It is also clear from the evidence that he did not confine himself to a single GP when seeking prescriptions.

24. In the six months preceding his death Mr Liu had been prescribed the following medications for his mental health:

    - risperidone, an antipsychotic
    - quetiapine, another antipsychotic
    - venlafaxine, a serotonin-norepinephrine reuptake inhibitor antidepressant
    - doxepin, a tricyclic antidepressant sometimes used to treat insomnia
    - diazepam, an anti-anxiety medication.

25. In addition there is evidence that Mr Liu was using the medications alprazolam, nitrazepam and diazepam (all benzodiazepines) which he said he had obtained from China.

26. Some of Mr Liu's clinicians were not aware that he was obtaining extra prescriptions of medication from other GPs. Those who were aware counselled him to restrict his dosage to that prescribed by his doctors, and further to confine his usage to medications prescribed for him in Australia. There were occasions when clinicians, including his allocated psychiatrist at the CMHS, refused his requests for further prescriptions.

27. It is likely for this reason, that in early 2017 Mr Liu told Ms Lai that he wanted to transfer his care to a psychiatrist in private practice. Dr Le, the GP whom he most consistently attended, had already sent a letter of referral on his behalf to psychiatrist Dr Monir Younan.

Why did Mr Liu overuse his medications?

28. The evidence indicates that Mr Liu's overuse of medication stemmed in large part from his sleeping difficulties. This was why, on 26 February 2018, Dr Younan prescribed him the drug doxepin to be used as a sedative. There is no doubt that in the days leading up to his death Mr Liu took large amounts of this medication, well in excess of what Dr Younan had prescribed. This coincided with Mr Liu reporting to Ms Lai that his troubles with sleep had increased. Unfortunately in the past he had showed little interest in pursuing non pharmaceutical ways of addressing this problem.

29. Another reason why Mr Liu often increased his dosages of medication was because of his concern that he might harm his mother. In September 2017 Mr Liu told Ms Lai that he had been feeling more agitated and irritable with his mother, and therefore had increased his medication to reduce his agitation. In his last two years, what he called his '*bad thoughts'* about his mother were a recurring feature. Distressing thoughts about harming her had prompted his voluntary admission to hospital in May 2016. In October 2017 Mr Liu told Ms Lai that these thoughts had resurfaced. In an effort to banish them he had taken more diazepam and risperidone.

30. It is important to note that until 17 and 18 April 2018 there is no evidence Mr Liu ever acted on these thoughts of harming his mother. Indeed he was very distressed about such thoughts, as he loved her. Ms Lai's case note of 15 November 2017 recorded that he was feeling '*terrible, self-blaming, thinking*

he's not a good person after re-experiencing vague thoughts of harming mum in October'.

31. There is some evidence that Mr Liu's medication overdosing around the time of his death may also have resulted from a misunderstanding with his new psychiatrist, Dr Younan, as described below.

Mr Liu's consultations with Dr Younan

32. Mr Liu had two 'in person' consultations with his new psychiatrist, Dr Younan, in the two months leading up to his death. The first took place on 26 February 2018. Because of Mr Liu's limited English a telephone interpreter was used to assist, but Dr Younan did not think this was very satisfactory and took care to arrange an interpreter to attend in person at the next appointment.

33. At the first meeting with Dr Younan, Mr Liu described delusions of Russian spies following him and fears that people would '*damage*' him. In order to help Mr Liu's sleep Dr Younan added to his medications the medication doxepin 25mg, one tablet to be taken at night. The addition of this medication is significant, as it together with the medication venlafaxine were identified in high quantities in Mr Liu's post mortem blood. As will be seen, expert evidence at the inquest identified that these two medications in combination were likely to have contributed to Mr Liu's death.

34. At the second meeting on 19 March 2018 Mr Liu told Dr Younan he had ceased using doxepin as it made him dizzy. As a replacement sedative Dr Younan prescribed quetiapine 100mg, one tablet at night.

35. On 13 April 2018 Mr Liu rang Dr Younan and had an unscheduled phone discussion with him, again about his struggles with sleep. Due to this being an unscheduled call, an interpreter was not present to assist. In fact Dr Younan stated that the conversation probably took place while he was seeing another patient. It is very likely that genuine concern for Mr Liu's welfare prompted Dr Younan to speak to Mr Liu without an interpreter that day.

36. According to Dr Younan's patient notes, Mr Liu told him he had increased his use of quetiapine to 200mg per day, and doxepin to 50mg per day. At the inquest Dr Younan said that although he was concerned Mr Liu had increased his medication without consulting him, the increased amounts were not problematical as they were not out of range for him. Dr Younan's notes record that he told Mr Liu that he could increase his quetiapine up to 300mg daily.

37. However as described below, Mr Liu may have misunderstood Dr Younan, believing that he told him he could increase his dosage of d*oxepin* to 300mg daily.

The phone calls of Dr Le and Ms Lai to Dr Younan

38. In the following days Mr Liu had separate conversations with his main GP Dr Le and with psychologist Ms Lai. Mr Liu told each of them that Dr Younan had approved him to take large amounts of doxepin.

39. Firstly, in a consultation with Dr Le on 16 April 2018, Mr Liu said he had taken up to 12 tablets of doxepin 25mg for his insomnia, on Dr Younan's advice. This would amount to 300mg of doxepin daily, the precise amount Dr Younan had told him he could take of quetiapine.

40. Dr Le was worried when he heard this. During the consultation he decided to ring Dr Younan to clarify Mr Liu's prescribed dosage of doxepin. Dr Younan had no independent recollection of this phone call from Dr Le. Nor did he make a written record of it.

41. However Dr Le did make a contemporaneous note of the conversation. He recorded that he [Dr Le] '*called Dr Younan and being advised to be able to take up to 300mg…'.* From this Dr Le concluded that in the opinion of Mr Liu's specialist psychiatrist, Mr Liu *was* able to take up to 300mg of doxepin daily. Despite this Dr Le counselled Mr Liu to reduce his nightly dosage of doxepin to the equivalent of 200mg.

42. At the inquest Dr Younan denied that he would have given such advice to Dr Le. He could only assume, he said, that he had thought Dr Le was asking him about the dosage of q*uetiapine* he had prescribed for Mr Liu.

43. Two days later on 18 April 2018, Ms Lai was making a home visit to Mr Liu. Mr Liu told her too that he had increased his doxepin medication, having taken 8 tablets on 13 April 2018, 10 tablets on 14 April 2018, and 12 tablets on 15 April 2018 (a total of 750mg over those three days). He told her further, that Dr Younan had said he could take '*plenty*' doxepin.

44. Like Dr Le, Ms Lai was worried to hear this. She rang Dr Younan and told him Mr Liu had taken up to 12 tablets of doxepin on 15 April 2018. Dr Younan informed her that Mr Liu's correct dose of doxepin was a maximum of *2 tablets* daily, equivalent to 50mg. In Mandarin, Ms Lai passed this information on to Mr Liu. As with his conversation with Dr Le, Dr Younan did not document this conversation with Ms Lai.

45. Ms Lai told the court that Dr Younan had not expressed to her any concern about the very large amounts of doxepin Mr Liu had reportedly taken, or its potential interactions with his other medications.

46. At the inquest Dr Younan expressed confidence that in his phone conversation with Mr Liu on 13 April 2018, Mr Liu had understood that his advice about '*up to 300mg daily'* referred to the medication quetiapine, and not doxepin. However the evidence described above does not bear out this assumption.

47. I accept that Dr Younan did not *intend* to convey either to Mr Liu or Dr Le, that Mr Liu was able to take up to 300mg daily of doxepin. It does appear however that language difficulties resulted in a significant miscommunication taking place, certainly between Dr Younan and Dr Le, and possibly between Dr Younan and Mr Liu. I say '*possibly*' in the latter case, because I accept it cannot be excluded that Mr Liu did understand what Dr Younan was saying, but chose for his own reasons to exceed his dosage of doxepin.

48. These aspects of Dr Younan's involvement in Mr Liu's care warranted further examination, and resulted in a further supplementary statement from

Dr Younan regarding certain changes he had made in his practice. This is discussed later in these findings at [98]–[100].

Ms Lai's home visit on 18 April 2018

49. In the days leading up to his death Mr Liu's mental state deteriorated very significantly, in particular on 17 and 18 April 2018.

50. For this reason the inquest examined whether it would have been appropriate for him to have been involuntarily admitted and detained under the MH Act. There was an opportunity for this to have happened. On the afternoon of 18 April 2018, Mr Liu's case manager Ms Lai came to his home to assess him.

51. The reason for Ms Lai's visit was that on the morning of 18 April 2018, Mr Liu's mother Ms Ling had rung her with concerns about her own safety. Ms Ling told Ms Lai that the previous day Mr Liu had rung his brother Henry and frantically asked him to '*come and save us'*. He believed cameras were monitoring him. He thought his father was God and that he himself was Jesus. He had trashed a book which he believed came from Satan, and had thoughts of hitting the rubbish bin with a hammer but had decided not to. He was restless, agitated, and had been crying and distressed at the thought of being left alone.

52. Significantly, Mr Liu had also been irritated with his mother and had poured water over her head to punish her for not listening to '*his instruction'*. In addition he had threatened to hit her on the head with a phone handset but had resisted that urge. Instead he had sprayed her with some perfume. Poignantly, this gesture was intended to express his remorse for having poured water over her.

53. In response to Ms Ling's call Ms Lai attended on the afternoon of 18 April 2018 and spent almost three hours with Mr Liu and his mother. She observed that Mr Liu was less well groomed than usual. She heard Mr Liu and his mother describe the bizarre and unusual behaviour outlined above. She heard further from Mr Liu that he had '*a big mission to stop the war and save the world'.* He repeated his fears that when his parents died he would be alone and unable to cope.

54. Ms Lai had to decide what action to take. She was concerned that Mr Liu's symptoms had escalated and that he had behaved in a bizarre and aggressive way the previous day. She realised that some symptoms of psychosis were persisting on 18 April 2018. However she took comfort from the fact that Mr Liu was not currently displaying agitation, was expressing remorse for his previous aggressive impulses towards his mother, and had acted upon them in a very limited way. She also felt reassured when Mr Liu said he had no thoughts of harming himself or his mother, and that he would comply with his medication dosages.

55. Ms Lai concluded that Mr Liu did not pose a risk to his own or his mother's safety. She decided that the grounds did not exist for him to be psychiatrically assessed against his will.

56. Ms Lai did however offer to take Mr Liu straight away to the emergency department for a psychiatric assessment. But Mr Liu did not want to go to

hospital. He agreed to have an early appointment the following week with the psychiatric registrar at the CMHS, which she would attend with him. They arranged that Ms Lai would call him the following day to check on his condition.

57. The question whether it would have been more appropriate for Ms Lai to have sought involuntary admission for Mr Liu that day is discussed later in these findings.

The police response

58. Ms Lai left Mr Liu's apartment at about 4.00pm that afternoon. In the following hours Mr Liu became increasingly unwell. Ms Ling said he was very tired but he would not go to bed. Around 9.00pm she encouraged him once again to get some sleep, but he became angry and threw a cup of water at her. He then put his hands around her throat and started to choke her while, as she described it, '*staring directly into my eyes'*. Scared that he would kill her, she pushed him away and ran to a neighbour's apartment on the level below.

59. Mr Timothy Wu and his parents lived in this apartment. Mr Wu described Ms Ling running in and saying, '*My son has gone crazy'*. Mr Wu rang '000'. In the meantime he could hear Mr Liu upstairs, yelling in another language and banging on apartment doors. Neighbours described him pacing back and forth along the corridor, throwing his arms around, and trying to pull off the screen door to unit number 34, the apartment next door to his own. They had never seen Mr Liu behave like this before.

60. The occupant of number 34 also rang police, and her '000' call was played in court. Loud banging noises can be heard in the background and her voice is clearly frightened as she speaks to the operator. When scene photos were taken shortly afterwards, they showed a large amount of blood on her screen door and on the wall nearby. The door handle was broken off, later to be found on the floor. Also found on the floor was the tip of Mr Liu's right index finger. It appears that during this episode part of his finger had become severed – an indication of how extremely unwell he was.

61. Police officers arrived at the scene very shortly after 9.00pm. Leading the police response was Sergeant Mark Paulo.

62. After obtaining some information from Ms Ling, Sergeant Paulo and his fellow officers went out to the landing of level two. They could see Mr Liu pacing in the hallway above, mumbling words, speaking fast in another language and making praying signals. Sergeant Paulo called out to Mr Liu, asking him '*Are you alright? What's wrong*?' Mr Liu did not answer.

63. In their directed interviews Sergeant Paulo and Constable Brittany Lotter described Mr Liu as '*zombie-like'* in his appearance. He seemed to be oblivious to their presence. They saw that he had blood over his face, hands and shirt. Another of the police officers said he seemed '*very dazed and out of it and was muttering incoherently'.*

64. While Sergeant Paulo was calling out to him Mr Liu started to come down the stairs. When he was only a few stairs from the bottom he suddenly fell onto the

landing where the police officers stood. Almost all the witnesses perceived this as the result of a trip or a faint, rather than a deliberate action.

65. After falling, Mr Liu was described by police and neighbours as still shouting and throwing his arms about. He was placed on the floor and handcuffed with his arms behind his back. Noting his wounded index finger and the blood on his hands and face, police officers called an ambulance.

66. Thereafter Mr Liu's agitation levels fluctuated between episodes of shouting and trying to get up, and lying in a calmer state. This is attested to by the evidence of the neighbours as well as that of the involved police officers. At the times when Mr Liu was highly agitated Sergeant Paulo put him face down into the prone position, returning him to his side once he had calmed. Sergeant Paulo was aware of the dangers of positional asphyxia, having received training in this area. In his statement he said he wished to minimise the risk by keeping Mr Liu on his side whenever possible. On the occasions when Mr Liu was placed in the prone position Sergeant Paulo checked that he was breathing and that his mouth was not pressed into the ground.

67. When ambulance paramedics arrived they found Mr Liu lying prone and handcuffed, with police officers standing around him. They were not physically restraining him. Mr Liu was described as '*agitated'*, moving around and making incomprehensible sounds.

68. About three minutes after the arrival of the paramedics Mr Liu went into cardiac arrest. His handcuffs were immediately removed, he was placed on his back, and cardiopulmonary resuscitation began. Paramedics were able to get his heart beating; however while he was being moved into the ambulance he went into cardiac arrest once again.

69. Resuscitation efforts continued on the trip to St George Hospital. However on arrival there Mr Liu was still in a state of cardiac arrest, with pulseless electrical activity. Shortly afterwards he was pronounced deceased.

70. I turn now to examine the issues of the inquest.

Would involuntary admission have been appropriate on 18 April 2018?

71. Specialist forensic psychiatrist Dr Kerri Eagle was asked to provide her expert opinion as to whether on 18 April 2018 Mr Liu would have met the definition of a person who was mentally ill for the purposes of the MH Act; and if so whether any other and less intrusive manner of meeting his treatment needs was available or appropriate.

72. Dr Eagle acknowledged that as Mr Liu's long term case manager Ms Lai was in a difficult position, when faced with his refusal to voluntarily attend hospital. She also acknowledged that it is nearly always easier in hindsight to assess the risks of such a situation – an acknowledgement which I fully endorse.

73. Having reviewed the evidence Dr Eagle concluded that on 18 April 2018 Mr Liu did meet the definition of a person who was mentally ill under the MH Act. In her opinion, the risk he posed to himself and to his mother that day strongly indicated that he needed *immediate* assessment by a psychiatrist or psychiatric

registrar. It was not appropriate to wait a further week for the next available date.

74. Dr Eagle based her opinion on the following factors:

- Mr Liu's unauthorised overdosing of his medication and its potential effect on his mental and physical condition
- the deterioration of his mental state over a short period of time
- that he was suffering delusions which had caused him to act in an aggressive way
- that his mother felt afraid for her safety.

75. In reaching this conclusion Dr Eagle placed less weight on a factor which had reassured Ms Lai: namely that on 18 April 2018 Mr Liu was not displaying the bizarre and aggressive behaviour of the previous day. Dr Eagle commented that the behaviour of a person who is severely mentally ill can fluctuate over a period of hours and days. Minor precipitants could escalate their condition, making them feel unsafe and causing them to act on their delusions. In her view, the behaviour Mr Liu had exhibited the previous day ought to have been seen as a warning sign that he was severely ill.

76. I accept Dr Eagle's opinion that Ms Lai's judgement erred in reaching the conclusion she did. Her treatment plan was not an appropriate one given the risk which Mr Liu's deteriorating mental health presented to himself and to others. At the least, and as Ms Lai herself acknowledged, this was a difficult assessment which warranted discussion with her supervising manager. This was also acknowledged in submissions on behalf of the relevant Local Health District, which noted that in the case of complex or unusual clinical situations there was an expectation that Ms Lai would escalate issues to her team leader or Senior Clinician.

77. However it would not be appropriate to be critical of Ms Lai. There is no doubt that the decision whether to escalate a person into an involuntary assessment can be a finely balanced one. In addition there were, as Ms Lai stated, previous occasions where Mr Liu had expressed thoughts of harming others but had not acted on them. It can be accepted that on 18 April 2018 Ms Lai made the decision that she believed was the appropriate one in the circumstances.

78. At the inquest Ms Lai made two appropriate concessions. First, she said she wished that at the time, she had discussed with a more senior team leader whether her proposed management plan was the appropriate one. Secondly she said that she wished she had spoken to Ms Ling alone about whether she felt the proposed plan was sufficient to protect herself and her son.

79. It cannot be known if Mr Liu's death would have been averted had Ms Lai taken these steps. It is also important to note that Ms Lai impressed as a caring mental health clinician and case manager who genuinely wanted to help Mr Liu. She had been his case manager for almost two years. He was not an easy client to help. There must have many times when she felt discouraged at her

inability to influence him to make changes which would have made him healthier and happier.

Was the police response appropriate?

80. The second issue was whether the police response to Mr Liu's situation, in particular the decision to physically restrain him, was appropriate. This issue arose as a result of Dr Irvine's evidence (and as will be seen, that of other medical experts at the inquest) that the physiological effect of being restrained was likely to have been one of the contributors to his death.

81. In determining whether a person needs to be restrained, a police officer is required to assess the level of resistance given, and use the level of force that in his or her assessment is necessary to control the situation.

82. Mr Liu had acted violently toward his mother, had apparently tried to break into another apartment, was shouting and behaving erratically, and had harmed himself. I accept that the circumstances required that he be restrained, in the interests of his own safety and that of others. There is no evidence that the actions used to restrain Mr Liu were unjustified, or that they breached any NSW Police Force policies or guidelines which applied.

Can the cause of Mr Liu's death be established?

83. In determining whether the cause of Mr Liu's death could be ascertained, the inquest was assisted with the evidence of:

- Professor Alison Jones, clinical toxicologist, Director of Medical Education at Fiona Stanley and Fremantle Hospitals Group, Western Australia.
- Associate Professor Mark Adams, cardiologist, Head of Department of Cardiology at Royal Prince Alfred Hospital Sydney.

84. In her report dated 27 August 2019 Professor Jones opined that a significant factor in Mr Liu's death was the effect of his combined doses of venlafaxine and doxepin:

'*In combination venlafaxine and doxepin were much more likely to cause death than either drug alone at the concentrations found in Mr Liu's post mortem blood sample'.*

85. The concentrations to which Professor Jones referred were those of doxepin found in the toxic but not fatal range, and of venlafaxine at the lower end of the toxic level. Professor Jones was confident that in order to produce these levels at the time of the autopsy (some 34 hours after his death), Mr Liu must have taken *additional* doses of each medication after Ms Lai left at around 4.00pm on 18 April 2018.

86. The court heard that there is a known risk that these two medications when taken in combination can produce fatal cardiac arrhythmias. This is due to their potential effect of causing abnormal heart rhythms, greatly increasing the risk of developing fatal arrhythmias. A/Professor Adams agreed with Professor Jones that that this was a known risk associated with the combination of doxepin and venlafaxine, and further that the risk increased with higher doses of doxepin.

87. Both experts agreed that the risk for Mr Liu of fatal cardiac arrhythmia was increased when coupled with the high levels of agitation which he experienced that night. A/Professor Adams added that those who suffer schizophrenia are also at higher risk of adverse cardiac events at times of high physical or emotional stress.

88. The expert medical evidence identified an additional but related mechanism by which Mr Liu may have suffered a fatal arrythmia, namely the condition of ACM. This condition increases a person's risk for fatal arrhythmia and cardiac death. A/Professor Adams explained that ACM causes loss of cardiac muscle cells and infiltration of the heart muscle with fatty and fibrous tissue. These features were noted at Mr Liu's autopsy examination. The condition is usually asymptomatic and only diagnosed in the event of heart failure and/or sudden cardiac death. For this reason A/Professor Adams did not consider that the condition, if present in Mr Liu, could reasonably have been detected by his treating doctors. I accept his evidence on this point.

89. As to arriving at a cause for Mr Liu's death, both experts agreed that it was not possible to unravel the relative contribution of each of the above causal factors.

90. I conclude on the basis of the evidence that the cause of death remains unascertained, as recorded by pathologist Dr Irvine.

Was it appropriate for Mr Liu's doctors to have prescribed doxepin in combination with venlafaxine?

91. The toxicological evidence raises the question whether it was appropriate for Dr Le and Dr Younan to have prescribed doxepin in circumstances where Mr Liu would be taking it in combination with venlafaxine.

92. On this issue the court heard evidence from Dr Eagle and from Professor Matthew Large, who provided a report to the inquest at the request of Dr Younan. Professor Large is a Conjoint Professor in the School of Psychiatry at UNSW, and Clinical Director of Mental Health in the Eastern Suburbs Mental Health Service.

93. It is important to note that a combination of doxepin and venlafaxine is not contraindicated either on the MIMS database or in the 'Best Practice' software which was used by Mr Liu's GP, Dr Le. However in her report Dr Eagle expressed the view that use of these drugs in combination would generally be avoided by psychiatrists. This was due to their known association with cardiac complications and serotonin syndrome.

94. However in the opinion of Professor Large, '*when done cautiously and in lower doses [it] can be safe and effective'* (at page 26 of his report). Professor Large noted that Dr Younan had correctly identified Mr Liu's reliance on benzodiazepines. Therefore in order to treat his insomnia Mr Liu required a sedative that did not come from this class of drugs. One of the few choices available was the sedating antidepressant doxepin. In Professor Large's view:

'… there was nothing particularly unusual about prescribing Doxepin at a dose of 50mg a night to a patient such as Mr Liu with insomnia, benzodiazepine use and concurrent prescribing of a non-sedating antidepressant [venlafaxine]'.

95. In Professor Large's opinion however, given the language barrier Dr Younan ought not to have given pharmacological advice to Mr Liu in their phone conversation on 13 April 2018. He noted the possibility that Mr Liu had received the impression that he was able to take up to 300mg daily of doxepin.

96. Professor Large observed further, that if on 18 April 2018 Dr Younan had been told by Ms Lai that Mr Liu had taken large amounts of doxepin, Dr Younan ought to have taken steps to ensure Mr Liu went to hospital to have an ECG and be monitored for cardiac toxicity.

97. The evidence does not enable me to find that it was inappropriate for Dr Le or Dr Younan to have prescribed doxepin for Mr Liu in combination with venlafaxine. However the above concerns expressed by Professor Large warranted a response by Dr Younan as to whether his practices in these areas had changed.

Response from Dr Younan

98. Dr Younan provided a supplementary statement responding to the concerns expressed by Professor Large.

99. In his statement Dr Younan said that he was aware that the combination of doxepin at a daily dose of 300mg and venlafaxine at a daily dose of 300mg had the potential to cause serotonin syndrome and cardiac toxicity. He stated that if a patient advised him that they had been taking these medications in these doses, he would:

    - tell the patient to attend the emergency department for physical examination, ECG and monitoring
    - verify the patient had understood this by asking them to repeat back to him those instructions. If the patient could not clearly repeat the instructions due to language difficulties he would arrange an urgent telephone interpreter
    - ring the emergency department to advise them to expect the patient and to confirm that the patient had attended
    - ring the community mental health team (if involved) to make them aware of this development
    - arrange an urgent appointment to review the patient after the hospital attendance
    - document these conversations and actions.

100. The contents of Dr Younan's supplementary statement indicate an appropriate consideration of the matters raised by Professor Large in his report. It can be concluded that Dr Younan has recognised the importance of ensuring that a patient in Mr Liu's situation clearly understands advice regarding medication, in particular when it is given over the phone. Similarly it can be accepted that Dr Younan understands the need for action in the event that a patient appears to have taken excessive amounts of doxepin in combination with venlafaxine.

The issue of medication overuse

101. The final issue for consideration was whether there was a basis for any recommendations arising out of Mr Liu's access to prescription medication.

102. In his last 16 months Mr Liu filled large numbers of prescriptions for risperidone, quetiapine, doxepin and various benzodiazepines. None of the clinicians whom Mr Liu attended were aware of the full picture regarding his access to prescription medication. Those like Dr Wu who had some awareness of it were concerned, and tried with limited success to ensure he was monitored within a stable treating team.

103. Mr Liu's ability to access harmful amounts of medication raised the question whether there are measures to assist doctors to make safe prescribing decisions, in particular where they are concerned that a patient may be misusing prescription drugs.

104. The issue of medication overuse is one of pressing public health importance. The associated harm and loss of life is illustrated in a Consultation Paper recently issued by the NSW Department of Health:

> *'In 2018 there were 1556 unintentional (and therefore avoidable) drug-induced deaths in Australia. 457 (29%) of unintentional drug-induced deaths involved pharmaceutical opioids; and 648 (42%) involved benzodiazepines.'*[1]

105. Coroners receive heartbreaking letters from parents, partners and friends of people whose deaths are associated with the overuse of prescription drugs. Those left behind cannot understand why there appears to be no system to alert prescribing doctors to their relative's plight. They implore coroners to do what can be done to help keep their loved ones safe.

106. In a succession of inquests, coroners have urged the implementation of a real time prescription monitoring system, to reduce the harm associated with misuse of medications. In NSW, examples include the 2018 *Inquest into the death of Alissa Campbell*, Deputy State Coroner H Grahame; and the 2014 *Inquest into the deaths of Christopher Salib, Nathan Attard and Shamsad Aktar,* Deputy State Coroner C Forbes.

107. At the time of Mr Liu's death the Commonwealth's Prescription Shopping Information Service [the PSIS] was in operation. This is a phone service which prescribers can use to check on a patient's prescribing history.

108. It is important to note however that in the six months prior to his death, Mr Liu did not meet the criteria to be flagged as a 'Prescription Shopper' under this scheme, a fact noted by his GP Dr Le. The criteria are strictly limited and during this period the number of Mr Liu's visits to different doctors, while significant, did not meet them. The PSIS is also restricted by its operation as a phone-in service, limiting its capacity to provide timely information to busy practitioners.

[1] NSW Health, *Regulation to support Real Time Prescription Monitoring (RTPM)*, Consultation Paper, December 2020. Accessible at https://www.nsw.gov.au>RTPM Consultation Paper.

The NSW Real Time Prescription Monitoring scheme

109. After many years however it appears that a real time prescription monitoring system will finally become available in NSW. In this inquest the court sought advice from the NSW Ministry of Health about the implementation of this scheme.

110. Real Time Prescription Monitoring [RTPM] is a national digital health system established by the Commonwealth Government. Its national database captures information about the prescribing and supply of controlled medications to individual patients. NSW has now built its own RTPM database to connect with the national one.

111. According to the Consultation Paper referred to above at [104], the NSW RTPM database will capture information at the point at which a patient is prescribed or supplied with monitored medicines. It will record the patient's name, address, the name and quantity of the medication, and details of the prescriber and pharmacy. Prescribers and pharmacists will be able to view this history, without the patient's express permission. Nor is a patient able to 'opt out' of this system.

112. The specific medications to be monitored under the NSW RTPM scheme will likely include all Schedule 8 substances (including opioids and psychostimulants), all benzodiazepines when included in either Schedule 8 or Schedule 4, and certain other medications including quetiapine. There will be scope for further medications to be added as needed.

113. As for when the RTPM scheme will begin operating in NSW, the advice given to the inquest was that a 'staged roll out' is expected to commence in July 2021. In evidence was a letter dated 11 February 2021 from the Ministry's Legal and Regulatory Services, providing this advice.

114. It is most welcome to hear that, after many years of expressed commitment, the NSW Department of Health is close to implementing this sensible scheme. The issue of medication overuse is undoubtedly a complex one, but the scheme has an important part to play in reducing the harms of a very significant problem.

115. This welcome news obviates the need for me to make a recommendation urging the implementation of the RTPM scheme.

Conclusion

116. To Mr Liu's family I express sincere sympathy for the loss of their son and brother.

117. I am grateful for the outstanding assistance provided by Counsel Assisting and the NSW Crown Solicitor's Office. I thank also the representatives of all the interested parties for the cooperative approach they have taken to resolving these issues. My thanks also to the Officer in Charge of the coronial investigation, Detective Sergeant Stephen Giles.

Findings required by s. 81(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.

Identity

The person who died is Zhong Liu.

Date of death:

Zhong Liu died on 18 April 2018.

Place of death:

Zhong Liu died at St George Hospital, Kogarah NSW.

Cause of death:

The cause of Zhong Liu's death is unable to be ascertained. A number of contributing factors were identified, whose respective contributions could not be quantified.

Manner of death:

Zhong Liu died in the course of a police operation, while he was suffering a mental health episode.

I close this inquest.

E Ryan
Deputy State Coroner
Lidcombe

8 June 2021