# OFFICE OF THE STATE CORONER

# FINDINGS OF INQUEST

| | |
|---|---|
| CITATION: | **Inquest into the death of Lyji VAGGS** |
| TITLE OF COURT: | Coroner's Court |
| JURISDICTION: | Townsville |
| FILE NO(s): | COR 2010/1273 |
| DELIVERED ON: | 21 February 2012 |
| DELIVERED AT: | Brisbane |
| HEARING DATE(s): | 26 July 2011; 12-16 September 2011; 6 December 2011; 12-15 December 2011 |
| FINDINGS OF: | Mr Michael Barnes, State Coroner |
| CATCHWORDS: | **CORONERS: Death in custody, restraint in hospital** |

REPRESENTATION:

| | |
|---|---|
| Counsel Assisting: | Ms Jennifer Rosengren |
| Family of the deceased: | Mr Ken Fleming SC (instructed by Kerin Lawyers) |
| Queensland Health: | Mr Martin Burns SC (instructed by Minter Ellison Lawyers) |
| Constable Noel Kerger & Constable Desmond Hilton: | Mr Adrian Braithwaite (Gilshenan & Luton Legal Practice) |
| QLD Commissioner of Police: | Ms Melina Litchen (QPS Solicitors Office) |
| Robert Minehan: | Ms Donna Callaghan (instructed by Barry Nilsson Lawyers) |

## Table of Contents

The *Coroners Act* 2003 provides in s45 that when an inquest is held the coroner's written findings must be given to the family of the person who died and to each of the persons or organisations granted leave to appear at the inquest. These are my findings in relation to the death of Lyji Vaggs. They will be distributed in accordance with the requirements of the Act and posted on the website of the Office of the State Coroner.

# Introduction

At approximately 2:30pm on 13 April 2010, Lyji Vaggs agreed to go with a nurse from the Kirwan Health District Community Assessment and Treatment Team (CATT) to the Townsville Hospital's Acute Mental Health Unit (AMHU) to receive in-patient treatment for increasingly florid schizophrenia. On the journey from his home in suburban Townsville he became increasingly agitated and delusional. By the time they reached the hospital he was no longer willing to voluntarily undergo treatment. He assaulted a medical student who attempted to engage with him in the hospital car park and security guards were called to assist to forcibly take him into the AMHU. A violent struggle ensued, during which Mr Vaggs was held in a prone position by numerous staff and two doses of an anti-psychotic medication were injected at about 10 minute intervals. Police attended and handcuffed him. Shortly after he was administered a sedative. It was then noticed he was unconscious and not breathing. The handcuffs were removed and CPR commenced. Mr Vaggs was revived after extended resuscitation. Sadly, because of the lengthy period with little or no circulation and respiration he suffered irreversible brain damage. Life support was withdrawn two days later and he died.

These findings:

- Confirm the identity of the deceased man, and the date, place, circumstances and medical cause of his death;
- Consider the adequacy of the mental health treatment provided to Mr Vaggs in the weeks before his death, including whether in-patient admission should have been offered and/or arranged;
- Assess whether the restraint of Mr Vaggs was adequately managed, including whether the medications administered in the course of that restraint were appropriate; and
- Reflect on whether any further reforms are needed to reduce the risk of a death in similar circumstances in the future.

# The investigation

The police officers who attended the hospital realised Mr Vaggs may not recover from the effects of the restraint and notified their superiors of a serious event and potentially a death in custody or death in care. The District Duty Officer (DDO) was advised and along with a number of other senior police attended at the hospital and commenced initial investigations. Scenes of Crimes officers were notified and attended the scene.

Officers from the Ethical Standards Command (ESC) were notified, as the incident involved Queensland Police Officers, and they travelled to Townsville the following morning, 14 April 2010, and took over the investigation.

Subsequently, during a meeting with Queensland Health staff the investigating officers were advised by the Townsville Hospital solicitor that access would not be granted to Queensland Health staff for interviews or the provision of statements directly to police, The solicitor also advised a firm of solicitors had been retained by the hospital and statements would be provided pursuant to directions from the Coroner. The last of these was provided to investigators in October 2010. The Queensland Health Police Liaison Officer advised investigators in early August 2010 that the Director-General of Queensland Health was desirous of assisting the investigation. In light of the Director-General's intention, a request was made to interview eleven Queensland Health staff who had involvement in the restraint of Mr Vaggs. Subsequently, interviews were undertaken by police with the assistance of Queensland Health.

The hospital commenced their own internal investigation into Mr Vaggs' death and provided the court with a copy of the Root Cause Analysis (RCA) report.

Further independent expert reports were commissioned by those assisting me.

I am satisfied as a result of the combined efforts of the police, Queensland Health and my staff, the matter has been effectively investigated.

## The inquest

A pre-inquest conference was held in Brisbane on 26 July 2011. Ms Rosengren was appointed Counsel Assisting. Leave to appear was granted to the family of Mr Vaggs, Queensland Health, Constables Hilton, Kerger, Lollo and Paganoni, the Queensland Police Service Commissioner and a medical student, Robert Minehan.

An inquest was held in Townsville over two sittings: the first for five days commencing 12 September 2011, and the second for four days commencing 12 December 2011. The court also heard evidence from one witness in Brisbane on 6 December 2011. Evidence was heard from 38 witnesses and 221 exhibits were tendered. After the conclusion of the evidence helpful submissions were received from those granted leave to appear.

I was concerned that initially there was limited cooperation by Queensland Health staff with the police officers investigating this matter on my behalf. However, once the inquest was listed those appearing on behalf of the health service district were very helpful in ensuring all relevant information was provided to the court.

## The evidence

I now turn to the evidence. Of course I cannot summarise all of the information contained in the exhibits and transcript but I consider it appropriate to record in this report a summary of the evidence I believe is necessary to understand the findings I have made.

### *Family background*

Mr Vaggs' father died when he was sixteen months of age. His mother, Debbie Lampton, re-partnered when he was about 10. He had a very close relationship with her and his stepfather, Dwayne Williams. Lyji was the oldest of three children.

At the time of his death Mr Vaggs was in a stable domestic relationship with Stacey Somerville. They had been together for approximately six years and had three children, who, at the time of their father's death, were aged four, two and nearly one respectively.

Understandably, Ms Somerville found it very difficult to care for the young children and Lyji. He understood this and did not like to burden her with the full extent of his illness. His mother on the other hand was better able to cope and was very supportive so Lyji regularly spent time at her place.

Lyji and Stacey moved residence with some frequency and occasionally Lyji resided at his mother's residence in Mundingburra.

In the months before his death, Mr Vaggs was living with Stacey at Cranbrook, a suburb of Townsville, not far from his mother and Mr Williams.

In 2009, Ms Lampton was working in Hughenden. Mr Williams, Stacey, Lyji and their children regularly visited her there. Lyji's stepfather remained living in Townsville and Lyji continued to visit and stay with him from time to time.

### *Psychiatric history*

In December 2005, Mr Vaggs was the driver of a motor vehicle that crashed into the fence of his mother's home. After this incident he became known to the Townsville Health Service District mental health service and was diagnosed with schizophrenia or drug induced psychosis. He was a regular user of speed. His mother had known for some time there was something seriously wrong with her son and she had managed his symptoms as best she could without expert assistance.

After the motor vehicle crash, Mr Vaggs was admitted to the AMHU for 12 days and required a brief period of care under an involuntary treatment order ("ITO"). He was diagnosed as suffering from acute schizophrenia-like psychotic disorder. He continued his treatment with Dr Hickey, a general practitioner after his discharge.

Mr Vaggs was also followed up by the CATT throughout 2006. From time to time he would cease taking his prescribed medication when he felt better,

often leading to a relapse in his condition. His mother said he did this because it made him put on excessive weight and very lethargic, without necessarily resolving his symptoms – he still suffered auditory hallucinations and had delusional thoughts. His diagnosis at this time was recurrent psychotic disorder.

In January and May of 2007, there were a total of three presentations to the hospital's Emergency Department (ED). A diagnosis of recurrent acute drug induced psychosis was confirmed. CATT follow-up occurred after these episodes until October 2007. His prescribed medications at this time were Risperidone 4mg twice daily and Amitriptyline 25mg daily.

Over the course of 2008 and 2009 Mr Vaggs modified his illicit drug use, confining it to cannabis. His mental health would appear to have been relatively stable as there was no CATT involvement or ED presentations over this period.

In late 2009 and early 2010 Mr Vaggs again ceased taking his prescribed medication, resulting in the re-emergence of more commanding auditory hallucinations. He consulted Dr Hickey on 26 March 2010 who added Ziprasidone or Zeldox 20mg to his other medications, being Amitriptyline or Endep 25 mg and Risperidone or Risperdal 4mg. This was the last occasion on which Dr Hickey saw Mr Vaggs.

Mr Vaggs had more insight into his condition than do many other sufferers of schizophrenia like disorders. He could recognize when the symptoms were re-emerging and could control the hallucinations to a fair degree. He recognized that alcohol and illicit drugs exacerbated his condition and sought with some success, to moderate his abuse of them. Sadly, as is so often the case, psychotropic medication did not completely resolve his symptoms and had unpleasant side effects. As a result he frequently discontinued it even though it is apparent his mental illness was chronic and his need for medication was on-going.

As is also so often the case, Lyji's illness put great strain upon the whole family. The unpredictability of fluctuating symptoms meant his parents often had to take time off work to try and assist him. His partner had to shelter the children from seeing their father in a psychotic state.

Understandably, many Aboriginal people have a deep-seated distrust and fear of white authority figures. In some cases, they also have misgivings about hospitals, seeing them as places people are taken to die. Lyji held these views. His distress at being among white officials grew in intensity as their numbers increased and his illness became more florid. This necessitated his family always being involved with his hospitalisation.

It is impossible to escape the conclusion that Mr Vaggs' mental illness greatly reduced his quality of life and led directly to his untimely death. He is greatly missed by his close and loving family. I offer them my sincere condolences.

## *Townsville ED mental health*

On the morning of 28 March 2010, it was obvious to Lyji's stepfather, Mr Williams that Lyji's mental health was deteriorating. He told the inquest Lyji seemed distant and it was difficult to get him to focus or converse.

Lyji agreed to go with him to the emergency department of the Townsville Hospital. He was seen by a triage nurse at 11:50am and reported feeling agitated and frustrated for the last few days. He told the nurse he wanted to go to the mental health unit. The nurse also noted "*potential for aggression*".

Mr Vaggs was seen by a senior house officer (SHO) Dr Elizabeth Stalewski some time later, although precisely when is difficult to determine. Her role was to assess any physical medical needs before a member of the mental health intake and assessment team saw the patient. However, Dr Stalewski had experience in undertaking mental health consumer assessments as a result of working in the CATT from January till mid March that year. Over this time she had assisted the consultant psychiatrist and experienced nurses with assessments of mental health clients on a daily basis. She estimated that some 10 assessments would be undertaken each working day when she was with the CATT. She therefore included an assessment of his mental state in her review of Mr Vaggs.

Initially, she saw him in an ED assessment room. Dr Stalewski established that Mr Williams was Lyji's stepfather and she commenced by taking a detailed history of his mental illness, its treatment and his current symptoms. She told the inquest that from the outset Mr Vaggs made it clear he was suffering from psychotic hallucinations and wanted medication to ameliorate his agitation. He also wanted to be admitted to the Acute Mental Health Unit so he could get his problems "*sorted out*." He told her he had stopped taking his medication some months ago and his symptoms had returned and were "*out of control*", even though he had resumed taking medication recently.

In Dr Stalewski's notes of that consultation she recorded that Mr Vaggs "*presents with ↑ ideas of reference from TV and radio…includes command auditory hallucinations, will not disclose what they are saying*". She said she had trouble obtaining a lot of information from Mr Vaggs as he was not prepared to engage with her but when she asked him if the voices were telling him to hurt himself, Mr Vaggs answered in the affirmative. Accordingly, she noted "*command hallucinations include telling him to hurt himself to make him stronger".* Because he wouldn't answer when she asked him whether the voices were telling him to hurt other people she wrote, *"? homicidal also"*.

Dr Stalewski said during her assessment she felt scared of Mr Vaggs. She believed he was really trying to control himself but she wasn't confident he would be able to – she was concerned he could snap at any moment and become aggressive. Dr Stalewski says because of this she suspended the assessment and arranged for him to be given 15mg of a sedative, diazepam, and 10mg of an anti-psychotic, olanzapine. She also asked that he and Mr Williams wait in the hallway until a psychiatric assessment room became available because those purpose built rooms had more escape routes. She

wrote an order for PRN (as required) – diazepam 5-10mgs that she anticipated would be administered in the coming days. She also arranged for security officers to be close at hand.

However, records seem to indicate she saw Mr Vaggs at 12:47pm and the drugs were not administered until about 2:20pm, after her attendance on him had been completed. I am unable to resolve this conflict in the evidence.

In any event in her assessment, Dr Stalewski recorded Mr Vaggs' condition as being "*distracted ++ vague short tempered with potential for aggression +++*". She also noted he was "*slightly distressed about voices*".

Dr Stalewski explained that her role as SHO in the Department of Emergency Medicine was to "*medically clear him*" before he was seen by the mental health intake and assessment team. After examining him and recording various vital signs Dr Stalewski concluded Mr Vaggs was "*medical stable*" but that he was in need of in-patient treatment. She noted the chart "*will definitely need psychiatric admission"*. So confident was she that this would occur, Dr Stalewski telephoned the AMHU to book a bed for him. She said the decision to admit him was obvious having regard to his florid psychosis that included thoughts of self-harm and possible risk to others; his willingness to be admitted; and the support of his stepfather for this plan.

However, whether Mr Vaggs was to be admitted was in fact a decision for consideration by the Emergency Department Mental Health Intake Team. Dr Stalewski knew the members of that team as a result of having previously worked in the CATT and so she telephoned the psychologist who would undertake the assessment, Mr Dawie Scheepers, to give him a handover.

When she gave evidence she was confident she would have told Mr Scheepers of her concerns that Mr Vaggs was at risk of self-harm and in need of and wanting admission. She said she would have read to him the history and current symptoms she had noted in the chart.

Some of her evidence as to exactly what she told him and when she made her notes varied under questioning. It also seems likely she did not have a lot of time in which to speak to Mr Scheepers. However, I don't accept the submission this meant the essential features of her assessment were not conveyed to him before he saw Lyji. In Dr Stalewski's view, the appropriate course of action for Lyji was clear and uncontroversial. It was not based on any protracted assessment or tests or a long and convoluted history. She would have needed only a few minutes at most to convey her simple, and as it turns out having regard to the expert evidence, sensible and medically sound assessment of his needs. It is likely however, that ready access to the entry in Lyji's chart would have required Mr Scheepers to seek it out and he didn't do this, no doubt believing he had sufficient information as a result of Dr Stalewski's oral handover.

Mr Scheepers saw Mr Vaggs at about 2:45pm. He said in his statement, made only five weeks after Lyji's death, that he had no independent memory

of having dealt with him other than he was told at handover that Mr Vaggs was potentially aggressive. Mr Scheepers gave evidence it would have been his usual practice to receive a handover from Dr Stalewski. He accepted it was likely Dr Stalewski's evidence of the handover she provided to him was accurate.

For reasons Mr Scheepers had difficulty explaining, he did not seek to establish Mr Williams' relationship with Mr Vaggs but simply asked him to leave the assessment room. He suggested at the inquest that Mr Williams' size may have caused him concern and he suspected he might get a more accurate account of his condition from Mr Vaggs if he was alone. However, he also accepted that mental health patients are often not accurate historians, and valuable collateral information relevant to a mental health assessment can usually be gained from family members.

The Consumer Assessment Form completed by Mr Scheepers indicates he conducted a relatively thorough cross-sectional assessment of Lyji between 2:45pm and 3:45pm. Lyji appears to have presented more calmly when assessed by Mr Scheepers when compared to when he had been assessed by Dr Stalewski. The most likely explanation for this apparent inconsistency is a combination of the medications having started to have an effect, together with Lyji concealing the true extent of his symptoms to Mr Scheepers.

Mr Scheepers noted Mr Vaggs expressed no thoughts of self-harm or harm to others and he knew the voices he heard were only part of his illness. In his notes Mr Scheepers recorded that Mr Vaggs did not want to be admitted to the AMHU but that he would be happy to resume contact with the CATT. Mr Scheepers therefore agreed with that proposal. He documented a plan in the charts referring Lyji's case to the CATT for follow up in the following way.

- Phone call (via partner Stacey).
- Home visit.
- Medical review/appointment with psychiatrist asap to address medication issues.

Mr Scheepers said he recognized Mr Vaggs was not well and needed urgent treatment but as he anticipated the plan he had written would result in his being seen by a psychiatrist within 24 hours, admission for in-patient treatment was not needed.

The assessment concluded at about 3:50pm with Mr Vaggs being shown out. Mr Williams was not advised by Mr Scheepers of what had been decided or planned. In his view Lyji's condition had not improved while they were at the hospital and he still believed his stepson should have been admitted.

## *Re-engagement with the CATT*

The CATT at the Kirwan Mental Health Service included nurses, a psychologist, two social workers and a consultant psychiatrist, Dr Roanna Byrnes. There were no other doctors in the CATT.

Mr Scheepers's care plan was uploaded onto CIMHA, the state-wide mental health computerised information system, and he emailed the CATT clinical nurse coordinator, alerting her the case had been referred to their team.

All new referrals to the team were routinely reviewed at a daily morning meeting. However, there is no evidence indicating Mr Vaggs' case was discussed at the morning meeting on 29 March.

Nevertheless, a social worker from the CATT telephoned Lyji on 29 March and made an appointment for an in-home mental health consumer assessment the following day.

On that day, a clinical nurse, Karen Baxter, and a registered nurse, Pano Kaseke, attended Mr Vaggs' home at approximately 11:00am to undertake the assessment. Stacey Somerville and two of their children were present. Nurse Baxter apparently made no notes during the visit but made an entry in the chart on her return to the office later in the day.

The assessment of Lyji was one of four home assessments conducted during the course of the morning. Nurse Baxter indicated there was no reason why notes could not have been made sooner. Apparently, the extent of Lyji's psychosis was such that the taking of contemporaneous notes might have served to exacerbate his sense of feeling threatened, but obviously notes should have been written immediately following the assessment and not a number of hours later.

Nurse Baxter accepted that when conducting assessments it is essential to have access to as much information as possible about a patient's history in order to provide an informed opinion as to the future management of the patient. It was therefore suboptimal that she did not have the notes made by Dr Stalewski in the ED.

In any event, Nurse Baxter recorded that Lyji reported "*feeling improved since presentation to ED and recommencing on risperidone 4mg BD and amitriptyline 25mg.*" He continued to report hallucinations but wouldn't tell her the content of them. Nurse Baxter told the inquest she expects she would have asked him about thoughts of self harm or harm to others and as there is no entry in the charts indicating he was having such thoughts she presumes he denied them.

She was aware the referral from the ED assessment and intake team had suggested Mr Vaggs be reviewed by a psychiatrist but as he and his partner told Nurse Baxter they were intending to go to Hughenden for about a week in the near future she took no steps to arrange a review. Rather, she encouraged him to take up with the Hughenden mental health service if that became necessary. She told Mr Vaggs that someone from the CATT would call him the next day and he should make contact with the team after the family returned from Hughenden.

She recorded in her notes that Mr Vaggs complained of being unable to sleep and feeling agitated and asked if she would give him some Valium. She told him he should approach his general practitioner for a prescription.

## *Contact with the Hughenden MHS*

His mother says when Lyji, Stacey and the children came to see her in Hughenden over Easter 2010 he was very psychotic. Throughout the week he was there, she became increasingly concerned about his well-being and made numerous attempts to persuade him to attend the local hospital. She redoubled those efforts when he admitted to her he had been thinking of self harming.

On 10 April his mother finally persuaded Lyji to go with her to the Hughenden Hospital but when they got there he refused to get out of the car. Later the same day she persuaded him to return and this time he saw a doctor in the ED. He reported hearing voices and his mother told the treating doctor he had been having suicidal thoughts. He was prescribed Temazepam, a sleeping tablet and Diazepam, a sedative.

According to his mother and his partner, while these drugs helped him get some sleep, they did little to address his psychosis.

The family returned to Townsville on 11 April.

## *Further contact with the CATT*

Because Lyji's condition had not improved, on the morning of 12 April he and Stacey decided he needed to be hospitalized. She telephoned the CATT clinic and requested an appointment there to avoid the extended wait she expected would be involved in having Lyji see a doctor at the Townsville Hospital ED. An appointment was arranged for 1:00pm.

Stacey went with Lyji, the children and Lyji's friend John to the Community Mental Health Centre at Kirwan. Lyji was unwilling to go inside, instead preferring to sit at a concrete table adjacent to a lawn outside the building. He was spoken to by Nurse Baxter. Nurse Kaseke was also present.

All agree Mr Vaggs, although calm, reported he had been unable to sleep for much of the past week and was having severe hallucinations – *"increased auditory hallucinations and agitation."* The notes made by Nurse Kaseke also report that "*his wife is unable to cope*".

Stacey is insistent both she and Lyji asked that he be admitted for in-patient treatment. She said she explained to Nurse Baxter that she couldn't cope with Liji's illness and having to care for the children particularly as throughout the early hours of the morning he roamed the house flicking the lights on and off and would not settle. Stacey also said Lyji told the nurses he believed he needed in-patient treatment.

Ms Somerville accepted in cross examination that Lyji's major complaint had been an inability to sleep for the previous week. She did not recall him having

raised problems with alcohol. It was her recollection that while excess alcohol consumption had been a problem from time to time in the past, he had only had two large bottles of beer in the previous week, one of which he had tipped down the sink.

Ms Somerville said Nurse Baxter said she would enquire as to whether there were any beds available and went inside to the offices of the CATT.

Nurse Baxter was emphatic there had been no request by Lyji or Stacey for him to be admitted and she did not indicate she would need to ascertain bed availability. She explained had Lyji requested admission, this would have occurred. If a bed had not been available in the AHMU, he would have been accommodated in the ED until such time as a bed did become available. Nurse Kaseke could not recall this conversation and thought such a request would have been recorded in the progress notes had it been made.

Conversely, Ms Somerville rejected the suggestion she may have been mistaken regarding her recollection as to Lyji's request to go to hospital and Nurse Baxter's response to it. She recalled having felt a sense of excitement that she would be finally able to get some sleep while Lyji was in hospital, although it seems they did not bring any clothes, pyjamas or toiletries with them as might be expected if an admission was anticipated.

I am unable to resolve this conflict in the evidence, but little turns on it as the expert evidence, I will summarise later, indicates he should have been admitted in any event.

Nurse Baxter said she went inside to discuss with the consultant psychiatrist, Dr Roana Byrnes, whether Mr Vaggs should be given the diazepam he was requesting.

Dr Byrnes agrees she was consulted by Nurse Baxter about Lyji's case. She said she was surprised it hadn't been presented at any of the regular morning meetings since he had been to the emergency department on 28 March. She said she asked Nurse Kaseke to telephone Mr Vaggs' general practitioner to clarify what medication he was taking as she was concerned about the combination he reported had been prescribed and the size of one of the doses he claimed to be taking. Dr Byrnes denies she was told Lyji's wife was saying she was unable to cope or that Mr Vaggs had been to the Hughenden Hospital two days earlier expressing thoughts of intentional self harm. She also says she was not told Mr Vaggs had asked to be admitted as an in-patient. She considered she would possibly have made a decision to personally assess Lyji had such information come to light.

Dr Byrnes issued a prescription for diazepam and requested that Mr Vaggs' case be allocated to the acute care team which would ensure more regular home visits.

The nurses returned to Stacey and Lyji and gave them the prescription for diazepam and a referral to the Alcohol Tobacco and other Drugs Service

(ATODS). Nurse Baxter told them another assessment would be undertaken at their home the following day. The nurse agreed they would come before 2:00pm as Stacey had an appointment at the hospital with one of the children at 3:00pm.

## *Home assessment*

On the morning of 13 April 2010, Lyji remained agitated and unsettled. Nurse Baxter telephoned Ms Somerville to enquire as to Lyji's mental state and was told; *"He's really bad. You need to do something."*

Nurse Baxter went to the Vaggs' residence at approximately 11:00am. With her were Registered Nurse Kathy Lineham and a medical student, Robert Minehan.

She recalled Stacey advised Lyji's symptoms had not improved and she was having difficulty coping. Nurse Baxter told the inquest there appeared to have been no improvement in Lyji's condition overnight. Nurse Baxter and Ms Somerville agree there was a discussion in relation to Lyji being admitted to the AMHU and that Mr Vaggs appeared to accept he required admission - indeed, he had his bag packed.

Nurse Baxter advised them she would return to the CATT office to make arrangements for the admission. She defended her decision not to transport Lyji to hospital immediately by saying she needed to check bed availability at the AMHU. This seems inconsistent with her claim that had she concluded he needed admission the day before, bed availability would not have been an issue. It is also surprising Nurse Baxter considered he needed admission that day despite there being no suggestion from anybody that he had deteriorated overnight.

When she returned to the office, Nurse Baxter informed Dr Byrnes of her opinion that Mr Vaggs should be admitted and she made the necessary arrangements. She then telephoned Stacey and said she would come and collect Lyji to take him to hospital. Stacey again reminded her of her appointment at the hospital at 3:00pm to ensure Lyji was collected well before then.

Anticipating no difficulty with the transport, Nurse Baxter decided to do it by herself and told the medical student, Mr Minehan, that she would meet him at the AMHU.

When she returned to Lyji's home at around 2:00pm, two other people were present – his uncle Aaron Bonner and a female friend of the uncle. They had been drinking and wanted Lyji to drive them to town. He refused, explaining that he was going to hospital.

It quickly became apparent that Lyji had become unsure about whether he still wanted to undertake in-patient treatment. He repeatedly raised concerns about John, the disabled friend who had attended the Kirwan clinic with Lyji the previous day and for whom he apparently had a disproportionately

protective attitude. It seems Nurse Baxter made only cursory attempts to address these concerns. In any event, with the assistance of the uncle, Nurse Baxter was able to encourage him to get into the car at about 2:30pm.

The uncle and his friend went with them. However before they reached the hospital the uncle and his friend got out of the car and Nurse Baxter and Mr Vaggs continued on to the hospital.

Initially, Lyji seemed calm and accepting of the decision for him to be admitted. However, as they approached the hospital he became increasingly agitated and was making increasingly delusional statements. Nurse Baxter became very concerned about how the situation should best be managed. Indeed, as they got closer to the hospital Lyji opened the door as if attempting to get out when the car was negotiating a roundabout. His mother was not surprised when she heard of this because, she explained, her son never went to the hospital without a member of his family as a support person. When his illness was active, he was very distrustful of strangers and institutions and his distress increased in proportion to the number of people involved.

## *At the hospital*

They arrived in the car park outside the AMHU shortly before 3:00pm.[1] Mr Minehan approached Mr Vaggs soon after he got out of the car and it was already apparent he did not wish to enter the AMHU: he was complaining that the treatment was not being offered on a voluntary basis and making delusional comments about wizards and the Prime Minister. Mr Minehan persisted and Mr Vaggs grabbed him by the hand and punched him a number of times around the ribs and torso. Mr Minehan broke away. Mr Vaggs continued to make delusional statements and again grabbed Mr Minehan this time around the neck. Mr Minehan was able to free himself and retreated into the AMHU.

Vision recorded by cctv security cameras shows Mr Vaggs gesturing wildly, roaming around the car park and walking off towards a near-by roundabout. He was saying he wanted to catch a taxi because "*this is not voluntary*", however, he then returned to the AMHU and walked into the foyer He was approached by Dr Renee Cescon, an intern, who also tried without success to calm him down by offering him oral sedatives. Lyji grabbed a male nurse who had also tried to engage with him and after shaking that nurse and making wild comments he released him and walked out of the foyer.

A duress alarm was activated at 2:58pm by one of the nurses. It prompted numerous nurses and doctors to converge on the administration area of the AMHU. The nurse who was that day designated the leader of the Response Team, Jennifer Vidler, telephoned the Health Security Control Room and requested assistance. That call was logged at 3:04pm. By this time Lyji was back out in the car park, and being followed by about six hospital staff who continued to try and persuade him to come into the unit.

[1] As would be expected, witnesses estimates of the time events occurred vary widely. For matters which are of significance I have attempted to resolve these differences where possible by reference to the time shown on hospital cctv which is almost identical to the time recorded on the QPS communications recording.

Two Health Security Officers (HSOs) Michael Gleeson and Anthony Buttigieg, arrived in the car park at 3:06pm. Mr Gleeson said Dr Cescon told him Mr Vaggs was under an ITO (involuntary treatment order) and needed to be returned to the AHMU.

The HSOs approached Mr Vaggs and introduced themselves. They then each took hold of an arm and led him towards the AMHU foyer. In the cctv vision two or three people, whom I presume are hospital staff, can be seen pushing him from behind while six or more other staff move with the group. This is timed to occur at 3:08pm

## *The restraint*

Mr Vaggs increasingly resisted attempts to take him into the AMHU causing the HSOs to increase the force they applied. Lyji began struggling wildly and Mr Gleeson came to the view it was unsafe for them to continue to tussle with him and so, in accordance with their Aggressive Behaviour Management (ABM) training, they wrestled him to the floor. The two security officers secured Mr Vaggs' arms by applying downward force to his wrists and his upper arms or shoulders. Both said male nurses assisted with the restraint by holding Mr Vaggs' legs. At about this time two more HSOs, David Wolfinden and Timothy Tanner, arrived and provided assistance. Mr Tanner said he managed Mr Vaggs' head to stop him head butting and to ensure his clothing didn't obstruct his breathing. Mr Wolfinden held his left leg.

There was inconsistent evidence about whether what was referred to as a figure 4 leg lock was applied. This involves the restrained person's lower legs being bent towards his buttocks and the calves crossed enabling the restrainer to more easily stop the restrained from kicking. All of the nurses at the scene who were asked denied this occurred, but three of the security guards said in their interviews this technique was used at some stage, as did the police officers who gave evidence.

Dr Cescon gave evidence he recalled observing someone sitting on Lyji's back. However, he could not recall when during the restraint this occurred, for how long it occurred, the identity of the person who was sitting on Lyji including whether this person was a male or female, where on Lyji's back this person was sitting or how this person was positioned on Lyji's back. No one else recalled seeing this. He had not made mention of this in his earlier interview or statement: Dr Cescon's evidence at the hearing was the first occasion he made mention of Lyji's torso being restrained in this manner. Dr Reilly gave evidence that Dr Cescon did not mention this to him when Dr Reilly spoke with him in the hours after Lyji collapsed. Dr Cescon was questioned as to why this very relevant information was not included in his notes or statement and he could provide no explanation for this. I do not accept this evidence is reliable and I find the action did not occur.

Despite attempts to calm Mr Vaggs by speaking to him and assuring him they will release him if he stops struggling, he continued to shout and scream and

thrash around violently. He would not engage with any of those trying to speak to him and continued to reiterate that he "*is voluntary".*

Dr Cescon was joined by a number of other junior medical officers who also responded to the duress alarm. Dr Linda Tjoa, a Junior House Officer (JHO) who had worked in the AMHU for three to four weeks and Dr Philline Tanchi, Senior House Officer (SHO) who had been on rotation through the AMHU since mid March 2010, arrived before or soon after the restraint commenced. They discussed the need to document an ITO and Dr Tjoa went into the unit to obtain the necessary forms.

Neither of the two consultant psychiatrists who usually worked in the AMHU, the director Dr John Reilly and Dr Strueby, was present in the unit that day and attempts to telephone them were unsuccessful. Dr Cescon called another junior doctor working in the unit, Dr Nicholas, sought some advice from her and asked that she contact one of those consultants. Dr Nicholas said she called Dr Reilly's mobile phone but the call went through to message bank. She was not further involved in the incident. It seems he may have also asked her to come and complete the Mental Health Act forms for the ITO but she declined as she was not involved in the case.

Soon after, Dr Cescon decided sedation was needed and he instructed a nurse to inject 10mg of Olanzapine intramuscularly. The medication chart records this as having been given at 3:00pm but if the times shown on the cctv are correct this must be wrong. Dr Cescon sought to support this timing by claiming he looked at his watch and mobile phone to confirm it. I do not accept this evidence.

The evidence contained in Dr Tjoa's statement is inconsistent with the evidence she gave at inquest and also conflicts with the evidence of some of the other medical officers. For example, she claimed she ordered this first dose of sedation. I find it more likely she and Dr Cescon discussed the need for drugs and Dr Cescon caused it to happen. I conclude the first dose was given at about 3:10pm.

It had no apparent effect and Mr Vaggs continued to struggle.

The senior HSO, Mr Gleeson, accepted the advice of Nurse Jasi or another nurse that it was desirable that Mr Vaggs be taken into the Psychiatric Intensive Care Unit (PICU) as soon as possible. Therefore, shortly after the first dose of Olanzapine was administered, the HSOs lifted Mr Vaggs up and tried to steer him into the AMHU. He immediately redoubled his efforts to escape from their control by twisting and shrugging to such an extent that Mr Gleeson feared he would break free. They therefore returned him to the floor and the restraint of his limbs by the HSOs and nurses was resumed.

After it became apparent the struggle was continuing and Mr Vaggs was not being brought under control, it was decided to give him another dose of Olanzapine – 10mg. The drug chart suggests it was given at 3:15pm and that

it was ordered by Dr Cescon who said in his statement and in the inquest that it was given at 3:17pm.

I conclude it was administered a little later than this as most of the witnesses suggest it was given 10 to 15 minutes after the first dose making it most likely this dose was given at about 3:20pm, shortly before the police were called at 3:22pm.

Dr Cescon said a slightly more senior SHO, Dr Mushtaq Mohiuddin, ordered the second dose, but that doctor denied it. No one recalled seeing Dr Mohiuddin in the vicinity of the restraint until some time after this dose was given. Dr Mohiuddin said he became aware of the struggle soon after it commenced; he had a quick look at what was transpiring from within the AMHU some distance away; saw that numerous staff members were attending to the patient and concluded Mr Vaggs would need to be taken to the PICU once he was brought under control. Accordingly, he went there with another doctor to ensure it was ready to receive him. This involved discharging another patient from the PICU. Dr Mohiuddin estimated this assessment took some 15 to 20 minutes, following which he proceded to the office in the foyer area. He explained he only then became involved with Lyji's management because he was concerned the struggle had continued for so long. He recognized the prolonged restraint posed a risk to the patient's safety.

The nurse who drew up and administered the second dose of Olanzapine, Registered Nurse Taylor, said she was told to do this by Dr Cescon. Dr Reilly spoke to Dr Cescon soon after the incident and Dr Cescon accepted responsibility for ordering the second dose. Dr Mohiuddin told him he did not have any involvement in the management of Lyji's sedation until after the second dose of Olanzapine had been administered. In the circumstances, I conclude it was indeed Dr Cescon who ordered the second dose of Olanzapine.

The drugs appear to have had no effect on Mr Vaggs who continued to struggle violently and yell incoherently. All involved in the struggle became increasingly concerned at their inability to move Mr Vaggs into a place of safety within the AMHU. They realized more assistance was needed and as no senior doctors were available, at 3:22pm police were called.

The HSO's realized it was important the struggle be brought to an end as quickly as possible. For that reason the security supervisor, Mr Gleeson, sought permission from his supervisor to use handcuffs which were in the HSO's office. This request was referred to the hospital's Operations Director, Mr Sean Keogh, who declined it and suggested police again be called. As a result a second 000 call was made at 3:30pm.

The three junior doctors: Cescon, Tjoa and Tanchi discussed the situation with Dr Mohiuddin who, as outlined earlier, had returned to the reception area behind the foyer. All agreed they did not know what they should do. Dr Mohiuddin obtained and read the acute sedation guideline/flowchart from the

Resident Medical Officers' Handbook. He identified that it provided for the administration of Midazolam, however he was concerned the second dose of Olanzapine had been administered in contravention of the guideline. He considered they required the assistance of a more senior clinician. He attempted to contact Dr Reilly but the call went through to Dr Reilly's message bank. He was also unable to contact Dr Strueby. He located the on-call roster and identified that Dr Hartman, the clinical director of child and mental health services at Kirwan, was the psychiatrist who was going to be on-call that evening and so called him.

During the phone call, Dr Hartman spoke to Dr Mohiuddin, Nurse Baxter and Dr Cescon. Precisely what he was told is unclear. He knew Mr Vaggs had been given two doses of Olanzapine and they had been given in quick succession. He also thought he was told the last dose had been given half an hour earlier and that the patient was still struggling violently. He was adamant he was not told the police had arrived and the patient had been handcuffed, and indeed they may not have been there when the conversation commenced.

Dr Hartman was conscious that the rapid sedation guideline had not been followed and the administering of further sedation posed real risk to the patient. However, he was also most concerned the restraint needed to be brought under control and finalised as the continuing struggle was also very dangerous.

He concluded sedation was urgently needed and so he told them to use 5mg of Midazolam. He said both junior doctors sounded stressed, out of their depth and panicked. He warned them of the risks of the proposed course of action: the possible depression of respiration.

Four police officers arrived at 3:31pm. All say that when they entered the foyer of the AMHU they saw Mr Vaggs struggling on the floor with numerous HSOs and other staff surrounding them. The officers are adamant neither then nor at any other time when they were present was anybody sitting on Mr Vaggs. They also agree they were requested to handcuff him, which they readily agreed to as it was apparent Mr Vaggs was continuing to struggle violently.

Mr Vaggs resisted the efforts of the two officers who applied the handcuffs but this resistance was speedily overcome. An officer then took up a position on each side of him, holding his wrist or forearm while pinning the back of his upper arm with their knee. A female officer was at his head, attempting, unsuccessfully to calm him. HSO Tanner said he was also near Mr Vaggs' head – what he called the number 1 position. He said he continually monitored Mr Vaggs' breathing and ensured his clothing did not obstruct his mouth or nose. He said at one point Mr Vaggs told him he had urinated but he did not attach any significance to this. At least one HSO was also struggling to control Mr Vaggs' legs. I find he was handcuffed at about 3:33 – 3:34pm.

Very soon after this the Midazolam Dr Hartman had authorized, was administered. Constable Kerger recalled it being injected within some 30 seconds of the handcuffs having been applied. Constable Hilton estimated this time frame to have been "*up to two minutes*". The chart says it was given at 3:35pm. I conclude this is about right. The officers say Mr Vaggs continued to struggle and yell out. They remember him repeatedly saying *"its supposed to be voluntary*". All also recall the HSO on Mr Vaggs' legs bending them at the knee and pushing his feet onto his buttocks in an endeavour to gain more control.

HSO Gleeson gave evidence there were at least 15 people present for the restraint and the scene was *"confused and crowded".* Nurse Taylor explained there was no one nurse providing leadership in the management of the restraint. This lack of leadership is an issue of concern.

## *Respiratory arrest*

A short time after the Midazolam was administered – witnesses variously estimate the period to be two to five or six minutes – Mr Vaggs suddenly stopped struggling, calling out and breathing. Some witnesses described him as going limp. HSO Tanner said he noticed he could no longer hear Mr Vaggs breathing; up until that time his breathing had been very noticeable and so he called on him to keep breathing, unsure whether he was holding his breath to trick them. No one else reports hearing Mr Tanner say this.

The police officers rolled him over in preparation for lifting him to his feet but it quickly become apparent Mr Vaggs had suffered some kind of respiratory collapse. They placed him in the recovery position, checked for a pulse and found none. The handcuffs were removed and a MET call was made. It seems this call was made at 3:41pm.

No resuscitation equipment was initially available – it had to be brought form within the AMHU. In the meantime the medical staff present commenced CPR.

The MET personnel arrived at the patient at about 3:45pm and they took over the resuscitation. On arrival the team found Mr Vaggs had no cardiac rhythm - pulseless electrical activity (PEA). He was given the usual inotropes and was ventilated using a bag and mask. After some time circulation and respiration were restored. Resuscitation was prolonged; the ECG tracing persistently demonstrated the PEA, a cardiac rhythm upon which defibrillation could not be administered. A return to spontaneous circulation occurred approximately 55 minutes after CPR was commenced.

## *Intensive care and death*

At 4:31pm an ambulance was called to transport Mr Vaggs to the ICU. On arrival there he had a Glascow Coma Score of 3/15, he was fully ventilated and X-rays showed aspirated secretions in his lungs. His care was managed by Dr John Evans.

A CT scan of his brain showed no evidence of bleeding or other surgically amenable lesion. Mr Vaggs was commenced on a sedative infusion and his temperature was reduced with a view to reducing brain damage from lack of blood and oxygen.

The next morning his case was reviewed and no improvement was detected. An MRI showed significant brain swelling. His requirement for oxygen and drugs to support his heart declined over the first 24 hours and so on Wednesday the sedation was discontinued so that his neurological condition could be better assessed.

On Thursday morning Mr Vaggs showed no signs of neurological improvement. Dr Evans concluded that further treatment would be futile. Tests were done which confirmed brain death.

Lyji's family had been kept informed of his condition and prognosis throughout his hospitalization. They agreed that life support should be discontinued and remained with him when this occurred at 2:50pm. Mr Vaggs died at 3:35pm on 15 April 2010, 48 hours after the restraint had occurred outside the AMHU.

## *Autopsy results*

On 18 April an autopsy was undertaken on Mr Vaggs' body at the Cairns Hospital mortuary by Dr Paul Botterill, an experienced forensic pathologist. The autopsy was thorough and complete. Mr Vaggs was measured and found to be 1.80 metres high with a weight of 114 kilograms giving him a body mass index of 35 kilograms/$m^2$.

An external examination noted blood stained fluid in the left ear canal and a protuberant abdomen. There were extensive signs of recent therapy which were distinguished from other possible traumatic injuries. There were also injuries consistent with resuscitative efforts.

There was an abrasion on the anterior aspect of the left knee 10 millimetres in diameter. There were two abrasions over an area of approximately 45x20millimetres from the left cheek bordering the lateral aspect of the left orbit (eye socket). There was a faint lineal abrasion over the dorso-radial aspect or the right wrist. There was a five millimetre diameter abrasion over the right lower posterior chest. When the skin was reflected a number of other areas of subcuticular bruising was found on the right arm, the mid left forearm, the left hand and the back of the scalp. Bruising was also found at the left anterior strap muscles of the neck.

Faint petechial haemorrhages were noted over the right lower conjunctival surface along with suffusion of the conjunctivae bilaterally.

An internal examination of the chest identified that the right coronary artery exited the heart further back and higher on that organ than was usual and was, as a result, associated with a sharp right handed kink, before following the otherwise normal course for that vessel.

The coronary artery showed minimal atheroma and no coronary artery thrombi were identified. The aorta showed mild atheroma.

Mr Vaggs' brain was subject to neuropathological examination that identified acute global ischemic damage.

Analysis of blood taken from Mr Vaggs at about 5:27pm on the day he collapsed identified the active components of all of the medications he had been prescribed or administered in the following quantities:

| | |
|---|---|
| Diazepam | 0.02 mg/kg |
| Nordiazepam | less than 0.02mg/kg |
| Midazolam | less than 0.01mg/kg |
| Amitriptyline | less than 0.02mg/kg |
| Nortriptyline | 0.02mg/kg |
| Olanzapine | 0.06mg/kg |
| Risperidone | 0.02mg/kg |
| Paliperidone | 0.03mg/kg |
| Ziprasidone | less than 0.005mg/kg |

No alcohol was detected but metabolites of cannabis were found.

In his report Dr Botterill indicates that "*there were no injuries suggestive of beating, kneeing or stomping*". He confirmed at the inquest that all of the injuries were consistent with having been received during the struggle described by those involved in it.

The examination of the brain show changes consistent with a lack of oxygen. This undoubtably occurred after Mr Vaggs collapsed when he stopped breathing, pending successful resuscitation.

Dr Botterill indicated "*the blood levels of the sedative medications used in chemical restraint and subsequent hospital treatment were also below the respective reported toxic or lethal ranges*", although he acknowledged when he gave evidence that there were no definitive toxic levels for these drugs because individuals differ in their reactions to them.

In his report, Dr Botterill concluded:

> "*In my opinion, as at the time of autopsy, the cause of death was most probably multifactorial, incorporating the combined effects of restraint asphyxia, obesity and associated cardiomegaly, schizophrenia and its treatment, and aberrant coronary artery origin. Each of the conditions may of itself have led to a cardiac arrest at or about the time of the restraint events but it most likely that each has had a contributory role in the death.*"

When he gave evidence he conceded the drugs given to Mr Vaggs during his restraint may have a cumulative affect leading to respiratory repression.

Dr Botterill also raised the possibility that some of Mr Vaggs' long term antipsychotic medication might have precipitated a cardiac event as they are known to be associated with QT segment prolongation although this was not demonstrated in cardiograms following the cardiac arrest.

Dr Botterill concluded that the direct cause of the death was "*combined effects of restraint asphyxia, obesity, schizophrenia and aberrant coronary artery origin*".

### *Other expert witnesses*

Reports from the eminent experts listed below were either obtained by those assisting me or supplied by the parties who participated in the inquest:-

- Dr Joan Lawrence, consultant psychiatrist;
- Dr Jacinta Powell, consultant psychiatrist, Clinical Director, Prince Charles Hospital;
- Dr Geoffrey Gordon, Director, Intensive Care Unit, Townsville Hospital;
- Associate Professor Darren Walters, Director of Cardiology, Prince Charles Hospital;
- Professor J Paul Seale, Clinical Pharmacologist, University of Sydney;
- Dr Paul Kubler, Director Clinical Pharmacology, Royal Brisbane and Women's Hospital; and
- Dr Colin Page, Emergency Physician and Clinical Toxicologist, Princess Alexandra Hospital.

It would have been impossible for me to effectively analyse the issues in this case without their participation in the inquest. I record my gratitude for their willingness to assist me, the family of the deceased and their colleagues.

## Cause of death

For the reasons detailed below the expert opinion was against heart failure stemming from either atherosclerosis or an arrhythmia being a cause of Lyji's death. The majority of the experts concluded Mr Vaggs died as a result of the combined effects of the drugs administered to him and the length and nature of the restraint to which he was subject. As I will explain, there were differing views as to the respective contribution of these factors.

### *Heart attack or arrhythmia*

All of the relevant experts agreed the probability of Lyji having died from a spontaneous primary cardiac event was able to be discounted because significantly narrowed arteries were not found at autopsy.

The possibility of a lethal arrhythmia caused by a prolonged QT interval secondary to Lyji's prescribed antipsychotic medications was also considered unlikely by all relevant experts. Dr Walters, a cardiologist, was satisfied that the pre-existing substrate for a primary cardiac arrhythmia was not present because there was no:

- abnormality on the ECG immediately after his collapse;
- arrhythmic history; or

- abnormality in the heart such as ischaemic heart disease or myocardial ischaemia.

Dr Botterill explained that an excited delirium syndrome can result in an adverse cardiac event. However, he considered it unlikely this provided a plausible explanation for Lyji's arrest because the medical records did not record an elevated temperature and there was no evidence at autopsy of muscle melting or changes in the kidneys.

Lyji's heart weighed 392 grams. Dr Botterill explained that was within normal limits but slightly larger than normal for someone of Mr Vaggs' height. He explained that the larger the heart the greater the chance of an irregularity presenting when the body is placed under stress. Dr Walters attached little significance to this finding because the enlargement was only border line and there was no evidence of hypertrophic cardiomyopathy or significant left ventricular hypertrophy.

As mentioned, during the autopsy, Dr Botterill detected an aberrant right coronary artery. He queried whether this may also have contributed to Lyji's death because when the heart is beating harder, the aorta expands with the consequence that the kink can become more acute. Dr Botterill explained that if he finds such an abnormality and there is an absence of another readily apparent explanation for the death, he will nominate it as the cause of death. However, in the opinion of Dr Walters, this malformation does not have a strong association with a risk of sudden cardiac death. Indeed he gave evidence that if a patient was referred to him with such a condition he would not recommend any intervention.

## *Drugs and restraint*

All of the relevant experts considered Mr Vaggs' death was probably due to a combination of circumstances, causes and events. Namely:

- the duration of the restraint;
- the manner in which he was restrained;
- Mr Vaggs' obesity;
- his emotional state and his violent resistance; and
- the medication administered to him.

Opinions differed as to the extent to which each of these matters may have contributed to Mr Vaggs' death.

### Restraint

It was agreed that when Mr Vaggs was forcibly held face down on the floor, for over 30 minutes with weight applied to his upper arms, the capacity for his chest to expand to allow him to breathe was reduced.

This was exacerbated by his obesity because his paunch would have displaced towards his chest, further reducing the opportunity for his diaphragm to distend downwards to accommodate expanding lungs.

Crossing his lower legs and forcing one of his feet towards his buttocks, the so called figure 4 leg lock, may have further compromised his breathing as his body weight was forced onto his abdomen.

When he was handcuffed behind his back, further constriction of his lungs would have resulted.

As Mr Vaggs was struggling violently throughout, his need for oxygen would have increased as his capacity to access it reduced. The intuitive assumption that his continuing to yell and scream indicated his respiration was sufficient was contradicted by a number of the experts who indicated his incoherence and agitation could well have been an artefact of increasing hypoxia. His incontinence of urine could similarly be attributed to cardio pulmonary compromise.

## Involvement of the HSOs and police officers

I accept that the HSOs and police officers involved in attempting to restrain Mr Vaggs acted reasonably and in accordance with their training.

From the outset the HSOs largely took direction from the nurses and doctors present and accepted their advice that Mr Vaggs was under an ITO and needed to be taken into the AMHU.

Similarly, when the police officers arrived they reasonably assumed that the doctors and nurses present were cognizant with the health risks involved in the restraint. They responded to a reasonable request to handcuff Mr Vaggs, which on its face was an appropriate attempt to bring the situation under control.

I make no findings adverse to any of the HSOs or police officers involved in the incident.

## Drugs

There was less consensus around the role the drugs given to Mr Vaggs during the struggle may have played in his death.

It is well established in the literature that both Olanzapine and Midazolam have the potential to cause cardio-respiratory depression and arrest. There is the potential for this risk to increase when the medications are administered in quick succession of each other as they are known to have a synergistic effect. Dr Kubler explained this means the effects of the combination of the medications is greater than the sum of their individual effects.

The mechanism by which these medications can cause cardio-respiratory depression was explained by the various experts. They said that while these medications do not have a direct effect on the lower part of the brain which contains the respiratory and cardiovascular centres, they do affect the cerebral cortex resulting in a reduction in the level of consciousness, thus

reducing the intrinsic triggers for a person to continue breathing and to maintain a pulse.

Dr Kubler said that in his view the drugs were a *"significant contributor*" to Lyji's death. He explained that he had carefully chosen that descriptor and used it in the sense he found in the Oxford dictionary, namely *"sufficiently important to be worthy of attention".*

Dr Walters also said the drugs played a role in the death but he could not quantify their contribution.

Dr Page said "*I place a little bit more significance or a less significance on the drugs than perhaps some of the other expert witnesses but I do agree that all those contributing factors come into the melting pot…"* When asked to clarify his opinion as to the contribution of the drugs to Lyji's death he agreed he believed the drugs were less significant than the other factors although it was not possible to quantify the contribution of the various factors.

Dr Seale said the drugs were *"certainly not the sole factor, but we can't exclude them from being a contributing factor".*

Drs Page and Kubler explained that once the medications take effect they can also restrict limb movements and therefore the ability of a person to position their body in such a way that they can adequately expand their diaphragm and protect their airway. Professor Seale explained the combination of the two medications might have made Lyji drowsy and less able to clear his airway.

Dr Gordon said initially he would *"probably place slightly less emphasis on the role of Olanzepine and Midazolam."* When questioned further he said he thought the drugs "*didn't materially contribute to the events that led him* (Mr Vaggs*) to have a cardiac arrest*." When asked to explain what he meant by materially contribute, he said *"I don't believe they were a contributing factor."*

Those experts who discounted a causal nexus or alternatively considered that the medications administered were only a minor contributor to Lyji's death relied on the following factors:

- the reported sudden collapse of Lyji;
- the time period between the administration of the Midazolam and Lyji's collapse;
- the inadequacy of the doses of the drugs;
- the fact that Lyji had been administered Olanzapine and Diazepam in the past without apparent incident; and
- the difficulty in administering the drugs into the buttock muscle on account of Lyji's body habitus.

In her thorough and careful submissions, the relevant paragraphs of which are annexed to the end of this report, counsel assisting has analysed each of those reasons and argued they are not persuasive in Lyji's case. Counsel for Queensland Health made equally comprehensive submissions in which he did not take issue with this aspect of Ms Rosengren's submissions.

The preponderance of the expert evidence is that the medications did contribute to Lyji's death. I am not persuaded by the reasons some of the experts gave for minimising or discounting the effects of the drugs in this case. Accordingly, I find it is more likely than not that the two doses of Olanzepine in quick succession, and/or the Midazolam given a short time later did combine with the effects of the restraint to lead to a cardio-respiratory arrest in Mr Vaggs soon after he was handcuffed and contributed to his death.

## Findings required by s45

I am required to find, as far as possible, who the deceased was, how he died, when and where he died, and what caused the death. As a result of considering all of the material contained in the exhibits and the evidence given by the witnesses I am able to make the following findings:-

| | |
|---|---|
| **Identity of the deceased** | The deceased person was Lyji Vaggs. |
| **How he died** | Mr Vaggs, who was obese and suffered from schizophrenia, died as a result of a hypoxic brain injury sustained in the foyer of the Townsville Acute Mental Health Unit two days before his death when he was restrained in a prone position for a prolonged period by hospital security officers and nursing staff during which he was administered Olanzepine and Midazalam. |
| **Place of death** | He died in the Townsville Hospital in Queensland. |
| **Date of death** | Mr Vaggs died on 15 April 2010. |
| **Cause of death** | The medical cause of his death was hypoxic brain injury. |

## Section 48 referral

I have found that intentional actions of those involved in restraining Mr Vaggs lead to his death. However, I am of the view there is no basis for a referral to prosecuting authorities because:-

- Different individuals were responsible for the various factors that contributed to the death;
- It would not be possible to establish to the criminal standard of proof which of the factors was significantly responsible for the death;
- None of those involved intended any harm to Mr Vaggs;
- The death was not a reasonably foreseeable consequence of the action of any individual; and

- The force used was a reasonable response to the threat posed by Mr Vaggs.

I have also concluded no purpose would be served by referring the actions of any of those involved in the incident for the consideration of disciplinary action because:

- The primary contributor to the bad outcome was the mismanagement of the incident rather than the actions of an individual;
- The policies, procedures and training then in place did not adequately provide for the management of such an incident when nurses, doctors and security officers were all involved;
- The doctors involved were very junior and inexperienced and were left without adequate supervision; and
- Involvement in the incident has indelibly imprinted on the individuals the danger of such episodes and all aspects of relevant systems have been reviewed and reformed.

# Concerns, comments and recommendations

Section 46, insofar as it is relevant to this matter, provides that a coroner may comment on anything connected with a death that relates to public health or safety, or ways to prevent deaths from happening in similar circumstances in the future.

I shall deal with the aspects of this case which warrant consideration from a prevention perspective in the order in which they occurred.

## *Decision not to admit on 28 March*

As detailed earlier, when his stepfather took Lyji to the Townsville Hospital ED on the afternoon of 28 March, they and the doctor who reviewed him wanted Lyji admitted for in-patient treatment because of the significant psychosis he was experiencing and the possibility it could lead to Lyji harming himself or others.

He was not admitted because the psychologist from the emergency department mental health team concluded Mr Vaggs could be adequately treated in the community by the CATT.

However, it is apparent in making this assessment the psychologist relied almost exclusively on what he was told by Mr Vaggs and failed to have regard to other relevant information available to him, even though he was aware that patients with schizophrenia or psychosis commonly conceal the true extent of their symptoms and provide inaccurate information concerning their compliance with their prescribed medications. The psychologist was unable to adequately explain why he failed to obtain information from Mr Vaggs' stepfather.

It was submitted on his behalf that the information recorded by the doctor who saw Lyji in the ED may have been difficult to access but in the absence of any evidence that he sought it out, such difficulty, if it exists, is hardly an excuse.

The hospital has acknowledged these shortcomings and has moved to address them with the development of a Triage Assessment Record for Patients with Mental Health Presentation. Further, henceforth the ED notes will be incorporated into the mental health assessment which is uploaded into the CIMHA.

Drs Lawrence and Powell considered a competent and comprehensive assessment by an experienced mental health worker would have revealed that Lyji was psychotic and required in-patient treatment on 28 March 2010.

In Dr Powell's view, even if the psychologist had considered Lyji's calm appearance was the result of the medications given when he was in the ED, in-patient treatment was still indicated as the medications would not have prevented a relapse in his symptoms and a further deterioration of his condition.

She also thought if Lyji had refused to accept that he required in-patient treatment despite the encouragement of his stepfather, whose assistance should have been enlisted, he was sufficiently mentally unwell to have satisfied the criteria for an ITO.

I conclude the psychologist made a serious error of judgment when he decided Mr Vaggs did not need in-patient treatment on 28 March. I am satisfied that improved training and changes to assessment procedures and documentation, that I will detail below, will reduce the likelihood of similar errors occurring in future.

## *Review by a psychiatrist*

The independent expert psychiatrists who assisted the inquest considered that when Lyji was not admitted on 28 March 2010, he needed to be examined by a psychiatrist on 29 March 2010. And indeed part of the management plan for Lyji was that he be reviewed by a psychiatrist "*ASAP*". The psychologist who made that plan said in evidence it was his expectation the psychiatric assessment would be undertaken on 29 March 2010.

Dr Powell said Lyji's case ought to have been reviewed at the CATT morning meeting on 29 March 2010. For reasons which are not clear, this did not occur. Dr Lawrence considered the psychologist did not take adequate steps to arrange this assessment. She considered the handover should have included a telephone call to the CATT team to reinforce the need for the urgent assessment. However, even when the nurse who assumed responsibility of Lyji's case became aware of the recommendation on or about 30 March she took no steps to arrange a review by a psychiatrist.

The consultant psychiatrist in charge of the CATT could not explain why Lyji's case was not brought to her attention until 12 April and she agreed this was inadequate. Submissions made on behalf of the health service district appropriately acknowledge a psychiatric review should have been arranged as a matter of urgency.

It is apparent there was a failure of the CATT's case management system that resulted in Mr Vaggs not being seen by a psychiatrist between 28 March, when the ED doctor assessed him as needing immediate admission, and the in-take psychologist concluding he needed urgent psychiatric review and his fatal collapse over two weeks later.

Submissions made on behalf of Queensland Health detail changes to communication between the various units within the Townsville Health Service District and case management procedures which are designed to remedy the shortcoming which contributed to this failure.

## *Decision not to admit on 12 April*

As detailed earlier, on the morning of 12 April 2010, Lyji was very agitated. He had been wandering the house for nights on end and had been unable to sleep. When he saw the CATT nurse at 1:00pm it is likely he was still suffering from the psychosis that had driven him to visit the Townsville ED on 28 March.

Although Lyji presented in a relatively calm manner he reported having significant difficulties sleeping and that he had required mental health treatment from the Hughenden Hospital a few days earlier. His partner told the nurses she was unable to cope with trying to manage Lyji's mental illness as well as look after their three young children.

The nurse who undertook the assessment provided only limited information to the consultant psychiatrist she discussed the case with. A weakness in information management systems meant the Hughenden Hospital records were not readily available to the CATT, although no attempt was made to access them.

As a result Lyji was only given diazepam to help him sleep and an appointment was made for an in-house assessment the following day.

Dr Powell considered that once Lyji told the nurse he had required treatment at the Hughenden Hospital, she should have telephoned the hospital to obtain further and independent information regarding Lyji's presentation and management on this occasion. She believes the content of those records would have provided further confirmation to a reasonably competent mental health clinician, that Lyji required in-patient treatment.

I am of the view the nurse misinterpreted the significance of Lyji's inability to sleep and assumed a problem with alcohol abuse which was not supported by any evidence. Regrettably, these mistakes led to the severity of Lyji's illness being underestimated. The management plan was limited to treating the symptom of insomnia but not the underlying mental illness. The fact that Lyji was presenting with his wife who was reporting she was unable to cope with him, with a story of restlessness against the background of a known diagnosis of schizophrenia should have been sufficient to have alerted the nurse to the

need for in-patient treatment. The fact it was decided to do so the next day when it seems he was no worse, supports this conclusion.

Submissions made on behalf of the health service district properly acknowledge the assessment of the need for admission was not based on all relevant information and that had it been, the proper conclusion would have been to admit Lyji for in-patient care.

Limited access to relevant information was a factor impeding the delivery of high quality care on 28 March and 12 April. It arose as a result of those assessing Lyji's needs not having ready access to records made by other QH clinicians.

This is a long standing problem that has repeatedly contributed to sub-optimal results but it is, according to QH's submissions, *"extraordinarily complex and costly*" to remedy by way of the full integration of all health records in an digital format.

As an interim measure, to ensure information gathered during ED medical reviews is available to ED mental health intake staff, a Triage Assessment Record has been developed. As I understand what is proposed, it will move with the patient.

The other similar problem that arose in this case when the CATT staff did not access the records of Lyji's Hughenden Hospital presentation is not amenable to a paper based solution. Pending the development of an integrated and comprehensive electronic medical record system, all staff should be reminded of the need to seek out such information.

## *Management of the admission on 13 April*

When the two nurses and a medical student attended his home for the scheduled mental health assessment the following morning it was decided Mr Vaggs should be admitted. He was willing to go and had his bags packed. Nurse Baxter advised Lyji and Stacey she would return to the CATT office to make arrangements for the admission. She defended her decision not to transport Lyji to hospital immediately by saying she needed to check bed availability at the AMHU. This seems inconsistent with her claim that had she concluded he needed admission the day before, bed availability would not have been an issue.

When she did return, she came alone. By this stage Lyji was reluctant to go. He repeatedly raised delusional concerns about his friend John. The nurse failed to respond in a constructive way to these concerns, allowing them to fester.

Dr Lawrence explained that addressing Lyji's concerns *"would be the first thing to do".* Dr Powell gave evidence she would have expected the nurse to have attempted to verbally de-escalate the situation. She gave evidence that "*it's important to actually talk to them and try and understand what's going on*

*for them and look at ways of actually addressing their fear, their worry, their concern, their anger or whatever their emotion is…"*

On arrival at the hospital, the management of the situation did not improve. Dr Lawrence explained that Lyji is likely to have viewed the approaches in the car park as threatening. Dr Powell thought Lyji would have found the attempts by multiple persons to engage with him to have been confusing.

As the situation continued to deteriorate and the security officers were called to forcibly take Mr Vaggs into the AMHU, Ms Somerville was present at the hospital some three minutes away. The nurse who had brought him to the AMHU was aware of this and made no attempts to contact her or to even to talk with Lyji and explain to him that Ms Somerville was not far away and she could come over and see him. His partner and mother both believe this would have helped. Drs Lawrence and Powell were also of the view the presence of his partner may have calmed the increasingly agitated patient.

## *Managing the restraint*

HSO Gleeson gave evidence there were at least 15 people present for the restraint and the scene was *"confused and crowded".* Nurse Taylor explained there was no one nurse providing leadership in the management of the restraint.

A nurse was notionally the head of the response team for that shift but there is scant evidence she took much control. I readily acknowledge her capacity to do so was impeded by the involvement of the junior doctors and the security officers over whom she had no line control in circumstances where the protocol made no provision for the response team to give directions to staff members from other disciplines.

One of the nurses gave evidence that the leadership of the incident devolved by default to the intern, Dr Cescon. It is obvious he had no relevant experience and limited ability to assume such a role.

The lack of leadership was identified in the root cause analysis as one of the shortcomings in the response of the staff to the incident and submissions made on behalf of the health service district acknowledge this. I accept the submission it was an extreme event that placed great demands on all involved and was frightening for some of the younger, less experienced members involved.

I also accept that at different times a nurse and a HSO made efforts to monitor Lyji's airway and were alert to the risk of that being obstructed by clothing or his position.

Since Lyji's death a Behavioural Emergency Management training program has been developed and is in the process of being delivered to all staff in the health service district. A procedure which details duress responses to aggressive mental health patients has been reviewed and the allocation of

roles re-enforced - the senior nurse is designated the default leader of the restraint, a situation not displaced merely by the presence of medical staff.

I am aware for the last five years Queensland Health has participated in a national project aimed at reducing the incidence of restraint and seclusion in mental heath settings. As a result a restraint and seclusion checklist has been developed. It is apparently designed to maintain awareness of staff of the risks of ongoing restraint. It is augmented by an early warning system designed to alert staff involved in a restraint to the signs the patient is deteriorating.

The Townsville Health Service District has also implemented and modified a program developed at the Canberra Hospital that seeks to manage behavioural emergencies more safely.

It is hoped these initiatives will reduce the likelihood of restraint deaths.

## *Use of drugs*

I have found the intern who first interacted with Mr Vaggs in the foyer authorised the two doses of Olanzepine which were given to Mr Vaggs soon after the restraint commenced and 10 minutes later respectively. The use of successive doses in such quick succession was clearly contrary to the written instructions contained in the Resident Medical Officers' Handbook which the doctor said he had read and understood. Those guidelines provide a second dose should not be given for two hours.

However, when critiquing the performance of the intern it is essential to have regard to:

- his lack of training and experience;
- the absence of any assistance from more senior practitioners;
- the inability of the HSOs to gain control of the situation;
- the lack of leadership from the nursing staff involved in the restraint; and
- his recognition that the danger to the patient increased the longer the restraint continued.

The effect of the independent expert evidence was that if further drugs were to be administered to Lyji after the two doses of Olanzapine, it was appropriate for Dr Hartman to have recommended the Midazolam. However, I am firmly of the view no further drugs were needed as it is apparent Lyji had already been handcuffed. Submissions about the difficulty that may have been encountered in moving Lyji to the PICU after he was handcuffed when there were four HSOs and four police present over-estimate the extent of the challenges likely to have been encountered in my view.

I am concerned that Dr Hartman would order a drug known to be associated with the depression of respiration without fully ascertaining the prevailing circumstances, although I accept communication was difficult in the chaotic circumstances.

The rapid sedation of psychotic patients is an issue Queensland Health has grappled with for many years. As the opinion evidence in this sad case shows, there continues to be a divergence of views among the relevant experts as to which drugs, doses and sequences are most appropriate. The senior clinicians at Queensland Health are best placed to determine these issues. Their greater challenge is ensuring compliance among their junior doctors. Yet another strategy aimed at increasing observance of the guidelines has been implemented since this death: all staff are now issued laminated cards printed with the guidelines that are attached to their lanyards. There is little further I can say to advance the issue.

## *Handcuffs*

The HSOs involved in the restraint were aware there were handcuffs in their supervisor's office. They sought and were denied permission to use them on the basis of the then existing hospital policy.

Physical restraints such as handcuffs almost certainly would have enabled those involved in restraining Mr Vaggs to more quickly move him to the PICU, reducing the time he was held in a dangerous position; limiting the duration of the violent struggle; and obviating the administration of repeated doses of psychotropic drugs.

In an inquest into a death that occurred in similar circumstances in 2003, the then director of mental health expressed disdain for the suggestion that physical restraints might be needed in mental health facilities. He assured the court that increased training would equip mental health workers to manage angry and/or psychotic patients with minimal physical force. Mr Vaggs' death makes plain he was overly optimistic.

Queensland Health now accepts the use of mechanical restraints is appropriate in some cases and this is expressly authorised by recent amendments to the Mental Heath Act. Their use will be governed by policies and training that seeks to ensure they are only used in appropriate cases and with appropriate safeguards. The focus on reducing the need for restraint and seclusion will continue and the effectiveness of this will be made easy to measure by the requirement that all incidents be entered on CIMHA.

I am satisfied the policies outlined in the statement of Dr Gilhotra, the senior advisor in psychiatry to the Mental Health, Alcohol and Other Drugs Directorate, evidence the department is pursuing an appropriate balance between an effective physical response to emergencies and the rights of patients to be respected and protected from excessive force. However, I query whether that balance has been achieved.

The amendments to the Mental Health Act provide the Director of Mental Health must approve all mechanical restraints. I understand he has limited such approval to the use of soft wrist cuffs that are linked to a waist band. I am concerned about the practicality of using such restraints in a situation such as that investigated at this inquest. Flexible, plastic handcuffs pose

minimal safety risks when used by appropriately trained staff. Training courses are readily available. Such restraints would be far easier to use in violent and dynamic restraints and, in my view, they are likely to be more effective than the wrist and waist bands. I am concerned that an understandable reluctance to use law enforcement like equipment in a therapeutic setting may have distorted the assessment of the most appropriate equipment.

### Recommendation 1 – Review of approved restraints

*I recommend the Director of Mental Health give further consideration to whether flexible plastic wrist ties or hinged handcuffs should be approved for use in restraining violent mental health patients.*

## *Supervision*

The Townsville AMHU is a level 5 acute in-patient mental health service which is supposed to provide 24 hour access to and treatment by a specialist psychiatrist. That was not available when Lyji sought to be admitted and he and the junior doctors present suffered as a result.

The very junior and inexperienced medical residents required the advice and counsel of a consultant psychiatrist. There was not even a psychiatric registrar present in the AMHU to provide this. The director of the unit and the other consultant were both out of town conducting clinics in regional centres and repeated attempts to contact them via telephone were unsuccessful.

The Root Cause Analysis suggested this had not been an isolated case of such lack of support. This was clearly a significant failure of management that even at the inquest the director seemed reluctant to concede.

Nevertheless, I am satisfied it has been addressed by changes that have occurred since Lyji's death. The number of consultant psychiatrists employed by the AMHU has been increased and responsibility for outreach services has been transferred to a separate team with a dedicated consultant. It is anticipated extra training places for psychiatric registrars will augment these improvements. Changes have also been made to on-call arrangements. If these changes are satisfactorily implemented there should in future be adequate assistance for and supervision of junior doctor in the AMHU.

## *Resuscitation*

Dr Walters raised concerns about the quality of the resuscitation provided to Lyji. In his view, as the arrest was witnessed by nursing and medical staff and occurred in a hospital, it would have been reasonable to expect the quality of the cardio-pulmonary resuscitation would have been sufficiently high to have prevented hypoxic brain injury of the extent suffered in this case.

The various staff members involved in the restraint recited all of the steps they say they promptly took, which seem to be in-line with appropriate practice. However it is not possible to know when the hypoxia actually commenced, nor

when Lyji actually became unconscious. We have only eyewitness evidence that has been shown to be unreliable in other aspects.

It is also impossible for me to tell whether the unexpectedly poor outcome was a result of their failing to undertake these tasks effectively because of their distress and panic, or simply an example of the unpredictable variations in responses that can occur with any emergency procedure.

This was a complex situation with multiple cardio-respiratory insults that resulted in a multifactorial cardiac arrest, not a simple ischaemic event with sudden ventricular fibrillation that might be expected to rapidly respond to one or two defibrillations

It is likely prolonged resuscitation was necessary because so many differing factors were involved and the delay in the return of spontaneous circulation is unlikely to have had any direct correlation with the quality of the CPR delivered.

It is important to remember that the in-hospital CPR survival rates for in-patients are quite low. I therefore make no findings adverse to those involved in this incident.

Further, I am advised the health service district has sought to increase the expertise of its resuscitation teams through a local skills unit.

### *Indigenous mental health workers*

Ms Lampton suggested the presence of an indigenous mental health worker may have assisted to make Lyji feel safer. I accept that and agree had such a person accompanied Nurse Baxter when she went to collect Lyji, he may have remained more calm when they arrived at the hospital. However, once his psychosis and agitation escalated it is unlikely the presence of an indigenous staff member would have made much difference.

The health service district accepts that Aboriginal and Torres Strait Islander mental health workers could make an important contribution to the delivery of its services, but it has struggled to recruit a sufficient number of suitably qualified people.

A single Indigenous Mental Health Worker was employed by the district at the time of Lyji's death but he was only involved in a limited number of cases. That is no longer the position.

The model of care provided by indigenous mental health workers has been reviewed since this death. They are now involved in all parts of the IMHS including the AMHU and Acute Care Team (ACT), as the CATT is now called. Further, an ongoing process of training for all staff in their use has been initiated.

Since Lyji's death, a full-time indigenous mental health worker has been appointed to the staff of the AMHU and the ACT respectively.

## Conclusions

In critiquing the actions of those involved in responding to Lyji's mental illness, I readily acknowledge there is no evidence of any callous disregard for his condition or its impact on his family. While I have concluded that mistakes were made and systems failed, I don't suggest any of the numerous health care professionals involved in his assessment and treatment failed to have proper regard for his welfare. I also acknowledge many of them have suffered remorse and regret that they were not able to contribute to a better outcome.

Nevertheless, it remains the case had better decisions been made on a number of occasions, it is likely Lyji would have received in-patient care before the fatal incident occurred or the restraint may have been truncated. In particular:-

- He should have been admitted on 28 March;
- When he wasn't, his case should have been reviewed by a multi-disciplinary team the next day;
- He should have been seen promptly by a psychiatrist;
- He should have been admitted on 12 April;
- His admission on 13 April should have been better managed; and
- When physical restraint was prolonged and rapid sedation became necessary, a psychiatrist should have been available to supervise and advise the junior doctors involved.

These missed opportunities culminated in Lyji Vaggs' death. Nothing I or the mental health care staff involved can do or say will ameliorate the loss of a dearly loved son; a father; a partner; a brother. I offer the family my sincere condolences.

It is also appropriate to acknowledge the extensive review of the incident undertaken by the Townsville Health Service District and the comprehensive reforms to policies, procedures and training across the many areas of operation that were drawn into focus by the review. I hope the knowledge that these changes will lessen the likelihood of deaths occurring in similar circumstances in future gives Lyji's family some comfort.

I close this inquest.

Michael Barnes
State Coroner
Brisbane
21 February 2012

**Counsel Assisting's submissions re impact of drugs**

*Suddenness of collapse*

114. The estimates between when Lyji went silent and/or ceased resisting against the restraint and when he was observed to be not breathing varied from between seconds to approximately two minutes.[2] Drs Gordon and Page and Professor Seale opined that the sedative effects of the medications are observed in patients gradually losing consciousness over some 30 to 40 minutes, rather than the sudden sort of collapse that was witnessed here.[3]

115. The experts all agreed that the typical observations made when people suffer from cardio-respiratory depression after the administration of sedative medications is an orderly decline in the patient's vital observations, including the level of consciousness, respiratory rate and heart rate. Having said this, there are three cogent reasons why the various witness accounts of a relatively sudden collapse do not assist in determining whether the Olanzapine and Midazolam contributed to Lyji's arrest.

116. First, there is a significant subset of patients where there is a precipitous decline and not the sort of orderly decline described above.[4]

117. Second, significant caution should be exercised in placing too much weight on the various witness accounts. This was a very chaotic, stressful and highly charged environment. There was no monitoring of Lyji's respiratory rate, pulse, blood pressure or oxygen saturation levels. Professor Seale accepted that Lyji's positioning while restrained was not ideal for observing the progressive onset of sedation.[5]

118. Third, it is entirely plausible that Lyji may have been gradually losing consciousness prior to it being noticed that he was not breathing. Dr Walters explained that Lyji's demeanour and behaviour in the minutes leading up to it being identified that he was not breathing may be explained by the fact that he was becoming progressively hypoxic and under perfused. It is well known that people can become aggressive and agitated when their blood pressure and oxygen levels are low.[6] Dr Gordon gave evidence that hypoxia produces a set of responses similar to the various witnesses'

---

[2] T3.71, 73; T5.63; T5.73-74; T5.83; T6.17; T6.28; T6.40-41; T6.65; T.6.73
[3] T10.26, T10.60
[4] T10.107
[5] T10.60
[6] T10.15

observations of Lyji leading up to his arrest.[7] Some further support for this is the incontinence which Drs Walters, Page and Gordon considered was a hallmark of cardio-respiratory compromise.[8]

*Insufficient time for Midazolam to have had effect*

119. There were differences in the expert opinions as to whether the time period between the administration of the Midazolam and Lyji's collapse would have been sufficient for the Midazolam to have had any sedative effects on Lyji. The dose of Midazolam given to Lyji was standard. The evidence established that it was administered approximately three to five minutes prior to it being noticed that Lyji had collapsed.

120. Those experts who thought the time period would have been insufficient were influenced by two factors, namely that the concentration of Midazolam found in the ante-mortem sample was relatively low and further, the official MIMS product information for Midazolam provides that the medium onset for Midazolam is 15 minutes, peaking at somewhere between 30 and 60 minutes.

121. The toxicology results in so far as they relate to the level of Midazolam measured in the sample of blood taken at 5.27pm do not enable a conclusion to be drawn that the Midazolam is unlikely to have had a sedative effect by the time Lyji arrested.[9] The level of Midazolam in Lyji's blood would have been higher at the time of collapse, than the level measured in the ante-mortem blood sample. Professor Seale explained that the half life of Midazolam is only one to three hours, which means that the concentration of the drug gets halved every one to three hours. Dr Kubler gave evidence that the original studies suggest that the half life for Midazolam is in fact closer to an hour and as short as 40 to 45 minutes in young males.[10] This is not insignificant given that Lyji collapsed somewhere between one and a half to one and three quarters of an hour before the blood samples were taken.

122. A complicating factor in the determination of this issue is that there can be a difference between the concentration of the drug in the blood and the observable effect of the drug on the patient. This is known as the pharmacokinetic effect of the drug versus the pharmacodynamic effect of the drug.[11] Therefore even if the level of the drug in the blood at the time Lyji collapsed could be determined, it would not be possible to extrapolate from this level the sedative effects on the patient.[12]

---

[7] T10.51
[8] T10.20, T10.50, T10.72
[9] T10.61, T10.62
[10] T10.103
[11] T10.57
[12] T10.61-62

123. What is known is that there is considerable inter individual variability between the onset of sedation with Midazolam. Such is the extent of the variability that the Queensland Health Pathology Service does not report a therapeutic range.[13] The Australian Medical Handbook suggests that an effect will be observed within 10 minutes. Dr Walters explained there are studies which have been published in the Academic Medical Journal in 2007 which show that the onset of the sedative effects of Midazolam is apparent as soon as four minutes following administration.[14] Dr Kubler referred to the original studies which demonstrate that the onset of sedation following the administration of Midazolam can occur in some individuals as early as two minutes and in other individuals as late as 30 minutes. The Therapeutic Guidelines for the Management of Acute Sedation recommend that Midazolam should not be administered any more frequently than at three to four minute intervals. It would seem reasonable to infer from this that a sedative effect can generally be observed within this timeframe.[15]

124. In short it cannot be said that there was insufficient time between the administration of the Midazolam and Lyji's collapse for the Midazolam to have commenced having a sedative effect on Lyji.

*Inadequacy of doses of medications*

125. There were a number of issues raised which call into question whether the time period between the administration of the two doses of Olanzapine and Lyji's collapse would have been sufficient for the Olanzapine to have had any sedative effects on Lyji.

126. One fact relied on by Drs Gordon and Page and Professor Seale in this regard was the fact that the toxicology results showed that the concentration of the drugs in the ante-mortem blood samples were below the toxic range.

127. Professor Seale calculated the concentration of Olanzapine to be 60 micrograms per litre and Dr Kubler calculated it to be slightly higher at 68 micrograms per litre. Regardless of which calculation is adopted, the concentration was above the therapeutic range of 20 to 50 micrograms per litre but was less than the toxic range relied on by Professor Seale of 200 micrograms per litre or greater. This sample was taken somewhere between one and a half to one and three quarter hours after Lyji was noticed to have collapsed. The concentration would have been greater at the time Lyji collapsed. Dr Kubler estimated that it is likely to have been in the high 70s.

---

[13] T10.103
[14] T10.10-11
[15] T10.99

128. The fact that the level of Olanzapine in Lyji's blood at the time he collapsed would in all likelihood have been lower than the toxic range is irrelevant to determining whether the Olanzapine is likely to have had a sedative effect on him. Dr Kubler explained that whilst a level within the toxic range enables a conclusion to be drawn that the offending drug contributed to a patient's death, the converse does not apply. This is because any level below the toxic range is a matter of interpretation and does not provide a predictive value because there are variable responses between individuals. Further, Dr Kubler explained there is no set level for determining toxicity. For example there is some literature that defines a toxic range for Olanzapine to be only 100 micrograms per kilogram or greater.[16]

129. Dr Page was doubtful that the Olanzapine would have had any observable effect on Lyji. This is because the literature suggests that it is a mild sedating anti-psychotic of slow onset. He explained that nearly all studies used their first assessment for Olanzapine's effect in sedating or calming the patient by scoring the patient's sedation score no early than an hour after its administration. One study assessed patients at the 30 minute mark and found that in patients with schizophrenia and other mental illness, effectiveness in sedating or calming the patient was only of the order of 30-45% effective. Many of the studies show maximal effect of the drug at two hours. Dr Page gave evidence that his personal experience in the use of Olanzapine supports the findings in the literature in that he has found it to be unhelpful where rapid control of agitation has been required.[17]

130. Another reason why Dr Page was skeptical to conclude that the Olanzapine would have started to affect Lyji at the time of his collapse is because of the various witnesses' accounts of it having had no observable effect. However, in cross-examination Dr Page accepted that it would have been very difficult to discern whether the Olanzapine had any effect on Lyji, because not only was he being restrained in an uncontrolled environment but his sedation was being managed by inexperienced doctors.[18]

131. Dr Kubler observed that the second dose of Olanzapine was probably administered before the first dose would have reached its peak effect.[19] He also explained that the extreme level of hyperactivity that Lyji was exhibiting while being restrained, is likely to have resulted in an increased blood flow to the muscles that he was actively moving and a massaging effect in these muscles, which may have expedited the absorption of the drug.[20] He considered that the

[16] T10.101
[17] T10.75
[18] T10.82
[19] T10.104
[20] T10.101

timing of the administration of the first and second doses of Olanzapine, together with the drug level measured in the blood sample taken at 5.27pm were consistent with them having had a sedative affect at the time Lyji collapsed.

132. In Dr Page's experience obese patients with extreme behavioural agitation and a history of use of anti-psychotics and antidepressants, combined with a history of illicit drug use tend to require larger doses of medication to sedate them than what was administered to Lyji.[21]

133. Dr Kubler explained that a person's body weight is only a minor determinant of the dose to be administered as evidenced by the fact that the recommended doses are not on the basis of X milligrams per kilogram.[22] Further he gave evidence that it is not possible to develop a tolerance to Olanzapine or any other anti-psychotic drugs and that illicit drug use is not known to make a patient tolerant to Midazolam.[23]

134. Professor Seale and Dr Kubler opined that the concentration of the Olanzapine in the ante-mortem blood sample indicated it had been absorbed.[24] Dr Kubler thought this level was suggestive of a significant exposure.[25] Further, the synergestic effect between Olanzapine and Midazolam cannot be ignored. For the reasons detailed above, there was sufficient time for the Midazolam to have taken effect and this was against a background of Lyji having been administered two standard doses of Olanzapine within a relatively short period of time prior to this, with the first dose having been administered some thirty minutes prior to Lyji arresting.

*No previous adverse effects*

135. The medical records suggest that on 18 January 2007, Lyji was administered 10mg of oral Olanzapine together with 10 mg of oral Diazepam. On 28 March 2010, he was administered 15 mg of oral Diazepam and 10mg of Olanzapine. It is not known whether the Olanzapine was administered orally or intramuscularly. Drs Gordon and Page and Professor Seale opined that the administration of these previous medications as documented in the respective medical records enabled a conclusion to be drawn that prior to the restraint Lyji had tolerated these medications without any unusual or idiosyncratic reaction to them.[26]

---

[21] T10.69
[22] T10.105
[23] T10.106
[24] T10.62
[25] T10.102
[26] T10.58

136. However, such a conclusion is not open on the evidence because there is not sufficient detail in the relevant records to enable a determination to be made as to Lyji's reactions to these medications.[27]

137. Further, even if it could be established that Lyji did not have any previous allergic type reaction to these medications, this is irrelevant to a consideration of whether the medications had a sedative effect on Lyji at the time of his collapse.[28] Dr Kubler gave evidence that Lyji's past exposure to these drugs provided him with no reassurance about the effect of the drugs administered to Lyji while restrained. He noted the route of administration on the earlier occasions had been oral and not intramuscular, the dose of the Olanzapine on the earlier occasions had only been half and Lyji is unlikely to have been as physically compromised on either of the two earlier occasions.

138. In short the fact that Lyji had taken Olanzapine and Diazepam on these two previous occasions is of no assistance to a determination of the contribution, if any, of the medications to Lyji's arrest.

*Medications not administered into muscle*

139. Dr Gordon raised the possibility that given that Lyji was obese, the medications were administered into the fat overlying the muscle and not the muscle in Lyji's buttocks, with the consequence that the drugs were not absorbed. However, Professor Seale and Dr Kubler were satisfied that the levels of the respective medications measured in the ante-mortem blood samples were consistent with the drugs having been absorbed.[29]

[27] T10.39-40
[28] T10.101
[29] T10.63, T10.102