QUEENSLAND COURTS

OFFICE OF THE STATE CORONER

FINDINGS OF INQUEST

CITATION:	**Inquest into the death of John Michael Spence**
TITLE OF COURT:	Coroners Court
JURISDICTION:	Rockhampton
FILE NO(s):	COR 2013/3192
DELIVERED ON:	4 November 2015
DELIVERED AT:	Rockhampton
HEARING DATE(s):	6 August 2015; 2–3 November 2015
FINDINGS OF:	Mr Terry Ryan, State Coroner
CATCHWORDS:	CORONERS: Death in custody, coronary atherosclerosis, seizures, high caffeine levels, adequacy of observations and response to Code Blue in prison.

REPRESENTATION:

Counsel Assisting:	Miss Emily Cooper
Central Queensland Hospital and Health Service:	Mr Matthew Hickey (Instructed by Minter Ellison)
Queensland Corrective Services:	Ms Ulrike Fortescue (DJAG – Queensland Corrective Services)

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Introduction

1. On 4 September 2013, John Spence, aged 51 years, was being temporarily accommodated at the Health Centre at the Capricornia Correctional Centre (CCC). He had returned to CCC at around noon that day after being held at the Rockhampton watch house for five days following a court appearance.

2. At 5:25pm, a Code Blue was called when Mr Spence had difficulty walking when being escorted to the Health Centre. He was taken by stretcher to the Health Centre and suffered a seizure 15 minutes later. He was noted to be behaving bizarrely, jumping around and dancing. However, he recovered and at 5:50pm he was noted to be alert. He did not voice any concerns to medical staff.

3. At 7:50pm, a nurse proceeded from the Health Centre to secure units on a medication round. When he returned to the Health Centre at 8:20 pm his attention was drawn to Mr Spence, who was found to have no respiratory movement, his pupils were fixed and dilated, he was cool to touch and there was no pulse. Resuscitation was commenced but was unsuccessful. Mr Spence was subsequently declared deceased.

4. These findings:

   - confirm the identity of the deceased person, how he died, and the time, place and medical cause of his death;

   - consider whether any third party contributed to his death;

   - consider the adequacy of the response to the Code Blue which occurred earlier on the evening of the death; and

   - consider the adequacy of the monitoring of the deceased in the Health Centre on the evening of the death.

The investigation

5. An investigation into the circumstances leading to Mr Spence's death was conducted by Detective Sergeant Steve Carr from the Queensland Police Service (QPS) Corrective Services Investigation Unit (CSIU).

6. After notice of Mr Spence's death was received, the CSIU attended CCC and commenced the investigation. Photographs were taken of the scene. The investigators obtained Mr Spence's correctional records and his medical files from both CCC and the Rockhampton Base Hospital (RBH). The investigation was informed by enquiries of Mr Spence's fellow inmates at CCC, and statements from all relevant custodial and medical officers at CCC, and medical staff from the RBH. These statements and interviews were tendered at the inquest.

7. A full internal autopsy examination was conducted by Dr Nigel Buxton. Further photographs were taken during this examination.

8. At the request of the Office of the State Coroner, the Clinical Forensic Medicine Unit (CFMU) provided an overall review of the medical care provided to Mr Spence while he was in custody. I was also assisted by two expert reviews:

   - A review of the autopsy results by Dr Linda Iles, Specialist Forensic Pathologist at the Victorian Institute of Forensic Medicine; and
   - A review of the toxicology results, conducted by Dr Michael Robertson, Forensic Toxicologist.

9. I am satisfied that the investigation was thoroughly and professionally conducted and that all relevant material was accessed.

The Inquest

10. An inquest was held in Rockhampton from 2–3 November 2015. All of the statements, records of interview, medical records, photographs and materials gathered during the investigation were tendered at the inquest. Counsel assisting, Miss Cooper, proposed that all evidence be tendered and that oral evidence be heard from the following witnesses:

    1. Detective Sergeant Steve Carr
    2. Dr Nigel Buxton
    3. Dr Natalie MacCormick
    4. Dr Linda Iles
    5. Dr Michael Robertson
    6. Donna Finegan
    7. Justin Nehring
    8. Darren Holzberger
    9. Alan Wentworth

11. I consider that the evidence tendered in addition to the oral evidence from these witnesses was sufficient for me to make the requisite findings.

The evidence

Personal circumstances and correctional history

12. Prior to his incarceration on 9 August 2013, Mr Spence had been staying at the 'Michael Hayes Diversionary Centre' in Rockhampton. This is a government funded emergency accommodation centre. Mr Spence was a single man who was generally homeless and had frequent interactions with the QPS and the Queensland Ambulance Service in Rockhampton.

13. When he died, investigating police spoke with his former wife, Ms Ronwyn Spence, who was nominated as his next-of-kin. Ms Spence informed police that she had not had any contact with Mr Spence for 18 years. It appears that Mr Spence was also estranged from his four children and his

grandchildren. Isolation from his family was something that he often spoke to RBH staff about when he presented at the Emergency Department. He regularly spoke about suicide but had no concrete plans. There was no evidence that he was suicidal at the time of his death.

14. Of note, Mr Spence's criminal history only commenced in 2012. This related to minor public nuisance type offences (stemming from alcohol abuse), breaches of court orders and being obstructive towards police and ambulance officers. His incarceration at the CCC from 9 August 2013 was the first time he had been detained in a prison.

Medical history

15. Mr Spence had very poor health. He had a history of alcoholism, complicated by seizures in the setting of alcohol intoxication and withdrawal, malnutrition and poor self-care. Further, he had documented hyponatraemia, gastro-oesophageal reflux disease, hiatus hernia, previous perforated sigmoid diverticulum and a previous right humeral fracture.

16. Mr Spence's history of a seizure disorder had been investigated by MRI scan and numerous CT scans. However, this had not apparently been assessed by a neurologist or investigated with EEG studies. An MRI scan of Mr Spence's brain in 2010 demonstrated an 11 x 7 mm right occipital astrocytoma and a 6 x 7 mm third ventricular colloid cyst. A CT scan of his brain reported on 8 August 2013 demonstrated a colloid cyst with the third ventricle (with no obstructive features documented) and calcification in the right occipital cortex, possibly related to a vascular malformation.

17. Mr Spence had frequent presentations to the Emergency Department of the RBH following seizures, however few of the seizures were witnessed. As a consequence, numerous CT scans of his brain were performed.

18. While at the CCC, Mr Spence also had a number of unwitnessed seizure type episodes. It was not clear, on the limited history available, whether these represented pseudo-seizures, true seizure activity, or a combination of both.

19. Mr Spence was prescribed Epilim for his seizure disorder and based on his Offender Health Service medical record, this was dispensed as prescribed in the days leading up to Mr Spence's death.

Events leading to death

20. Mr Spence had been on remand at CCC since 9 August 2013, having appeared in the Rockhampton Magistrates Court the day before with respect to breaches of bail and various public order offences. On 29 August 2013 he re-appeared in the Rockhampton Magistrates Court and was transferred back to CCC on 3 September 2013, the day before his death.

21. When he first arrived at CCC on 9 August 2013, Mr Spence told correctional staff that he had a brain tumour and had been having epileptic fits for the previous two years. He disclosed that he drank alcohol every day, when

he could afford it. Blood tests were conducted. Later that afternoon, Mr Spence reported to correctional staff that he had suffered two fits. He was transferred to the RBH via the Queensland Ambulance Service for treatment. Mr Spence was already well known to the RBH, having previously presented on multiple occasions with seizures, mostly associated with intoxication.

22. At the RBH, full bloods were taken and a CT head scan was conducted. Essentially all results were normal except for an old, unchanged colloid cyst in his brain. The hospital advised the CCC that Mr Spence was well known to the Emergency Department and they would be happy to assist with any treatment he required. Mr Spence was returned to the Health Centre at CCC, but soon had another incident where he was found slumped on his bed and twitching. He remained in the Health Centre until 16 August 2013, at which time he was returned to his secure unit block (S5).

23. On 21 August 2013, a Code Blue was called after Mr Spence contacted Master Control to say he was having a fit. He was able to be stabilised. Two days later, on 23 August 2013, a further Code Blue was called after another fit. He was taken to the Health Centre, medically reviewed, and returned to his secure unit block the following day. Mr Spence had told staff that he did not want to return to the unit block as the bed in the Health Centre was more comfortable and 'wasn't forgotten there.' Another Code Blue was called later that day, and he was returned to the Health Centre. He was assessed to be well enough to return to the unit block and was eventually transferred back there that afternoon.

24. On 29 August 2013, Mr Spence was transferred to the Rockhampton watch house for a hearing of his charges. He remained in the watch house until 3 September 2013. When he returned to CCC at about 9:30am he had a seizure and was taken to the Health Centre for observation. At 2:15pm, Mr Spence buzzed the nurse to say he was about to fit, and he was found by the nurse lying on the floor and unconscious. He was returned to his bed and given paracetamol.

25. On 4 September 2013, he was returned to the unit block at midday. He had complained of a headache and was given Panadol. He was told to use the intercom system if he needed assistance. At 5:25pm, a Code Blue was called when Mr Spence had difficulty walking when being escorted to the Health Centre. He was taken by stretcher to the Health Centre.

26. At 5:40pm, 15 minutes after the first Code Blue, Mr Spence suffered another 'pseudo-seizure' episode and was described to be behaving bizarrely, jumping and dancing around. He recovered, and at 5:50pm a clinical nurse, Justin Nehring, saw Mr Spence in the Health Centre. Nurse Nehring noted Mr Spence was looking around and was alert. When he asked Mr Spence if he had any concerns he did not voice any.

27. Nurse Nehring left the Health Centre to conduct the medication round at 7:50pm. He returned to the Health Centre with other correctional staff at

8:20pm, 2 hours and 20 minutes after Mr Spence was last directly observed. Nurse Nehring went to see another prisoner in the Health Centre who had just returned from hospital after surgery, and while speaking with this prisoner, a correctional services officer called him to attend to Mr Spence immediately.

28. Nurse Nehring found that Mr Spence had no respiratory movement, his pupils were fixed and dilated, he was cool to touch and there was no pulse. There was dark brown/black vomit around his mouth but Nurse Nehring did not notice anything peculiar about this. CPR was commenced; however, he was unable to be resuscitated and was pronounced deceased.

Autopsy results

29. A full internal examination with associated X-rays and a review of the clinical chart was conducted by experienced forensic pathologist Dr Nigel Buxton 5 days after the death, on 9 September 2013. Dr Buxton's autopsy report was tendered at the inquest together with some explanatory emails. I also heard oral evidence from him.

30. Internal examination showed that the coronary arteries had moderate to severe atherosclerosis, with the most severely affected area being in the anterior descending branch of the left coronary artery with 90% calcific eccentric atherosclerosis. The remaining vessels showed between 60–80% eccentric atherosclerosis with focal calcification. Dr Buxton stated that there was no evidence of any thrombus, which would have broken down by the time of autopsy. There were also no gastric contents or packages in the bowel.

31. The aorta was left sided, the thoracic portion was unremarkable and there was a moderate degree of atherosclerosis affecting the abdominal portion. Histology testing confirmed severe coronary atherosclerosis in the coronary arteries.

32. Toxicology testing revealed Valproic acid and other drugs which were unremarkable. However, caffeine was detected at a level of 64mg/kg. Given this unusual result, I requested that the level be re-tested to ensure there was not an anomaly of some kind. After re-testing was carried out, the original result was confirmed.

33. Dr Buxton opined that the death was as a result of coronary artery occlusion as a result of severe coronary artery atheroma. He noted the caffeine level to be high but considered that it was below the level usually associated with fatalities (a level of 80mg/kg). Dr Buxton confirmed that caffeine acts to constrict blood vessels and also as a cardiac stimulant. The induced increased cardiac workload may have contributed to the death by increasing the demand for oxygen by increased cardiac activity, which ultimately the narrowed vessels were unable to provide.

34. Dr Buxton confirmed the formal cause of death in his autopsy report as being from coronary artery occlusion due to or as a consequence of coronary artery atheroma.

35. During the course of my investigation, I asked that Dr Buxton provide a response to various questions raised by Dr MacCormick. One such question was whether the caffeine levels should be added to the formal cause of death as a contributing factor. Dr Buxton responded that 90% occlusion of the coronary arteries was more than sufficient to cause death without any other contributing factors. There was evidence of myocardial scarring indicative of previous ischaemic damage to the heart. The caffeine levels were elevated, and although this may have contributed to death, it was difficult to definitively prove.

36. Dr Buxton explained that cardiac stimulation following caffeine consumption was well known, and may lead to increased oxygen demand by the myocardium. That demand may, or may not, be met by the diseased arteries. He was ultimately comfortable with the cause of death as articulated within his report. He explained that he had not added the caffeine levels as a contributory factor, as its role could not be proven. However, at the inquest he indicated that he was comfortable for caffeine use to be listed as a factor that had contributed to the cause of death.

Expert review of autopsy

37. Dr Linda Iles is a specialist forensic pathologist employed by the Victorian Institute of Forensic Medicine. Dr Iles was asked to conduct a review of the autopsy findings, with a view to clarifying the cause of death in terms of the contribution of the caffeine, and also the contribution (if any) of the seizures Mr Spence was reported to have in the lead up to his death. I also heard evidence from Dr Iles at the inquest.

38. Dr Iles confirmed in her evidence a number of pertinent autopsy findings, as follows:
    - Triple vessel coronary artery atherosclerosis (on macroscopic description) with approximately 90% occlusion of the left anterior descending coronary artery by atheroma. There was no evidence of acute thrombosis;
    - Focal mild interstitial fibrosis within one section of myocardium;
    - No significant cerebral pathology identified on limited examination of the unfixed brain;
    - Non-specific chronic inflammatory changes within portal tracts within the liver without evidence of marked steatosis[1];
    - Resuscitation related rib fractures.

39. Consistent with Dr Robertson's opinion, Dr Iles confirmed it would have been useful to have the gastric contents examined to have them analysed for caffeine. I accept Dr Buxton's evidence that there were no gastric

[1] An accumulation of fat in the liver

contents to examine. Dr Iles was unable to provide an explanation as to the source of the caffeine, and ultimately deferred to Dr Robertson's opinion regarding the toxicology.

40. In formulating her opinion as to the most appropriate cause of death, Dr Iles gave evidence of a number of key observations which I have summarised below:

- The presence of severe coronary artery atherosclerosis.
- The history of a seizure disorder (albeit poorly defined) in the setting of alcohol abuse.
- Tonic clonic seizure like activity observed on CCTV footage in the hours prior to Mr Spence being found dead.
- The presence of significantly elevated concentrations of caffeine in Mr Spence's blood taken at autopsy.

41. Ultimately Dr Iles provided evidence that a reasonable cause of death was "*the combined effects of atherosclerotic cardiovascular disease and seizure activity in the setting of excessive caffeine use*."

42. Dr Iles explained why she elected to combine the key observations at autopsy in the cause of death. In her opinion, the observation of tonic clonic seizure activity prior to death (as confirmed in the CCTV footage of Mr Spence's cell in the Health Centre) was compelling. In the context of an underlying seizure disorder, Dr Iles explained that the presence of a high concentration of caffeine is of significance as caffeine is recognised to lower seizure thresholds. Dr Iles noted that Mr Spence was observed to roll over on a couple of occasions following the seizure activity, supporting the conclusion that the seizure activity observed was less likely to be cardiac in origin.

43. Ultimately, Dr Iles concluded that that the physiological stress of seizure activity and increased caffeine levels in the blood potentially precipitated a fatal cardiac event in a man with critical coronary artery stenosis.

44. I accept Dr Iles' evidence in this regard.

Other medical reviews

Dr Natalie MacCormick

45. Dr Natalie MacCormick is a Forensic Medical Officer with the Clinical Forensic Medicine Unit (CFMU). At my request, she was provided with all relevant investigation material and asked to provide an opinion as to the adequacy and appropriateness of the medical care afforded to Mr Spence while he was in custody. Her findings were peer reviewed by Dr Adam Griffin, the Director of the CFMU. Dr MacCormick's report was tendered at the inquest and I also heard oral evidence from her.

46. Dr MacCormick considered that the caffeine levels were "extremely high" and were suggestive of a very large dose of caffeine being ingested prior

to death. As it was more than one hour from Mr Spence's last opportunity to ingest the caffeine (presumed to be around the time of the Code Blue at 5:40pm), and the earliest possible time of death (inferred from his last noticeable movements on the CCTV footage at 6:48pm), it was more than likely that the peak blood concentration was higher than 64mg/kg. Dr MacCormick's evidence was that it was possible the actual caffeine level at the time of death was up to 80mg/kg, a potentially fatal level.

47. Dr MacCormick was of the view that the source of the caffeine could not be from coffee alone. She opined that one would need to drink twenty espresso coffees within a very short period, or ingest in excess of 20 NoDoz tablets (caffeine tablets) to obtain the level seen in Mr Spence. Dr MacCormick noted the potential source of the caffeine was unknown.

48. Dr MacCormick also gave evidence that, given Mr Spence's increasing history of "seizure-like" episodes in the lead up to his death, admission to hospital after the Code Blue at 5:40pm should have been considered, particularly as observations could not be carried out every half hour. Dr MacCormick confirmed that while Mr Spence's history at the RBH was lengthy in relation to seizures, at no time was he referred to a neurologist nor did he have an EEG conducted. As a consequence, a diagnosis of the specific type of seizures he suffered was never confirmed.

49. Mr Spence was, however, taking the anti-convulsant medication, Valproic acid. The levels detected at autopsy were, in Dr MacCormick's opinion, on the low end of the therapeutic scale. This may have made him more susceptible to seizure activity.

50. Overall, Dr MacCormick was of the view that Mr Spence may have suffered from a cardiac event (fatal arrthymia or ischaemia), which was likely contributed to by caffeine toxicity, seizure activity and underlying coronary artery disease. Dr MacCormick reviewed the CCTV footage of the Health Centre in the lead up to Mr Spence being found. While this footage was of poor quality, and a date stamp covered Mr Spence's image, she confirmed that there appeared to be an episode of potential seizure activity at about 5:58pm which lasted for about a minute. His last noticeable spontaneous purposeful movements occurred at 6:48pm.

Dr Michael Robertson

51. Given Dr MacCormick's evidence that it was possible the actual caffeine level at the time of death was up to 80mg/kg, and a potentially fatal level, I obtained an expert review from a forensic toxicologist. Dr Michael Robertson is a pharmacologist and forensic toxicologist with Independent Forensic Consulting.

52. Dr Robertson was asked to provide opinion as to the post-mortem distribution of caffeine levels, the rate of metabolism of caffeine, and whether the caffeine contributed to the death. Dr Robertson's report was tendered at the inquest and I also heard oral evidence from him.

53. Dr Robertson agreed with Dr MacCormick that the concentration of Valproic acid in the blood might not have been sufficient to control the seizures. Assuming that the death was not related to his seizure activity, Dr Robertson gave evidence that none of the medications detected were likely to have materially contributed to the death, either on their own or in combination.

54. Dr Robertson provided general information about caffeine including its side effects. Following the ingestion of caffeine, typical or expected effects included an improvement in alertness and reduction of fatigue. Caffeine also elevates the heart rate and may or may not alter blood pressure. Adverse effects, relevant to this inquest, can include altered mental state, headache, seizures, cardiac arrhythmias, tachycardia, ventricular fibrillation and death.

55. In terms of the concentration of caffeine in blood and plasma following its recreational use, Dr Robertson provided the following useful information:
    - Following the ingestion of 120mg, peak caffeine concentrations averaged 3.0mg/L and occurred at or about 1 hour after ingestion;
    - Following the ingestion of 500mg, the peak caffeine concentration was approximately 14mg/L.

56. Dr Robertson described cases of intentional overdose, where two adults were admitted to hospital with symptoms of central nervous system stimulation. They each had serum levels of 49mg/L and 59mg/L. Both adults were successfully treated. In cases involving death, the post-mortem blood levels were between 153mg/L and 567mg/L.

57. The concentration of caffeine detected in the three femoral vein blood samples taken from Mr Spence ranged from 64mg/L to 73mg/L. Dr Robertson gave evidence that it was likely the concentration of caffeine at the time of Mr Spence's death was equivalent to those measured in the bloods collected at autopsy.

58. Dr Robertson also gave evidence in relation to whether the caffeine concentration was at its highest at the time of death, or whether it may have been higher prior to death. He said that, following the ingestion of caffeine, the peak concentration is likely to be achieved within an hour of ingestion, and most likely within 30 minutes. The half-life of caffeine is reported to be between 3–6 hours.

59. Dr Robertson confirmed that after the Code Blue was called at 5:25pm, Mr Spence was in the presence of staff, and it was assumed that he was not able to consume caffeine. If it was assumed that Mr Spence ingested the caffeine shortly before 5:25pm, it is likely the concentrations increased following ingestion, then peaked and began falling during the hour and a half between 5:25pm and 6:50pm (the time he was last noted to be alive on CCTV footage). Dr Robertson qualified his evidence by saying that it is

likely the concentration of caffeine at 5:40pm approximated that at 6:50pm, and was also likely to have approximated the levels detected at autopsy.

60. However, if it was assumed that Mr Spence ingested the caffeine an hour or more prior to 5:25pm, it is likely that at 5:25pm the concentration of caffeine was higher than that at 6:50pm. Assuming a half-life of 3 hours, Dr Robertson opined that, in this scenario, it is possible that the concentration of caffeine at 5:25pm may have been closer to 100mg/L or indeed higher if ingestion was many hours prior to death.

61. Dr Robertson's opinion was that the concentration of caffeine in Mr Spence's blood was consistent with toxicity and, in particular, cardio-vascular stimulation. He gave evidence that, overall, it was likely that in an individual like Mr Spence (with a compromised cardio-vascular system) the caffeine at least contributed to his death insofar as it most likely added stress to his cardiovascular system that, in its absence, would not have been present.

62. Finally, Dr Robertson very helpfully gave evidence about the amount of caffeine required to achieve a blood concentration of approximately 70mg/L in a person of 55 kilograms. Dr Robertson explained that the volume of distribution (Vd) of caffeine is between 0.4 and 0.6L/kg. Using those figures and the weight of Mr Spence, the amount of caffeine required to produce a blood concentration of 70mg/L would be approximately 1925mg.

63. When comparing the blood concentration of Mr Spence and the reported plasma concentrations following the ingestion of 'recreational' amounts of caffeine, a level of 70mg/L would equate to approximately 2000mg. Dr Robertson agreed that it was possible that the ingestion of a 100g container of instant coffee would produce these concentrations.

Issues for investigation

The adequacy of the response to the Code Blue which occurred earlier on the evening of the death

64. As noted above, Dr MacCormick's evidence was that, given Mr Spence's increasing history of seizure-like episodes in the lead up to his death, admission to hospital after the Code Blue at 5:40pm may have been appropriate. While Mr Spence's history at the RBH was lengthy in relation to seizures, at no time was he referred to a neurologist nor did he have an EEG conducted. Dr MacCormick noted that a diagnosis of the specific type of seizures he suffered was never confirmed.

65. Mr Spence was taking Valproic acid, an anti-convulsant, with levels at autopsy on the low end of the therapeutic scale. The evidence I heard suggests that this may have made him more susceptible to seizure activity. Information obtained from the Central Queensland Hospital and Health Service (CQHHS), which runs the Health Centre at the CCC, confirmed that Mr Spence was prescribed Epilim as follows:
    - 400mg once in the morning (7:30am);

- 200mg once at night (5:00pm).

66. With respect to the administration of that medication, CQHHS provided copies of its protocols on this issue. It was confirmed that medications are administered at the cell blocks by the clinical nurses and it is the responsibility of the correctional service officers to ensure the medication is not diverted. CQHHS confirmed that Mr Spence was compliant with taking his medication, which was provided during the medication rounds. Self-administration was not considered appropriate for him.

67. Dr Robertson considered that the level of Valproic acid was likely to have reflected the "trough concentration", which was the point at which the medication was least effective following its administration. At this point the medication was at a sub-therapeutic level and would not counter the effects of caffeine. In any event the evidence at the inquest was that the medication does not guarantee that a seizure will not occur.

68. Consistent with Dr MacCormick, Nurse Nehring's evidence was that Mr Spence suffered from a genuine seizure disorder as well as psychogenic non-epileptic seizures. This opinion was based on his review of RBH records and discussions he had with Emergency Department doctors.

69. As part of my investigation, Dr MacCormick's report was provided to the CCC for response. With respect to the adequacy of the response to the Code Blue on the evening of Mr Spence's death, CCC was asked to provide any information regarding policies/procedures at the prison relating to responses to Code Blue incidents. This response was provided by the CQHHS, specifically the Director of Nursing, Darren Holzberger, and the CCHS A/Nurse Unit Manager, Alan Wentworth. The response was tendered at the inquest and I heard oral evidence from Mr Holzberger and Mr Wentworth.

70. The protocol for dealing with a Code Blue is relevantly titled '*Procedure – Capricornia – Medical Emergency – Code Blue'*. It does not prescribe the circumstances in which a referral to a hospital should be made after a Code Blue. This decision is left to the discretion of the medical personnel attending the Code Blue.

71. Each of the correctional officers involved in the decision to transfer Mr Spence to the Health Centre after the Code Blue at 5:25 pm were asked to provide details as to the basis for that decision, and an explanation as to why they did not transfer him to hospital. I have had regard to each of the written statements which were tendered at the inquest. It is fair to conclude that Mr Spence's presentation at the Code Blue was seen by correctional staff as 'the usual', and nothing out of the ordinary. Each of the relevant officers was aware of his history of seizures, and his capacity to recover without admission to hospital.

72. The clinical nurse on shift, Justin Nehring, provided evidence that upon his commencing his shift he heard that the Code Blue had been called. He

was not involved in the initial assessment of Mr Spence, but still specifically went to check on him when he started his shift (approximately 5:45 pm). He noted that Mr Spence was conscious, alert and looking around at the surrounds but would not speak when spoken to. Nurse Nehring asked Mr Spence if he needed anything, and he received no reply. Nurse Nehring's evidence was that a lack of response was quite normal for Mr Spence.

73. At the inquest Nurse Nehring noted that he was an advanced care paramedic whose primary occupation was with the Queensland Ambulance Service. I found Mr Nehring to be a highly credible witness. He had been involved in the assessment of Mr Spence over 6-7 years following seizure episodes in the community and in taking him to the RBH for treatment. The QAS would generally respond to calls from passers-by who had seen Mr Spence either having a seizure or laying in public spaces. Mr Spence would frequently seek to stay at the RBH because he was homeless, hungry and lonely.

74. Nurse Nehring said that there had been many Code Blues called for Mr Spence while he was at the CCC, and most of these related to pseudo-seizures. He said that after assessing Mr Spence on 4 September 2013 he had no concerns for his well-being. He did not agree that more frequent observations or admission to hospital were required because in his lengthy history of treating Mr Spence, he had always recovered from a seizure.

75. Having regard to all the evidence, I consider that the response of the officers and medical staff at the CCC to Mr Spence's presentation from 5:25 pm on 4 September 2013 was adequate. The response has to be considered in the context of their knowledge of Mr Spence's history and the fact that his presentation was not considered to be unusual. This is understandable in the circumstances, given the fact that Mr Spence suffered from some type of seizure several times a week.

76. The correctional services officers and medical staff could not reasonably have been expected to be aware that Mr Spence also had very high levels of caffeine in his blood, and was suffering from 90% occlusion of the left anterior descending coronary artery. There was no evidence that these conditions had manifested themselves in any way before his death.

The adequacy of the monitoring of the deceased in the Health Centre on the evening of the death.

77. Further to the adequacy of the Code Blue response, the CCC was also asked to provide any information regarding policies/procedures at the prison relating to set timeframes for observations while in the Health Centre, particularly after a Code Blue. Information was also provided about the staff numbers at the Health Centre not only on the night of the death, but also on any given day.

78. Nurse Nehring's evidence at the inquest was that Mr Spence was placed in the Health Centre for general observations overnight, instead of being sent

back to his general accommodation. Nurse Nehring said that it was quite common for prisoners at "the back" of the Health Centre to not be seen for some 2–3 hours (or sometimes longer), depending on the condition of the prisoner, workload of the nurses and the time of day/night. It was Mr Spence's preference to be in the Health Centre because he wanted to be around people.

79. Nurse Nehring's evidence was that he was not placed at the Health Centre primarily to enable frequent observations but his presence made it easier for medical staff to access him if necessary. Within the Health Centre he was being monitored on CCTV at all times and physically observed every three hours. Mr Spence also had access to a buzzer to call staff. Mr Nehring's assessment was that this level of observation was sufficient. He would have arranged for a hospital transfer if he thought that closer observation was required.

80. Correctional Services Officer Donna Finegan was in the position of Medical Control on the night of Mr Spence's death. Her evidence at the inquest was that in this position she has the capacity to open doors in the medical centre and to monitor prisoners in the Health Centre via CCTV. CSO Finnegan said that she had no role to play in relation to health care decisions and had not been briefed that Mr Spence required close monitoring, as might be the case for a prisoner assessed as being at risk of self-harm. She had not observed anything of concern on the CCTV when monitoring Mr Spence, and he appeared to be resting on his bed at all times.

81. I note from Mr Spence's Offender Health Services file, which was tendered to me at the inquest, that there is no mention of any observations plan, or any type of care plan following the earlier Code Blue aside from the fact that he was to be housed in the Health Centre.

82. Nurse Nehring said in his evidence that he left the Health Centre at 7:50pm to commence the medication round in the secure blocks. He returned to the Health Centre at 8:20pm, and his attention was drawn to Mr Spence. Information provided by CQHHS confirmed that from 6:15pm, there is one clinical nurse on shift in the Health Centre. Therefore, once Nurse Nehring left the Health Centre to conduct the medication round, there were no other clinicians in the Health Centre to maintain observations.

83. CQHHS confirmed that medical observations and 'plans of care' are usually documented in the progress notes, and the only indication of a plan with Mr Spence was that he be accommodated in the Health Centre overnight. A detailed plan of care was not developed regarding clinical observations, other than for general observations.

84. An '*Offender Health Emergency Flow Sheet*' is to be completed to monitor clients following a clinical event, it was conceded that this was not done in this instance. CQHHS uses the '*Primary Clinical Care Manual*' as a reference text for clinical decision making. It was conceded by CQHHS that

this was not followed for the ongoing care of vital signs/neurological monitoring for fits/convulsions/seizures care, for Mr Spence.

85. The current position at the CCC is that all clients accommodated in the observation area are now required to have the following forms/documents completed as a minimum:
    - '*Daily Patient Record Care Record*' – completed for a 24 hour period;
    - The '*Queensland Adult Deterioration Detection System'*; and
    - The '*Observation and Response Chart*'.

86. These forms aim to improve the recording of observations and avoid delays in recognising and responding to the clinical deterioration of a prisoner. The CQHHS also has a process in place for Senior Medical Officer Support for Clinical Nurses when a medical officer is not in attendance at the Health Centre. This process is available at all times via the emergency department of any CQHHS Hospital.

87. Mr Holzberger's evidence was that a Human Error and Patient Safety Incident Analysis Tool (HEAPS) investigation was undertaken in respect of the care provided to Mr Spence before his death. The HEAPS contained five recommendations arising from the investigation into the death, including the need to develop a standardised plan of care for patients in the Health Centre and to perform an ECG on all patients aged over 50 on reception. I am satisfied that all of the HEAPS recommendations have been implemented.

88. I accept the concessions made by Mr Holzberger and Mr Wentworth that there clearly was not an adequate care plan put in place for Mr Spence following the Code Blue at 5:25pm. It is clear there should have been, and that this plan should have included a clinical observations regime. However, having regard to his significant co-morbidities and the level of caffeine in his blood, I am unable to conclude that Mr Spence's death might have been prevented had he been observed at more regular intervals.

The source of the caffeine

89. After the initial stages of my investigation, it became apparent that there was no clear evidence as to how Mr Spence came to have such a high level of caffeine in his system. As such, the investigation was widened, and I asked for information about the availability of coffee, and caffeine pills, from the General Manager at CCC, Ms Paula May as well as from the Rockhampton watch house.

90. Ms May provided a number of statements which were tendered at the inquest. I was satisfied with the detail of her written evidence. She confirmed that caffeine pills (No Doz tablets) are not available for purchase at the prison and are not generally prescribed to prisoners.

91. Coffee is not issued to prisoners as part of any daily food ration. However, it is available for purchase through the canteen process, which occurs

weekly and allows for the purchase of items to be kept in personal cells. Ms May explained that this means those items can potentially be stockpiled in individual cells, until they become excessive.

92. Ms May provided a summary of Mr Spence's trust account records, which indicated that he had purchased a 100g can of coffee on 9 August 2013 and on 3 September 2013.

93. Given the description of Mr Spence after the Code Blue incident at 5:25hrs suggested that Mr Spence was behaving bizarrely, I also requested further statements to be obtained from the correctional officers involved in the response to the Code Blue. Neither of those officers was able to clarify whether Mr Spence had consumed any caffeine. They could not provide any evidence which suggested Mr Spence had ingested caffeine, or anything similar to caffeine. Mr Spence did not mention anything about having consumed any caffeine.

94. None of the other inmates of cell block S5, where Mr Spence was located before the Code Blue, gave any information about Mr Spence acting bizarrely. They did not see him consume any caffeine.

95. A search of Mr Spence's cell (12) was conducted after the death and no items of interest were located, nor any items that could explain the caffeine levels. Unfortunately, an inventory of the cell contents was not competed.

96. Dr Robertson confirmed that for a level of caffeine to be obtained like what was detected in Mr Spence, one would have to consume between 1925 – 2500mg of coffee. Dr MacCormick said the level would be equivalent to twenty espresso coffees.

97. Unfortunately, despite extensive investigation, I have not been able to find the source of the caffeine, and how it came to be in Mr Spence's blood cannot be explained.

Investigation findings

98. None of the other inmates at CCC provided information to the investigating officer suggesting foul play or that there was any deficiency or inappropriateness in the treatment received by Mr Spence while in custody.

99. The examination of Mr Spence's body and his room at CCC revealed no signs of violence.

100. The CSIU investigation into Mr Spence's death did not lead to any suspicion that his death was from anything apart from natural causes.

101. I am satisfied that, while there were some inadequacies in the care provided to Mr Spence in terms of the lack of a clearly documented clinical observations regime in the Health Centre following the Code Blue, that these have been addressed.

Conclusions

102. While Mr Spence died from natural causes, the level of caffeine in his blood was unnatural, and undoubtedly contributed to his death. There is no evidence that any of the correctional officers or inmates at CCC deliberately caused or contributed to his death.

103. It is a well-recognised principle that the health care provided to prisoners should not be of a lesser standard than that provided to other members of the community. However, there are obvious limitations placed on the provision of health care in a prison context, including the degree and speed of access medical personnel have to prisoners. Where a prisoner requires a higher level of care, prison health staff need to exercise their discretion to arrange a transfer to a hospital setting or develop a clearly defined observations plan.

104. Having regard to the evidence tendered at the inquest I consider that the medical care provided to Mr Spence was adequate when measured against this benchmark. I am satisfied that, where there were deficiencies in the care provided to Mr Spence while at CCC, that these have been dealt with adequately.

Findings required by s. 45

105. I am required to find, as far as is possible, the medical cause of death, who the deceased person was and when, where and how he came by his death. As a result of considering all of the material contained in the exhibits, I am able to make the following findings:

Identity of the deceased – The deceased person was John Michael Spence

How he died - Mr Spence died in the Health Centre at Capricornia Correctional Centre following weeks of increased seizure episodes. He was not on a clinical observations regime at the time of his death. I am satisfied that his final seizure event was precipitated by the ingestion of a high level of caffeine, the source of which is unknown. The seizure event, and the high level of caffeine, brought about the final cardiac event which resulted in his death.

Place of death – He died at the Capricornia Correctional Centre at Etna Creek in Queensland.

Date of death – He died on 4 September 2013.

Cause of death – The cause of death was the combined effects of atherosclerotic cardiovascular disease and seizure activity, in the setting of excessive caffeine use.

Comments and recommendations

106. Section 46 of the *Coroners Act*, 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, the administration of justice or ways to prevent deaths from happening in similar circumstances in the future.

107. Mr Holzberger and Mr Wentworth confirmed in their evidence that the limitations in documented procedures and medical records relating to the direct care of prisoners within the observation area of the Health Centre were identified following Mr Spence's death, and have now been rectified.

108. In the circumstances I accept the submission of counsel assisting that the systemic improvements made at CCC since Mr Spence's death are appropriate. I am satisfied that they are a significant step towards ensuring future deaths in similar circumstances will be prevented.

I close the inquest.

Terry Ryan
State Coroner
Rockhampton
4 November 2015