QUEENSLAND
COURTS

CORONERS COURT OF QUEENSLAND

FINDINGS OF INQUEST

CITATION:	**Inquest into the death of Craig Leeton Williams**
TITLE OF COURT:	Coroners Court
JURISDICTION:	BRISBANE
FILE NO(s):	2017/4007
DELIVERED ON:	30 November 2021
DELIVERED AT:	Brisbane
HEARING DATE(s):	25 March 2021, 13-14 July 2021
FINDINGS OF:	Christine Clements, Brisbane Coroner
CATCHWORDS:	Coroners: Death in care; Brugada syndrome; Hypoxic brain injury; Automatic implantable cardioverter device; Treatment; Rehabilitation.
REPRESENTATION:	
Counsel Assisting:	Ms S Lane
Family of Mr Williams:	Mr N Congram i/b Caxton Legal Centre Inc

Metro North Hospital
And Health Service: Ms L Willson i/b Metro North Legal

Cairns and Hinterland
Hospital and Health
Service: Ms S Gallagher i/b Cairns Hospital & Health Legal

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Introduction

In 2015 Craig Leeton Williams was living with his parents, Jean and Owen Williams, in Innisfail, Queensland. At his family's request, Craig is referred to as Craig in these findings. Craig was a plumber by trade, a fit and active man, who was building his own home. He was born on 6 December 1971 and was 43 years of age when he suddenly suffered a cardiac arrest on 4 October 2015 while watching the NRL final at his parents' home.

His father provided cardiopulmonary resuscitation for about ten minutes until the arrival of ambulance officers. They assessed Craig's condition, applied the defibrillator and continued cardiopulmonary resuscitation for about thirty minutes, until a heart rhythm was re-established, before transferring him to the Innisfail Hospital. On 5 October 2015 Craig was flown to the Cairns Base Hospital where he was admitted to the intensive care department. He had sustained a devastating hypoxic brain injury. He was treated under the care of the cardiology department with input from many other health specialties including allied health and rehabilitation in the Cairns Hospital for ten months. Craig was transferred to the Jacana Acquired Brain Injury Clinic, (Jacana) in Brisbane on 15 August 2016. The aim of slow stream rehabilitation was to optimise his independent living capability to enable him to live in the community, with support.

Craig lived at Jacana for just over a year before his sudden unexpected death. On the morning of 7 September 2017 he was found lying on his bed after suffering a second fatal cardiac event. He was 45 years of age at the time of his death.

The cause of his death was unable to be confirmed by medical staff and his death was reported to the coroner.

Jurisdiction

Craig's sudden and unexpected death was reportable to the coroner for potentially three reasons.

First, the *Coroners Act 2003* (the Act) states that a person's death is reportable if the death happened in Queensland and the cause of death certificate was not issued and was not likely to be issued.[1] Craig's death came within this description as the underlying cause of his death was unknown.

Secondly, his death was investigated to establish whether it was a reportable "healthcare related death".[2]

A healthcare related death occurs when-

> *…the person dies at any time after receiving healthcare that -*

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[1] Section 8 *Coroners Act 2003* (the Act)

[2] Section 8 (3)(d) of the Act

> *(a) either -*
>
> > *(i) caused or is likely to have caused the death; or*
> >
> > *(ii) contributed to or is likely to have contributed to the death; and*
>
> *(b) immediately before receiving the healthcare, an independent person would not have reasonably expected that the healthcare would cause or contribute to the person's death.*[3]

Importantly, a health care related death includes circumstances where a failure to provide health care contributes to a person's death, if the person would not have died at the time of the person's death if the health care had been provided.[4]

The third circumstance to consider was whether Craig's death was a "death in care" which is reportable under the Act. The following considerations apply:

> *(1) A person's death is a "death in care" if, when the person died –*
>
> > *(a) the person had a disability mentioned in the* Disability Services Act 2006*, section 11, and –*
> >
> > *…..*
> >
> > *(iii) was living in a residential service-*
> >
> > > *(A) that is not a private dwelling or aged care facility; and*
> > >
> > > *(B) that is wholly or partly funded by the department in which the* Hospital and Health Boards Act 2011 *is administered...or at which [that] department…provides services;*[5]

There is clear evidence that, at the time of his death, Craig had a disability, an acquired brain injury, which caused a combination of intellectual, cognitive, neurological, and physical impairments. These impacts had substantially reduced Craig's capacity for communication, social interaction, learning, mobility and self-care or management. Craig needed support in his daily life.[6]

Medical review throughout his admission in the Cairns Base Hospital and Jacana confirmed that the impairments to Craig's capability were permanent or likely permanent. Certainly, there was evidence that Craig did recover significant physical capability during the ten months admission in Cairns. At the time of his death Craig was living in Jacana, which was then wholly funded by the department providing hospital and health services.

Craig's death was a death in care in accordance with the Act and was therefore investigated. If the coroner considers the death is a death in care, in circumstances that raise issues about the deceased person's care, the coroner must hold an inquest. After investigation I concluded there were circumstances that raised issues about Craig's care, and accordingly, an inquest was held as directed in section 27(1)(a)(ii) of the Act.

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[3] Section 10AA of the Act

[4] Section 10AA(3)(b) of the Act

[5] Section 9 of the Act

[6] Section 11(1) *Disability Services Act* 2006.

Autopsy

Autopsy examination was undertaken on 12 September 2017 by forensic pathologist Dr Ong. An order was made for external and partial internal examination to the extent necessary to establish the cause of death. The pathologist noted "after discussion with the coroner and family members, it is felt that further examination of the brain would not assist in finding the cause of death and therefore not performed."

The Autopsy report was finalised and dated 3 January 2018. With respect to the heart, Dr Ong stated there were no ischaemic changes, inflammation or features of cardiomyopathy. There was a small focal aggregate of chronic inflammatory cells in the right atrium near the atrioventricular node. The artery to the atrioventricular node shows dysplastic change with eccentric intimal thickening.

Dr Ong stated the heart showed dilation of the right ventricle. There was patent foramen ovale, (a hole in the wall between the right and left atrium). The coronary arteries were not significantly involved by atherosclerosis. Examination of the conduction system showed slight obstruction to the artery of the atrioventricular node (dysplasia).

Toxicology analysis detected non-toxic levels of temazepam, amitriptyline and nortriptyline in the blood.

The pathologist could not identify an obvious cause of death. In the literature, it had been reported that occlusion of the artery of the atrioventricular node (in this instance secondary to dysplasia) could potentially cause death. It cannot be ascertained if this lesion had been responsible but the dysplasia in this instance did not appear to be significant. The heart showed dilated right ventricle of unknown significance. There were no changes of cardiomyopathy. The presence of patent foramen ovale was unlikely to be responsible for arrhythmias or sudden death.

In the pathologist's view, despite previous extensive investigation including genetic testing, a conduction disorder could not be entirely ruled out. Therefore, Dr Ong advised family members to seek medical advice as some of these disorders are inheritable. Dr Ong concluded the cause of death was "not ascertained".

Family concerns raised for consideration and investigation

Craig's family were devastated by his sudden unexpected death. Craig's parents, together with his siblings, Sheree Williams Lawrence and Jason Williams, held statutory appointed health care power of attorney on behalf of Craig following his incapacity. QCAT had decided on 8 December 2015 that appointment of a guardian was not required. Craig's parents and siblings continued as Craig's statutory health attorneys in accordance with the Powers of Attorney Act. This enabled the family to make major health care decisions for

Craig jointly, and minor healthcare decisions both jointly and severally (or individually).

Mrs Lawrence was the spokesperson on behalf of the family. On 14 January 2018 Mrs Lawrence emailed the coroner advising she had attended a meeting with members of staff at Jacana.

She was told that Craig was examined once per month by a GP and all his vitals monitored. She assumed this included monitoring his heart because his brain injury had been caused by a cardiac event. He had been under the care of a cardiologist for ten months in Cairns. His cardiac condition was stable when he was transferred to Jacana. She asked when the last occasion of monitoring of his heart occurred and was shocked and dismayed when she learned that his cardiac condition had never been monitored. She was informed of a letter which accompanied Craig when he was admitted, which recommended regular cardiac monitoring. Mrs Lawrence was unaware of this.

This was of critical concern to Craig's family. During investigation several issues and concerns were identified relating to the care provided to Craig. Each of these will be addressed after summarising the events and medical treatment commencing from Craig's first attendance upon his general practitioner seeking assessment and treatment for chest pain.

Medical Condition and Treatment in North Queensland

General practitioner care

On 19 March 2015 Craig attended his general practitioner at Innisfail, Dr Mark Flynn, because he had been experiencing chest pains. Dr Flynn conducted an electrocardiogram (ECG) that day. This revealed "a minor conduction delay, with a sinus rhythm [heartbeat] at 80bpm".[7] Dr Flynn examined him and concluded the chest pain was not cardiac in origin. It may have been musculoskeletal. He did not believe Craig required specialist review at that time and advised him to return if his pain recurred, or he had any concerns whatsoever.

Six months later Craig returned to consult Dr Flynn on the morning of 30 September 2015 due to another episode of chest pain which occurred the evening before. The pain occurred again, earlier on the morning of 30 September before he attended upon Dr Flynn. Craig described sharp jabs or twinges in the left lower chest. He also referred to neck pain the afternoon and night before his appointment. Craig said that similar neck pain had previously responded to chiropractic treatment.

Dr Flynn recorded Craig was pain free when he attended the appointment. A second ECG was consistent with prior results. His pulse was 88 bpm and his blood pressure was 116/83 mm Hg. The ECG showed his sinus rhythm was 85 bpm with evidence of a minor conduction abnormality. Dr Flynn said this was

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[7] Statement of Dr Flynn

unchanged from the earlier ECG in March 2015. Dr Flynn requested further investigations including cardiac enzymes, which could show markers indicating damage to heart cells. He ordered echocardiography (an ultrasound of the heart). Dr Flynn reviewed Craig the next morning on 1 October and confirmed the blood tests were clear. A third ECG was performed that morning and was consistent with the first two readings. The ultrasound echocardiogram was yet to be arranged.

Dr Flynn referred Craig to Dr Josh Tsai, a cardiologist in Cairns, to undertake a stress ECG. The appointment with Dr Tsai was scheduled for 29 October 2015. The referral letter referenced several presentations with atypical chest pains. Dr Flynn referred to ECGs revealing a minor conduction abnormality, which has been constant over several ECGs commencing in March. He concluded there were no adverse risk factors. By this, he meant there was no indigenous heritage, family history, diabetes, smoking, overweight, inactivity, advanced age, or adverse lipid profile on recent profile.

In his referral letter Dr Flynn described the ECG conduction abnormality as “minor right bundle block branch block”. On review of the repeat ECG testing, he stated the results were more correctly explained as minor conduction abnormality.

Medical care from time of cardiac arrest, Cairns Hospital

Three days after his attendance upon Dr Flynn, on 4 October 2015, Craig suffered a massive cardiac event while sitting at home, watching the NRL grand final. As previously detailed Craig was resuscitated by his father and ambulance officers, who identified he was in ventricular fibrillation. He required eight shocks, before transfer to the Innisfail Hospital. He was then transferred to the Cairns Hospital the next day, suffering from cardiogenic shock, requiring adrenalin, noradrenalin and intubation.

Craig was assessed and admitted to the intensive care unit. The Director of the Cardiology Department, Dr Gregory Starmer, was the consultant who took overall care of Craig during his admission. Investigation confirmed there was no significant coronary artery disease. His out of hospital cardiac arrest was non-ischemic. A full panel of investigation was undertaken looking for all causes. This raised the question of whether an underlying conduction disorder, such as Brugada, may have been the cause for his unexplained cardiac arrest due to an irregular heartbeat. Subsequent genetic testing did not reveal any pathogenic abnormalities, and so the cause of his arrest remained unclear. In Dr Starmer’s evidence at the inquest he explained that despite the negative result of the genetic test, this does not completely exclude Brugada Syndrome, which was the presumptive diagnosis.

Because the likelihood was an underlying conduction disorder causing an arrythmia, an implantable cardioverter defibrillator was a possible consideration. This was the only treatment that could prevent a repetition of another arrythmia, but a neurological assessment would be required before further consideration of this intervention. It was explained to the family early in the admission that cardiology would consider the automatic implantable cardioverter defibrillator (AICD) if Craig recovered to the stage of being able to live independently.

Dr Starmer said early during Craig’s admission there was multi-disciplinary discussion, including the family, and the rehabilitation specialist Dr Martin Dunlop, who was the Director of Rehabilitation. Over time, there were separate discussions at the combined weekly via video conferring with the Townsville Hospital. Specialists from the Cardiac/Cardiothoracic Surgery and Electrophysiology disciplines participated in these multidisciplinary meetings.
The extent of damage caused by the cardiac arrest could not be assessed until Craig had regained consciousness, after being gradually weaned from sedation. By 9 October 2015 it was evident that Craig had suffered a hypoxic brain injury due to lack of oxygen to his brain due to the cardiac incident. His family were advised that there was a high chance this was a severe brain injury.

In evidence Dr Starmer explained the Cairns hospital had treated nine people over the year for out of hospital cardiac arrests, which have about a 50% mortality rate after admission to hospital.

By 23 October Craig’s condition had stabilised and improved. It was decided that he no longer needed the constant telemetry monitoring in the cardiac ward. Dr Starmer stated “it was felt his rehab would be better served without the telemetry unit which involves a little unit with leads attached to him and he certainly did seem to improve with that off…and so he was moved to a non-monitored ward area for further rehabilitation.”[8]

Craig was transferred from the intensive care unit into the renal and respiratory ward, where there was a bed available but he was still under the care of the cardiology department, headed by Dr Starmer. The tracheostomy had been removed. At that time Craig was deemed not for readmission to ICU, and not for reintubation. He was able to leave his bed with assistance but had not regained his ability to communicate fully with his family.

A genetic test for Brugada syndrome was arranged. The test did not identify a genetic pathological abnormality specific to Brugada symptom, but Dr Starmer confirmed that the treating team assumed the likelihood of the conduction disorder was Brugada and managed his care accordingly.

Various medical problems required high level nursing support and treatment during Craig’s admission in Cairns. This included urinary tract infection and possible pneumonia. He experienced seizures and limb jerking in December 2015, but epilepsy was ruled out. He was frequently agitated. During the first six months on the ward, Craig was on constant cardiac monitoring. No further cardiac events were detected. Craig had trouble with his nasogastric tube and often pulled it out (as many as fifty times). After six months cardiac monitoring with no concerning cardiac symptoms a decision was reached to cease the continuing monitoring.

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[8] T1-9, 12-18

He lost significant weight and by February a PEG was inserted to assist in nutrition. This was removed in June 2016.

Craig's family had hoped he would improve sufficiently to transfer to a brain injury unit in Brisbane, where his brother and sister lived. His parents also planned to move to support Craig. In December 2015 a referral was made by the treating team at Cairns requesting consideration of access for Craig to the Brain Injury Rehabilitation Unit (BIRU) at the Princess Alexandra Hospital and the Jacana Acquired Brain Injury Centre operated by the Prince Charles Hospital. Craig was not accepted for initial transfer to either Brisbane facility due to his continuing high needs care, which could not be accommodated in the specialty units. Instead, Craig continued to live in the Cairns Hospital for a total of ten months. He continued treatment by a multidisciplinary team involving cardiology and allied health providing rehabilitation input.

By early August 2016 Craig had been weaned off all medication, including risperidone. The only remaining oral medication was melatonin to assist with sleep.

On 1 August 2016 Jacana confirmed Craig had been accepted for slow stream rehabilitation commencing from 15 August 2016.

The family again raised the potential role of an AICD. There was no capacity for this to occur in Cairns Hospital at that time. It would have required transfer to Townsville to occur in north Queensland. Dr Starmer considered this issue could be revisited once Craig had transferred to Jacana in Brisbane. Craig had been stable from a cardiac viewpoint for many months and Dr Starmer was comfortable for his transfer to Brisbane to proceed and did not require cardiac monitoring. It was noted in the record on 1 August that Dr Starmer thought it most appropriate for Craig to be referred to a cardiologist in Brisbane, once he had settled in, regarding whether an AICD was a suitable option for him in the future.

Dr Starmer stated the only management of Brugada Syndrome is secondary prevention, to prevent subsequent possible cardiac arrest, by an implantable defibrillator. There is no other proven therapy.

Dr Starmer said the option of an AICD was constantly reconsidered throughout the admission. There were several multi-disciplinary meetings and "the consensus was always that if Craig improves, then we would certainly consider this therapy".[9] Dr Starmer went on to explain, "there's guidelines and they generally suggest that there needs to be a reasonable expectation of survival firstly, and it is an adequate neurological outcome".[10] Dr Starmer was explicitly asked to explain the conclusion reached, whether Craig had not improved to the point where he would be eligible for that therapy. He confirmed it was the consensus conclusion after repeated multi-disciplinary considerations. He

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[9] T1-10, 25-27

[10] T1-10, 29-35

referred to the European Society of Cardiology Guidelines, which were corroborated by the American Guidelines.

He explained there are Australian guidelines relating to Brugada which are updated much less frequently and in less detail. They remain guidelines, to guide therapy of the individual patient being treated. Dr Starmer said they relied on the most up to date best practice guidelines, which were from Europe.

At inquest, there was the opportunity to review the decisions made relating to Craig's cardiac condition, particularly whether arrangements should have been made for Craig to have an AICD prior to his transfer to Jacana.

Independent expert opinion relating to Craig's cardiac medical care

The coronial investigation required independent expertise to inform and guide the coroner's understanding of Craig's treatment and unexpected death. This is particularly so given the forensic pathologist's conclusion that the cause of death was unascertained. Unfortunately, there was a long delay and many requests before an appropriate expert was identified and available to provide a report. Dr David Colquhoun's detailed and careful review of Craig's medical records, the autopsy report and statements from treating doctors was of great assistance. This report is relied upon.[11] Excerpts of the report follow-

> *In the notes supplied, the possibility of "Brugada Syndrome (BS)" had been mentioned. This is a genetic disorder diagnosed by an ECG pattern and is associated with sudden cardiac death.* ***The only treatment for Brugada Syndrome is insertion of an implantable defibrillator.***[12] *A genetic test does not rule out the syndrome – it is the ECG pattern which is paramount for diagnosis.*
>
> *The Cardiac Society of Australia and New Zealand have "guidelines for the diagnosis and management of Brugada Syndrome". In the Guidelines, ratified by the board in 2011, its (sic) states "BS is reported to be responsible for 4% of all sudden deaths and 20% of sudden deaths in those without structural disease and is a leading cause of death in subjects under the age of 40 years". Mr Williams had sudden cardiac death in his 40s and no significant structural heart disease was seen. The guidelines state further: "the second consensus report 2005 recommends ICD implementation in BS patients who have survived cardiac arrest (class 1)…". Importantly the guidelines state an ECG prior to death is generally not available and even if an ECG has been recorded ECG changes, being variable, may not be diagnostic.*

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[11] Subject to consideration of responses as subsequently recorded in these findings.

[12] Dr Colquhoun also mentions a drug, Quinidine, in passing (see bottom of p 4), but does not say this should have been prescribed in Mr William's case. A 2019 article published online in an American Heart Association Journal on the 'Efficacy and Limitations of Quinidine in Patients With Brugada Syndrome' says that "Quinidine at high dose is suggested as antiarrhythmic treatment in patients with Brugada Syndrome (BrS), but its efficacy to prevent life-threatening arrhythmic events (LAE) in this population is unproven and its use limited by frequent side effects." See https://www.ahajournals.org/doi/10.1161/CIRCEP.118.007143

> ***[Mr Williams' ECGs] dated 19.03.2015, 30.09.2015 and 1.10.15 are consistent with the diagnosis of Brugada Syndrome….***
>
> **….**
>
> *…From early on, it appears Brugada syndrome was considered but no follow through is apparent. It is hard to understand, from a medical point of view, why there was not specific comment regarding his multiple ECGs. Which upon review, as previously discussed, is typical of type 1 Brugada. A right bundle branch block 'like' patterns was noted – this pattern is indicative of Brugada syndrome. There was no need to wait for genetic tests. Genetic testing has limitation and is not necessary for the clinical diagnosis which would have led to consideration of implantation of an implantable defibrillator which is the only [treatment] for this condition. When one presents with cardiac arrest related to this genetic disorder it is really only a matter of time before another cardiac arrest occurs which is fatal. Inability to insert an AICD in the public hospital in Cairns at the time was a serious deficiency of medical care.* (Emphasis and reference added)[13]

The Cairns Hospital was provided with the independent expert review of Dr Colquhoun which was considered by a Mortality and Morbidity review. The review was undertaken by seven practising cardiologists, (which included two electro physiologists, specialising in conduction disorders) from the Cairns Hospital, including Dr Starmer.

It is important to note Dr Starmer does not dispute that the ECGs undertaken at the hospital on 3 September and 1 October 2015 were consistent with Brugada Syndrome. The review group agreed it was possible Craig had Brugada. Indeed, Dr Starmer said Brugada was the presumptive diagnosis.

The Mortality and Morbidity review referred to the European Society of Cardiology Guidelines which indicate an automated implantable cardioverter device is appropriate if the expected survival of the person is longer than 12 months, and there is good functional recovery status. Brugada syndrome was considered whilst Craig was in intensive care, but it was too early to proceed with this consideration given the apparent severity of the hypoxic brain injury and it was not yet able to be assessed what recovery Craig might make.

After Craig's discharge from intensive care, there were a number of medical conditions to surmount as well as behavioural and functional challenges. Dr Starmer noted that automated implantable cardioverter device was an invasive procedure and carried with it risks, for example, infection. The risks were greatly increased in Craig's case, due to impulsive behaviour (interfering with the device) and double incontinence (infection).

Dr Starmer referred to the continuous cardio telemetry for six months which was undertaken to safeguard Craig whilst at Cairns Hospital. No further arrhythmias occurred, and the decision was made to remove the monitoring as this was significantly impeding any attempts at rehabilitation.

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[13] Report of Dr Colquhoun, p 4

Dr Starmer noted that Craig had been assessed as unsuitable for admission to the injury rehabilitation unit at Princess Alexandra Hospital. The senior medical officer, Director of Rehabilitation Medicine at Cairns Hospital, Dr Martin Dunlop, assessed Craig's neurological recovery and considered it was low. He concluded Craig was not suitable for the rehabilitation programme in Cairns. As at 28 April 2016 Craig's short-term memory was assessed as extremely poor and not showing signs of marked improvement.[14]

Dr Starmer said there was ongoing reconsideration of an AICD but maintained Craig was not yet suitable (as per European Society of Cardiologists) to undergo a procedure which would have required general anaesthesia to transfer for assessment. In accordance with the usual practice the recommendation for ongoing local cardiological assessment was provided to accepting medical staff at Jacana. It is not usual practice Cairns Hospital to provide a cardiologist-to-cardiologist referral for every patient being transferred outside the district, which happens almost daily in Cairns and the Gold Coast due to the higher tourist numbers.

Dr Starmer maintained that had Craig been a suitable candidate for automated implantable cardioverter device whilst he was an inpatient at Cairns Hospital, he would have arranged this. However, Craig had not achieved sufficient improvement to be categorised as "good functional status".

I have considered Dr Colquhoun's expert opinion, the Mortality and Morbidity review and Dr Starmer's subsequent statement. I have considered the evidence of medical records, in particular Mr Craig's improvements but overall limited progress in rehabilitation during the 11 months of his admission. I accept that Dr Starmer continued to consider and assess Craig's situation and his conclusion that Craig did not reach the standard of "good functional status". In reaching this clinical decision Dr Starmer considered the risks of the procedure itself and managed the continuing cardiac risk by six months of cardiac telemetry.

Dr Colquhoun also considered Craig's medical care at Jacana. He was quite clear in his opinion that Craig should have been referred to a cardiologist soon after he arrived at Jacana – and should have had a face-to-face consultation within a few weeks. Had this happened, it is likely that a diagnosis of Brugada Syndrome would have been made. He stated a number of drugs often used in cardiac treatments should be avoided in Brugada patients who have survived cardiac arrest, including amitriptyline.

Dr Colquhoun recognises the logistical difficulties with which Dr Pugh was faced in getting Craig to a cardiologist and the difficulty any cardiologist would have had taking a history or doing a medical examination and ECG. Despite that, however, Dr Colquhoun's opinion was that:

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[14] Subsequently, by August, there was some improvement with short term memory following intensive coaching of Craig by Mrs Lawrence.

> …***the history and ECG are clear. Mr Williams had cardiac arrest unrelated to coronary artery disease, unrelated to cardiomyopathy and unrelated to any external cause definable and he had an ECG typical of Brugada syndrome. Management of how he ought to have been treated is clear even without face to face review.*** (Emphasis added)[15]

There is more consensus than first appears between the positions of Dr Starmer and his colleagues, and Dr Colquhoun.

I accept that Dr Starmer identified very early on in investigating Craig's sudden cardiac arrest that this was a non-ischemic event of a conduction disorder, including the possibility of Brugada syndrome. Indeed, he took the unusual step of seeking genetic testing, which was essentially to provide some certainly for Craig's immediate family, given it can be a genetic disorder. When the test results were negative, this did not exclude Brugada syndrome (a conclusion which Dr Pugh reached), and the treating team continued to assume the likelihood was that Craig indeed had Brugada Syndrome, and this remained the presumptive diagnosis. It was consistent with the circumstances of sudden catastrophic cardiac collapse, the findings on ECG and the absence of any other cardiac condition.

Dr Starmer was fully aware that the condition had a known probability of recurrence of another rhythm disturbance which could precipitate a fatal cardiac arrest. Only an AICD could prevent and safeguard Craig from that risk.

Due to the cardiac arrest, Craig had suffered an acute hypoxic brain injury. This required assessment, support, and time for recovery and hoped for rehabilitation. The risk of another cardiac arrest could be managed whilst he was in the hospital. For the first six months he was on constant telemetry monitoring. When his cardiac condition was considered stable and no further episode had occurred, the monitoring was ceased. There was less physical restriction to enhance the opportunity of rehabilitation improvements. He remained in the safety of a hospital environment under cardiac care for 10 months.

Dr Starmer had considered whether Craig could have an AICD procedure, but it was not appropriate until his physical survival was achieved and, he had made sufficient recovery in a neurological sense. Transfer to Townsville Hospital where the procedure could occur was not an impediment.

This was a different view than that expressed by Dr Coquhoun who suggested it was simply a procedure that any cardiologist could perform provided that the person was capable of walking around.

I appreciate that only an AICD could have safeguarded Craig against the real risk of recurrence of an arrythmia which could cause another cardiac arrest, and death.

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[15] Report of Dr Colquhoun, p 5.

However, overall, I accept that the decision made initially at Cairns Hospital upon diagnosis of a non-ischemic conduction disorder was appropriate. The decision was that Craig required an AICD. The therapy would be available if his expected survival was greater than 12 months, and he achieved good functional recovery status.

The decision was revisited throughout his admission. The cardiac team passed on the relevant critical information of his cardiac disorder, which required referral to a cardiologist in Brisbane where he had finally been accepted for rehabilitation.

I am convinced that it was an informed and appropriate ongoing assessment at Cairns, in accordance with best medical practice and that Craig was approaching the improved functional status when he was transferred to Brisbane.

I have regard to the post-mortem mortality and morbidity review process which unanimously confirmed the decision making related to access to AICD whilst Craig was in Cairns. The decision required is a holistic one, encompassing the technical feasibility of the procedure and the overall context of the functional status of the person concerned.

I appreciate from Craig's family's perspective that they were always committed to Craig's best recovery and would have continued to advocate for this therapy had they been informed that Craig should be referred for cardiology review once settled in Brisbane.

Rehabilitation at Cairns Hospital

Craig's family were concerned and disappointed that Craig was unable to formally access the in-hospital rehabilitation program at the Cairns Hospital. They felt that Dr Dunlop, Director of the Cairns Hosptial Rehabilitation Unit, had not properly assessed Craig and that his decision that Craig should not access the hospital's rehabilitation unit was incorrect. This issue was able to be explored at inquest.

The first progress note entry on medical record for the rehabilitation consultant review by Dr Dunlop was documented on 29 October 2015 by the rehabilitation registrar, who was present with Dr Dunlop on each assessment. The entry noted the history of significant downtime (40 minutes) following out-of-hospital cardiac arrest, resulting in acquired brain injury and significant functional impairment. There was a working diagnosis of Brugada and gene test results were outstanding. As at that date, the cardiology decision was "not for AICD given poor neurological improvement/[quality of life] after discussion with family".[16] There had been improvement in neurological function during the period in intensive care, from no purposeful movement to following some commands, responding to his name and inconsistent yes/no responses.

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[16] Cairns Hospital Medical records p 869

Physiotherapy review the same day was noted. After examination Dr Dunlop's impression was:

> *-significant impairment post hypoxic brain injury*
> *-potential for significant improvement however is unable to engage with rehab at this point*
> *-would need improved restlessness and ability to follow instructions prior to commencing rehabilitation programme*
> *-we will continue to review Craig to a successful improvement and appropriateness for rehab*
> *-please feel free to contact rehab team if it is felt that significant gains have been made.*[17]

On 10 November 2015 Craig was reviewed by Dr Dunlop and other team members. At the time Craig was being treated for pneumonia and a urinary tract infection. It was noted that although Craig could answer with his name, he could not respond with the names of his parents or the address. Other information from team members was considered. The impression at the time was that, despite improvement, Craig remained unsuitable for rehabilitation. Medication was changed to assist to address restlessness and distress, with less side effects. Weekly review for ongoing assessment for rehabilitation was documented.

On 8 December Craig was reviewed by Dr Dunlop and team members. Craig was in bed watching television, as this was a way of managing his high risk of falls. There had been limb jerking, (noted as possible seizures) and he had not been interacting consistently with other allied health members. He required a great deal of direction and it appeared his responses were impulsive, without following directions. On some days there were improvements, but this was not sustained. The impression remained "ongoing limited to no rehab potential currently given inability to meaningfully engage with therapy."[18] It was recorded that Dr Dunlop stated he would liaise with a brain injury rehabilitation unit in Brisbane to discuss if this could be an option for Craig. It was also recorded that Dr Dunlop was happy to be involved in discussion with family members if this would be helpful to discuss reasons why rehabilitation inappropriate.

On 15 December 2015 there was a meeting with Craig's parents and the hospital social worker who was assisting them with applying for a disability support package of care. A family meeting with the treating team was set for 15 January 2016. At this time Craig's parents were planning that he would return to live with them upon his discharge from hospital and they would be his carers. Allied health support continued including on that day further practice with manipulation of a spiky ball, writing exercises when he was asked to attempt to copy writing. He became fatigued as the exercise progressed, but it was noted that he engaged more in this session than in previous writing sessions. There was no response when handed a toothbrush and comb - Craig did not name or attempt to demonstrate how to use them.

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[17] Cairns Hospital Medical records pp 869 - 870

[18] Cairns Hospital Medical records p 658

On 21 December there was a note in the record when Craig's parents were visiting. His mother feels he is making slow rehabilitation progress. Craig was able to talk to her on the phone on some nights, and able to follow simple instructions if he has had a good sleep the previous night.

On 13 January 2016 the family meeting was held. Dr Dunlop, Dr Starmer, Dr Black, Dr Khokar, a medical student, two occupational therapists, two physiotherapists, the speech therapist, the dietician and social worker were all present together with the nurse unit manager. Craig's parents and Mrs Lawrence were present, and Jason Williams participated by phone. Mrs Lawrence raised concerns including:

- *role of cardiac care verses neurological care for pt – requesting more neurological input*
- *lack of communication from medical/allied health staff with her – and was waiting for a reply since 12 Dec 2015*
- *dramatic weight loss – was 90kgs in ICU and Pt is now 70ks – and that her brother/pt would be malnourished*
- *lack of regular allied health input with pt*
- *issue with lack of sleep – increasing agitation*
- *Lack of structured activities for pt – to alleviate boredom and assist with stimulation for pt*
- *Wanting best QOL for Pt – also raised by brother/Jason*
- *Doesn't think the 'best' has been done for brother/Pt – and the gains have been made by pt himself not necessarily by his time in CBH*[19]

Dr Dunlop provided his assessment and opinion stating:

- *cognitive deficits are profound*
- *No carry over learning*
- *Prognosis is poor*
- *Currently not appropriate for rehab in Cairns*
- *Pt currently requires full care 24/7*
- *Options re: BIRU and slow stream rehab- not accepting Pt due to current care needs and poor prognosis*
- *Dr Starmer can arrange a neurological review*
- *Pt will still require to stay in CBH for some length of time*
- *Allied health has been actively involved with pt – and have assisted Pt with his ongoing care and rehab potential*[20]

It is noted that the social worker made an addendum to Dr Dunlop's comments, on 21 January 2016, stating:

> *In reference to Dr. Dunlop's comments:*
>
> *please read :*
>
> - *Allied health "continue to be actively involved in therapy sessions with patient and continue to monitor for evidence of neurological recovery.*

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[19] Cairns Hospital Medical records p536

[20] Cairns Hospital Medical records p536

> *They are also actively involved in collegiate decision making about Mr Williams' rehabilitation potential."*[21]

During the family meeting the allied health practitioners updated the family on their involvement with Craig. The occupational therapist detailed input with Craig every second day, which was close to rehabilitation input. Despite this, Craig was inconsistent with performing his activities of daily living. Craig did not follow the instructions consistently. There was no regular follow through on a day-to-day basis and no carryover learning. The main issue identified was his level of cognition impacting on his ability to function. There was consideration of trying to reduce the assistant in nursing with Craig, from two, to one. The occupational therapist stated that Craig would always require 24 hour supervision. The existing residential care options are for younger people and were hard to access. Input from the dietician noted Craig was being over fed (in an attempt to regain weight.) Several different options were being used, including different times of the day / night. Craig preferred sweet tastes. There was lengthy discussion around the PEG, although there was concern of increased infections if he pulled the PEG out. There was a history of numerous times when Craig had pulled out the naso-gastro tube. The social worker reported communication and progress with Disability Services and further discussions with family regarding options for Craig.

Dr Starmer stated at this meeting that he did not think Craig would ever live independently. He referred to minor shifts in improvements due to cognitive decline, he lacked insight due to cognition. The naso-gastric tube was likely very uncomfortable and therefor Craig was pulling it out. Dr Starmer expressed that although the PEG may be a risk of infection, it was worth trying. Craig was currently "OK" with respect to his heart. They were still waiting for results on Brugada testing. Dr Starmer was not recommending a defibrillator for Craig due to the risks, infections and quality of life issues. He expressed the view the family needed to start looking for longer term care options.

The speech pathologist said Craig had good automatic response, like hello, how are you? There were limited consistencies with learning due to cognition. He was impulsive with drinking causing aspiration. The physiotherapist confirmed continuing with exercises and mobility and that she would look at more structured activities. The nursing unit manager was happy to continue caring and working with Craig, including assistants in nursing, usually males who could help him, in context of his height and weight.

Overall, the recommendations from the meeting were as follows:

> *PEG to be inserted:*
> *- organised by Dr Starmer's team*
>
> *Activities:*
> *- to utilise more familiar based aids i.e.: cards, photos/basketball hoop*
> *- Family to bring CD/DVD player – with music/DVD's that pt will like*
>
> *More structured timetable:*

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[21] Cairns Hospital Medical records p535

> *- Allied health to implement*
>
> *Communication with family:*
> *- Dr Starmer's team to arrange regular consistent feedback to Sister (As the family's nominee)*
>
> *Dr Starmer to arrange a neurological review*
>
> *SW to further discuss role of DSQ with family and ongoing support options*
>
> *Pt to remain on R&R ward*
>
> *Pt to now drink from a 'normal' cup – with small amounts of fluid/liquids*
>
> *Family to begin reviewing longer term options for pt – re: supported care options*[22]

Subsequently the Brugada results were available by 9 February and these were discussed by cardiology team members with Mrs Lawrence.

Another family meeting occurred on 1 March 2016. There was mention of agitation and aggression requiring commencement of risperidone. Craig's family felt that although there had been very little neurological progress over the first three months, they felt Craig had made some good functional gains. His language and memory were improving, he was starting to do some more complex tasks like brushing his teeth, toileting and feeding himself. It was considered worthwhile to revisit the idea of rehabilitation. The occupational therapist was planning to reassess functional status. Arrangements were made for Craig to have day leave at times.

On 15 March, which was day 162 of admission, Dr Dunlop made the following note:

> *I saw Craig today. His parents were also present.*
>
> *I had an opportunity to discuss his progress with his parents, and one of the AIN's who has been in attendance for the past few weeks. I also have discussed his management with the speech pathologist and I have reviewed his recent OT notes.*
>
> *Craig is still subject to episodes of agitation, which seem to have increased recently with the visits of family.*
> *…*
> *Based on this review of the past week, Craig continues to require the constant presence of 2 AIN's. This is because if he decides to get up and leave the room, one AIN is not sufficient to restrain him. As far as I could determine, he does not become aggressive, just restless and agitated. He requires PRN sedation for agitation most shifts.*
>
> *It seems that there has been some improvement in his memory, but he continues to makes the same errors in identifying family members, perseverating on the name of his brother, and he is not consistently able to name his parents. He cannot remember the names of nursing staff that look after him, although he can sometimes recall their names with a prompt.*

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[22] Cairns Hospital Medical records p538

> *His memory is much better prompted – his mother has been getting him to recite the second names of popular music groups if she provides the prompt of the first name, a task which he manages with reasonable accuracy.*
>
> *He does not appear to initiate conversation. He showed little interest in communicating with me when I attended today, even though my visit was clearly discussing his progress. He did not maintain eye contact. He continued to listen to music. He was not agitated at the time of my visit, but there was some constant fidgeting of his hands and lower limbs.*
>
> *He does not show any interest in reading, or watching television, even rugby league, which was a major preadmission interest.*
>
> *From the AIN's account, he is able to manage to maintain continence much of the time and can initiate requests to be assisted to the toilet when his bladder is full. He can mobilise independently to the toilet, complete toileting and initiate washing his hands, return to bed. The OT however noted that he sometimes became disorientated in the bathroom, so this capacity was not consistently demonstrated.*
>
> *He is able to manage a sit to stand and walking with supervision only. The AIN's report that he tends to be very distractible when he is walking and he shows little or no safety awareness. He is not able to orientate in the ward setting.*
>
> *He is able to feed himself with set-up, but the AIN's report that the still often has difficulty orientating the spoon correctly. His oral intake remains below that required to provide his energy requirement, and he only likes to eat to (sic) sweet foods, so it is likely that he will continue to require PEG supplementation on an indefinite basis.*
>
> *He requires assistance with dressing and showering.*
> *He has had a trial of "pet therapy" Based on the OT documentation of 26/02/16, Craig did not make any meaningful movements towards the dog - nil stroking, touching, or looking. He was minimally verbal.*
>
> *His OT conducted a detailed assessment on 7 March 2016. From this, it seems that there has been some improvement in his ability to manage some personal care tasks within a structured routine, but even these routines are readily disrupted, inconsistently performed and generally poorly initiated.*
>
> *He is able to follow simple one step commands, unless he is agitated.*
>
> *It appears that he still shows significant residual problems with recognising and using common objects.*[23]

Dr Dunlop's assessment on that day was as follows:

> *In general, the profound cognitive deficit previously discussed with family have not changed significantly – there are persisting, profound amnestic deficits affecting both recent and remote memory, and perseveration with attempts to recall the names of close family members.*
>
> *He shows no evidence of self awareness or insight, and it seems clear that his attention and ability to stay on task is also very poor. There is some evidence of a recovery of the ability to manage very familiar, simple well self-care tasks, but carryover, more generally, is very poor. These abilities are likely to be readily disrupted with minimal distraction or fatigue. It will be difficult to generalise or transfer these*

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[23] Cairns Hospital Medical records pp 364 - 366

> *simple abilities into another setting without considerable repetition of the task in the novel setting.*
>
> *His language and emotional repertoire remains very impoverished.*
>
> *It appears that here are still issues with his sleep pattern. It is likely that this is at least in part a reflection of his brain injury.*
>
> *His mobility has improved, as could have been anticipated, given that this is dependent on rather automatic motor patterning. His safety awareness, however will remain poor, and it is likely that he will continue to require supervision, at least in the community.*
>
> *I am not sure that there is much to offer in term of medication to reduce his agitation – we normally depend on atypical antipsychotics, with perhaps the addition of Na valproate which is supposed to be a mood stabiliser, although I haven't seen much evidence of benefit in my own practice. It might however be worth getting a C/L review, to see if they have any ideas. Melatonin may be worth a try, if this hasn't been tried already to try to improve his sleep pattern.*
>
> *He continues to present a major discharge challenge, as a consequence of his need for specialling. I would suggest that targeting this issue should be the therapeutic goal for his sedation, which would need to be managed as a regular dosing regime, rather than a PRN intervention, when he has already become agitated.*
>
> *The recent ward OT assessment has been thorough and thoughtful. I have, however, discussed Craig with one of our senior OT's, and she will review Craig with our neuropsychologist, at a time when the parents are present.*
>
> *It remains difficult to identify anything more than very basic rehabilitation goals, which would be of real significance, either with regard to Craig's quality of life or burden of care.*[24]

Dr Dunlop's evidence, both in his report and at the inquest, was that Craig's hypoxic brain injury was not one which would improve with the type of intensive rehabilitation offered at a hospital rehabilitation unit, and that discharge through the hospital rehabilitation unit would have been the wrong 'pathway' for Craig, who required discharge to a slow stream rehabilitation unit or supported accommodation. He did not support discharge directly back into the community as he needed more support.

Dr Dunlop explained during his evidence at inquest that his assessment was agreed with by Craig's multidisciplinary treating team, and advised that, had any of the team believed that Craig would benefit from transfer to the rehabilitation unit, they would have "prosecuted the case very vigorously with [him]"[25] and his decision could have been overruled. It is evident from the medical records before the court that the treating team was in agreement with Dr Dunlop.

Dr Dunlop's views were put to Dr Adeline Hodgkinson, a NSW Rehabilitation physician and Director of the Brian Injury Rehabilitation Unit at the Liverpool Hospital who gave an expert report to the court and gave evidence at the inquest. At inquest, Dr Hodgkinson's response to Dr Dunlop's decision not to accept Craig into the CH Rehabilitation Unit was as follows:

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[24] Cairns Hospital Medical records p366

[25] T1-38, 2

> *….Dr Dunlop would know what pressure – the beds he has, what the potential for recovery with intensive rehabilitation would have been for someone like Craig, and he may have made a decision that Craig wouldn't benefit from the intensive rehabilitation able to be provided – perhaps because he wouldn't be able to learn; perhaps the environment wasn't suited. If I was to say would he have been accepted into my brain injury unit, I would have had perhaps similar concerns that at 10 months post-injury, Craig may not have gained much from an inpatient acute rehabilitation service.*[26]

Essentially Dr Dunlop considered Craig would not benefit from a transfer to the Cairns Hospital Rehabilitation Unit. I accept that Dr Dunlop's conclusion was based on repeated assessments of Craig, and his expert knowledge as a *hospital* rehabilitation unit specialist. His decisions were informed by discussions with allied health staff members and the records of their interactions and assessments with Craig.

I also accept that Dr Dunlop's considerations relevant to *hospital* rehabilitation were different to the assessments which finally resolved that Craig should be accepted into long-term slow stream rehabilitation.

There remains the opportunity for Dr Dunlop, a dedicated expert rehabilitation specialist, to reflect on his communication skills. An articulate and devoted family supporting their brain injured family member is entitled to expect compassionate and clear communication of decisions made about their loved one, not a defensive response.

The issue of the extent to which the Cairns hospital communicated with the family and with Jacana was also explored at the inquest.

Cairns Hospital – communication with Jacana and with Craig's family

The discharge summary which was forwarded to Jacana was a long and detailed summary of Craig's history, reflecting his long admission in Cairns. It was written by Dr Hobday in consultation with Dr Starmer. Dr Starmer noted at inquest that it was extremely rare for a young person such as Craig to be in hospital for such a long time. This was reflected in the detail of the summary. It is an extremely significant record of Craig's history since the cardiac arrest, his overall condition and the information handed over from the treating cardiac team upon Craig's discharge and transfer to Jacana.

The document will be restated here because of its significance:

> ***Reason for Admission/Presenting Problems***
> *Thank you for accepting Mr. Craig Williams, a 44 year old male who sustained a significant hypoxic brain injury following an unheralded out of hospital cardiac arrest in October last year. Earlier during his admission Craig had been discussed for possible transfer under a rehabilitation programme but at that time was not an appropriate*

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[26] T1-87, 19 - 26

candidate. After many months it was considered that Craig had made gradual, but significant, improvements, and we are hopeful that with your input these gains may continue. From a medical perspective Craig has been stable with no significant acute issues for many months now.

Medical History
On the 04/10/2015 Craig was at home watching the NRL grand final when he suffered an unheralded out of hospital cardiac arrest. His mother heard a gurgling noise and found him unresponsive in a chair. He had a significant downtime of what we believe was around 40 minutes, with 10 minutes of CPR by his family and a further 30 minutes of CPR by the ambulance. His cardiac rhythm was VF and he received a total of 8 shocks and was transferred to Cairns ED from Innisfail in cardiogenic shock requiring adrenaline, noradrenaline, and intubation.

Prior to this admission Craig had no significant past medical history but there was collateral the (sic) he had seen his GP for some recurrent chest pains and been referred to Dr. Tsai with ECG showing RBBB and planned for outpatient stress test. He was on no regular medications prior to admission.

An urgent coronary angiogram on the 5th of October showed no significant coronary artery disease, and this raised the question of whether an underlying conduction disorder, such as Brugada, may have been the cause for his unexpected cardiac arrest. Subsequent genetic testing, however, did not reveal any pathogenic abnormalities and so the cause of his arrest remains unclear. Early during his admission there was discussion of the possibility of inserting an implantable defibrillator (AICD), however this was not pursued for a number of reasons including his hypoxic brain injury with significant functional and cognitive impairments, being felt to not be a candidate for rehabilitation at that time, no further significant events recorded on telemetry, and that insertion of an AICD would have required transfer to Townsville.

His initial stay in our ICU was complicated by prolonged ventilatory needs requiring tracheostomy, fevers which were thought to possibly be due to a pneumonia, and persistent derangement of his liver function tests which was thought to be medication related. A repeat CT brain on the 8th of October showed:
No focal intracranial abnormality. No infarcts, oedema or haemorrhage. Normal gray/white matter differentiation. Normal calibre of ventricles, sulci and cisterns. No new abnormalities detected.
The tracheostomy was removed on the 23rd of October and he was discharged from ICU to the ward.

On the ward Craig required high-level nursing support and had ongoing agitation with intermittent sexualised behaviours. He developed a UTI and was thought to have delirium secondary to this, before progressing to a more septic picture in November for which he was treated with antibiotics to cover both UTI and possible hospital-acquired pneumonia (urine showed E. coli sensitive to ampicillin, cefazolin, trimethoprim, cotrimoxazole, nitrofurantoin, and gentamicin; and Enterobacter aerogenes sensitive to trimethoprim, gentamicin, and co-trimoxazole but resistant to nitrofurantoin). Over the following months there were ongoing issues with agitation and difficulties keeping his nasogastric tube in place. Craig had lost weight and so a PEG was inserted in February, this was eventually removed on the 8th of June.

There had been some concerns in December over possible partial seizures because Craig was having episodes of limb jerking and not being particularly responsive at those times (however he had variable responsiveness at that point anyway). An EEG showed no epileptiform activity (sic). There were also concerns on the ward over intermittent positional cyanosis of the right arm, but ultrasound scans showed no DVT and normal arterial flow in the radial and ulnar arteries.

Over the last fortnight we have weaned Craig off the last remaining risperidone that he was receiving (was on 1mg nocte, reduced to 0.5mg nocte on 01/08, and then ceased on 08/08). He now is on no regular antipsychotic medication (had been on a variety of agents during the earlier stages of his admission) and has not required any PRN doses either. Due to some excoriation between his buttocks we have been applying Cavelon cream twice a day. Currently his only other regular medication is melatonin syrup at night.

In view of his significant improvement and plan for further rehabilitation the potential role of an AICD was raised by his family. I have discussed this with Dr. Starmer who feels that it would be revisit (sic) the potential role for an AICD for Craig in the future, and that after he has settled into Jacana he could be referred to a local cardiologist in Brisbane regarding this. *As mentioned above, AICD implantation is not performed at Cairns Hospital. As Craig has been stable and not monitored for many months now, Dr. Starmer is happy that he does not require cardiac monitoring for transfer to Brisbane.*

Functional Progress and Rehabilitation Reviews
Initially following ICU discharge Craig was essentially non-verbal (with minimal eye contact, intermittent and unreliable responses to yes/no questions, and not following commands), was a high aspiration risk requiring NG feeds, and was unable to mobilise (requiring a 2-3 person assist with slide sheets in the bed and a 3 person assist to sit on the edge of the bed). As mentioned above there were issues with agitation and combative behaviour as well as some sexualised behaviour. When they saw Craig at the end of October (shortly after arriving on ward) the rehab team felt that while there was potential for significant improvement, Craig was unable to engage with rehabilitation at that point, and that before commencing a rehabilitation programme he would need the ability to follow commands and for his restlessness and agitation to improve.

To very briefly summarise a long history, Craig has made significant functional and also cognitive improvements, and has now progressed to being largely independent on the ward, requiring AIN/RN only for supervision with his ADLs. He is currently on a minced and moist diet, and the nurses say that he really only likes sweet foods and has lost the taste for savoury. He feeds himself but still requires supervision because he has a tendency to eat too quickly and the nurses say that he needs to be reminded to chew his food (for example pieces of fruit). It seems that he has been drinking extra energy supplement drinks from other patient's trays recently. He also requires supervision and prompting with personal hygiene, particularly cleaning properly after toileting and washing during showering. He wears pull-up pads, but the nurses report that these are very rarely soiled in any way.

Craig wakes early, and spends much of his time mobilising independently around the ward with headphones on, making eye contact and saying to people that he passes "hello, what's your name". Under supervision he will also leave the ward to walk outside on occasion. He has come to know the familiar staff on the ward by name and will ask them what they are doing and how they are going. He is cooperative with requests to return to his room for assessment and is fully cooperative with examination. To my knowledge there has not been any recent agitation. The nurses inform me that he likes to constantly listen to music, including when he sleeps, becoming a little anxious if this is not available.

His sister, Sheree, speaks with him daily and has been trying to perform memory exercises with him. For example she has been trying to prepare him for transfer to Jacana by continually reinforcing that he is going to Jacana in Brisbane for rehab. She reports that he is able to remember this when she talks with him. She has recently begun to get Craig to recite a list of words at the end of each conversation, adding an extra word each week – currently she is trying to add the sixth word to this list.

> *Social History*
> *Prior to admission Craig lived with his parents in Innisfail. The primary family contact during Craig's admission has been his sister, Sheree, who lives in Brisbane. Sheree has remained heavily involved in Craig's care and has advocated strongly for him throughout his admission, having visited Craig in hospital on several occasions and, along with the rest of the family, been involved in the family meetings.*
>
> *Medications*
> *Melatonin syrup 2mg (0.2mL) nocte*
> *Cavelon cream applied to buttocks twice a day until resolved*
> *Risperidone liquid 0.5-1mg nocte PRN*
>
> *Allergies*
> *Piperacillin-tazobactam*
>
> *We greatly appreciate your assistance with Craig's ongoing care. Please contact us if you have any further questions regarding Craig's care.* (Emphasis added)[27]

I accept that Craig's family were aware of the possibility of the AICD for Craig. Mrs Lawrence specifically raised the issue when Craig had finally been accepted by Jacana and preparations were underway for his transfer.

Dr Starmer could not say whether a copy of the discharge summary was provided to Craig's family. He said it would be unusual to provide it to the family, but if it was requested it would be considered. Usually, a copy goes to the General practitioner to transfer care. A copy was forwarded to Craig's general practitioner, Dr Flynn.

I accept the evidence of Mrs Lawrence, that the discharge summary was not provided to Craig's family and, specifically, was not provided to the nominated family spokesperson, Mrs Lawrence.

As previously recorded, Craig's parents and two siblings were authorised statutory health attorneys on behalf of Craig. In these circumstances the discharge summary should have been provided by the discharging medical officer to the appointed statutory health attorneys, via the nominated family representative, Mrs Lawrence.

I accept Mrs Lawrence's evidence that she was not informed of Dr Starmer's recommendation to Jacana that after he was settled, Craig be referred to a local cardiologist for revisit the potential role of an automated implantable cardioverter device.

Craig' family had high hopes when Craig was transferred to Jacana by the Royal Flying Doctor Service on 15 August 2016.

Rehabilitation and Medical Treatment at Jacana

On admission to Jacana, Craig was assessed and came under the medical care of Dr Kathryn Pugh, a Rehabilitation Physician qualified under the Royal

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[27] Cairns Hospital Discharge Summary 15 August 2016

Australian College of Physicians. Dr Pugh had worked at the Prince Charles Hospital and at Jacana Acquired Brain Injury Centre since 2006.

Craig lived at Jacana between 15 August 2016 until his death on 7 September 2017. Coronial review of the Jacana records detailing his general physical, functional, and mental wellbeing, was distressing and disappointing when compared with Craig's overall status at discharge from the Cairns Hospital.

During the period of Craig's residence at Jacana there were around forty residents, eight of whom were participating in slow stream rehabilitation. Dr Pugh's hours at Jacana equated to only one day per week and there was a visiting GP who attended for six hours per week. Jacana also had an allied health team and a nursing team.

Initially there was a period of assessment to understand Craig's needs to achieve daily tasks. He required one-on-one care and support. By December 2016 a behaviour support care plan noted Craig was often incontinent and required additional staff support for personal hygiene and cleaning on multiple occasions throughout the day. His room did not have access to ensuite toilet facility. This was a decline in the level of control and independence that Craig had previously achieved at Cairns. By January 2017 he was being escorted by staff to the toilet hourly and a psychologist was involved to introduce music conditioning to trigger and assist him to regularly go to the toilet. There was little improvement. He was restless and frequently pacing. Dr Pugh prescribed risperidone commencing in September 2016. This became a regular 1 mg dose from 16 November, for "agitation" and "compulsive behaviour". His behaviour became distressed and frustrated.

Craig's weight dropped from around 80kg to around 75kg over the first few months of his stay, and changes were made to his diet to try to keep his weight stable and reduce his fluid intake.

In February and March there were several episodes of frustrated behaviour. Craig began to regularly refuse meals and to refuse to participate in physiotherapy. It was noted that he was showing a "low mood" and saying he was unhappy. The option of moving wards was discussed with his family, to give him a new start and change habits he had developed, but Craig' family felt this would be too disruptive to his mood. Instead, it was planned he would move into a different room in the current ward when one became available.

In March 2017 a CT of his brain was arranged to investigate whether there were physical reasons for his deterioration, but the CT did not reveal any changes. On 19 April 2017 Dr Pugh commenced Craig on an anti-depressant, Amitriptyline.

In April 2017 Mrs Lawrence completed a Statement of Choices on Craig's behalf. She advised that her brother would have wanted CPR attempted as well as other life prolonging treatment if they became necessary and were consistent with good medical practice.

Following a case conference, Craig was changed to a ‘Community Pathways Program’, which was a less active rehabilitation program allowing more recreation time. In May 2017 Craig had an Allied Health Assistant (AHA) allocated for one to one specialling during the day to help to improve his continence and his weight. This was successful and Mr William’s continence improved and his weight was brought back up to 80kg, but he deteriorated again once the three-week AHA program was finished.

One to one care was re-introduced from the end of June for 4 weeks. Again, Mr William’s continence, and engagement in outings and activities improved, but his low mood continued. On 31 July his dose of amitriptyline was increased to 75mg.

Seven days later, on 7 September 2017, Craig was found in an unresponsive state. He was found by nursing staff on his bed at about 7:40am. He looked like he was asleep but was not breathing and had no pulse. Resuscitation was not attempted as there were no signs of life. That morning, at about 06.10 am Craig had been seen in the dining room by a patient support officer. Craig appeared to be in good health and was moving about without assistance. He said good morning to Craig and then continued with his duties. Craig returned to his room.

His death was unexpected and therefore the police were called. Dr Pugh advised QPS officers that Craig was not being treated at Jacana for any cardiac or other significant or life-threatening condition. Dr Pugh was unable to complete a Cause of Death Certificate.

Dr Pugh telephoned Mrs Lawrence and informed her of Craig’s death. I accept the information from Mrs Lawrence of the way the devastating and unexpected news was conveyed to her by Dr Pugh. Mrs Lawrence was devasted by Craig’s death, but the way Dr Pugh broke the news to Mrs Lawrence was lacking in empathy and added to the distress caused.

<u>Issues of concern arising at Jacana</u>

(1) Dr Pugh should have consulted with Craig’s family before stopping his melatonin and putting him on increasingly regular doses of temazepam and risperidone.

Dr Pugh considered the priority with regards to Craig’s rehabilitation at Jacana was “to settle him and his behaviour down.”[28] The coroner notes the overall impression gained from the discharge summary from Cairns was that Craig had made gradual but significant improvement. The treating team at Cairns Hospital had detailed the weaning of all medication previously required to manage his behaviours including the last remaining risperidone. At discharge he no longer required any regular or any PRN (as required) antipsychotic medication. The only “medication” was melatonin to assist sleep.

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[28] Statement of Dr Pugh, 29 July 2019

Dr Pugh immediately ceased the melatonin syrup and commenced Craig on 20mg of Temazepam as needed for night-time sedation. By 25 August this was a regular medication. Dr Pugh referred to Craig's global problems. She described problems due to very little short-term memory, difficulty orientating himself geographically, and restlessness in the extreme. She described him as a tall, strong man who could mobilise independently and enjoyed long walks. She said when he was anxious, he would push nursing staff assigned to get to his room.

Dr Pugh was aware from the discharge summary that Craig had been weaned from all medications excepting melatonin. Dr Pugh was aware that members of the family held enduring power of attorney for health-related decisions affecting Craig. They had expressed the wish to be involved in any decision to introduce other medications. Dr Pugh conceded at inquest that risperidone and amitriptyline were commenced without discussion. The GP at Jacana commenced risperidone, Dr Pugh reduced the dose when she became aware, but did not discuss this with family.

She gave evidence she disagreed with long-term use of melatonin, and that it would have required a special order. She expressed the view she did not think it helpful but conceded again, that she did not discuss this with family. Irrespective of her professional opinion, Dr Pugh was aware of the requirement that she discuss medication proposals with family members, and she failed to do so.

(2) Amitriptyline was contraindicated for Craig given his cardiac history

Independent evidence was provided and accepted at inquest by Dr Colquhoun and Dr Hodkinson that amitriptyline is contraindicated in patients with cardiac conditions. There was evidence indicating Craig was suffering from depression/anxiety, and therefore consideration of an antidepressant medication was appropriate. But there are a range of other medications which could have been considered by Dr Pugh, having regard to potential cardiac risk in the choice of amitriptyline. Dr Pugh did discuss some relatively minor side effects with Mrs Lawrence, but she did not refer to the potentially serious contraindication for someone with a cardiac condition, therefore there was no informed consent. Dr Pugh acknowledged she had very little cardiac experience herself and she relied on Dr Starmer's conclusion that Craig's condition was "*not Brugada syndrome"* when she prescribed amitriptyline.

Amitriptyline should not have been prescribed. It was contraindicated for cardiac patients.

I accept the evidence of Dr Colquhoun that "it is theoretically possible but very unlikely"[29] that the amitriptyline administered caused or hastened Craig's death.

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[29] T1-70, 3 – 4.

(3) The discharge summary from Cairns Hospital clearly indicated that Craig should have had a review by a cardiac specialist soon after his arrival at Jacana.

Dr Pugh acknowledged in her evidence that the discharge summary from the cardiology department in the Cairns hospital recommended that Craig be referred to a cardiologist “once he was settled.” Dr Pugh did not refer Craig to a cardiologist during his fourteen-month residence at Jacana. She acknowledged she did not telephone Dr Starmer to check the recommended timeframe or urgency of the referral. In her consideration of prescribing amitriptyline for Craig, she had acknowledged she had very little cardiac experience herself and she relied on Dr Starmer’s conclusion that Craig’s condition was “*not Brugada syndrome”* when she prescribed amitriptyline.

Her interpretation of the information in the discharge statement failed to appreciate that a negative genetic test result for Brugada did not mean Craig did not have Brugada syndrome. All the information in the discharge summary, including even the fact that Craig was managed by the cardiac unit for ten months at Cairns Hospital confirmed he had non-ischemic cardiac conduction condition which required referral to a cardiologist. Specifically, the referral was required to consider the potential role of an automated implantable cardioverter device. I repeat the language used in the discharge summary:

> *In view of his significant improvement and plan for further rehabilitation the potential role of an AICD was raised by his family. I have discussed this with Dr Starmer who feels that it would be revisit the potential role for an AICD for Craig in the future, and that after he has settled into Jacana he could be referred to a local cardiologist in Brisbane regarding this. As mentioned above, AICD implantation is not performed at Cairns Hospital. As Craig has been stable and not monitored for many months now, Dr Starmer is happy that he does not require cardiac monitoring for transfer to Brisbane.*

Dr Pugh acknowledged she procrastinated probably a little longer than she should have done, thinking if Craig was just a little bit more settled, she could get him off to a cardiologist without too much trouble.

Dr Pugh knew that Craig was always calmer when he was with his sister, but she did not discuss with Mrs Lawrence whether she could take Craig to a cardiology appointment. Had Dr Pugh discussed the feasibility of Mrs Lawrence accompanying Craig to a specialist cardiology appointment she would likely have discovered that Craig had successfully attended an off campus dental examination and teeth cleaning appointment with his sister. Dr Pugh assumed that if Mrs Lawrence wanted Craig to see a cardiologist, she would have told her. However, the family was unaware of the recommendation.

Dr Pugh acknowledged it was her responsibility to arrange the referral.

I reject Dr Pugh’s explanation. I conclude the evidence of Mrs Lawrence and the family’s dedication to Craig had established it was possible they could and would have managed to safely transport and accompany Craig to an appointment with a cardiologist.

I accept the evidence from Craig's family and the records of Jacana that by 13 October 2016 Craig demonstrated capability to attend a coffee shop with a social worker and order coffee, and to go out with family members.

I conclude this was a critical missed opportunity for Craig to be reviewed and his family advised of the feasibility and any other considerations of possible implantation of an automated implantable cardioverter device. This was the only treatment that could prevent the occurrence of another potentially fatal ventricular arrhythmia.

(4) Jacana may have not been a suitable facility to provide long term care for Craig

This issue must be addressed in the circumstances that Craig had suffered a profound brain injury. He was a fit, healthy, active, self-employed 44-year-old man who was suddenly totally dependent on his family and medical care for his survival and recovery. The extent of his recovery was complex given the cardiac condition and brain injury. Cairns Hospital provided the critical cardiac and intensive care and then continued his medical care for a very extended admission of ten months.

His immediate family, comprised of his parents and his sister and brother, were totally committed to Craig's recovery. They physically attended and gave Craig support and researched and lobbied for access to specialist care, always hoping and aiming to restore Craig to his former self. When it became known that the brain injury was severe, they persisted to ensure the best opportunity was provided for Craig to reach his full potential. They hoped he could regain a degree of independence, supported in the community.

Dr Keren Hervey, Director of Medical Services, Community and Oral Health, for Metro North Hospital and Health Service, under which Jacana was managed, provided the inquest with an independent review of facilities available at the time and now for treatment of those who have sustained brain injury. Jacana was the only facility available at the time. The severity of the brain injury, and particularly the hypoxic nature of the injury (as distinct from traumatic injury) was particularly challenging. Initial applications to specialist units at the Princess Alexandra Hospital and to Jacana were declined because Craig required more support that the facilities could provide.

Dr Hervey stated at the time Jacana was the only unit that would offer a rehabilitation program for such a brain injury.

I note the evidence of the number of residents undergoing slow stream rehabilitation with Craig, (about forty) and the particular specialty, skill and experience of the two medical staff attending at Jacana. There were additional nursing and allied support staff. Reviewing Craig's experience at Jacana, it is impossible not to conclude that his overall physical, functional and mental health declined over fourteen months. Jacana was insufficiently resourced and staffed at that time. Craig did not receive rehabilitation that improved his condition whilst at Jacana.

The sole rehabilitation physician providing service was in attendance for the equivalent of one day per week. The rehabilitation physician agreed in evidence that Jacana was not an appropriate facility for Craig. This was consistent with the view expressed by independent review provided by Dr Photinos.

Whether there were any failures in the care and treatment provided to Craig which were likely to have caused or hastened his death

Communication

I find that a serious failure of communication by the Cairns Hospital occurred when they failed to provide the Discharge Summary to Craig's statutory health attorneys, namely his parents and two siblings. In particular, the document should have been provided to the nominated family member, Mrs Lawrence. She had again raised the issue of the possibility of Craig accessing an automatic implantable cardioverter device in the period leading up to his transfer to Jacana.

The Hospital was required to provide the document to the patient or the patient's enduring power of attorney (EPOA) in accordance with their 'Completion and Distribution Procedure'. It seems to the court to be obvious that, where a patient lacks capacity and, as in Craig's case, they have statutory health attorney/s involved in decisions about their care, the attorney/s should also be provided with the discharge summary.

The family and Craig were not informed and were without access to the critical information that Craig should be referred to cardiology for review about the potential for AICD. This was the only life-saving intervention possibly available to Craig. It is without doubt that the family would have advocated on Craig's behalf to access that appointment

It cannot be known what decision a cardiology review might have provided concerning an AICD, but the loss of the opportunity to seek this therapy for Craig will forever be a matter of great distress to his family.

Findings

In accordance with s45(2) of the Coroners Act 2003 I make the following findings.

- The deceased person is Craig Leeton Williams, who was born on 6 December 1971.
- Craig Williams had an unheralded cardiac arrest on 4 October 2015, when he was aged 43. As a result of this event he suffered a hypoxic brain injury and stayed in the Cairns Hospital for rehabilitation for

around 10 months. He was accepted by and transferred to the Jacana Acquired Brain Injury Centre in Brisbane on 15 August 2016. Despite a recommendation by his treating cardiologist in Cairns, Jacana never referred Craig to a cardiologist in Brisbane. Craig was found dead on his bed by staff just over one year after his admission to Jacana. A staff member had seen Craig up and about in the dining room at 6.10am. He was found deceased at 7.40 am.

- Craig Williams died on the morning of 7 September 2017.

- Craig Williams died at the Jacana Acquired Brain Injury Centre at 99 Hoyland Street Bracken Ridge, Queensland.

- Craig Williams died due to a recurrence of ventricular fibrillation, due to Brugada Syndrome.

Recommendation and Comments

Whenever appropriate at an inquest a coroner may make comments on anything connected with the death investigated that relates to –

(a) public health or safety:
(b) the administration of justice; or
(c) ways to prevent deaths from happening in similar circumstances in the future

Craig's family have made submissions that the court should make five recommendations to prevent similar deaths from happening in the future. While I do not agree with the terms of all of the recommendations, nor that all five recommendations should be made, I make the following recommendation and comments:

Recommendation:

The Queensland Health hospital and Health Services review relevant policies and procedures, and amend as necessary, to ensure that, here a person who lacks capacity, and has Statutory Health Power of Attorney(s), or Enduring Power of Attorney, the person's representative must –

(1) be provided with the discharge summary;

(2) be kept informed and consulted on a regular basis regarding any significant health information, and health care decisions, especially where consent is required; and

(3) communication with the person/Enduring Power of Attorney/Statutory Health Attorney relating to significant health information/decisions is required to be documented in the patient's medical record.

I further commend to the Cairns and Hinterland Health Service, and to Queensland Health, consideration of the family's submission regarding critical heath care decisions to ensure they are clearly communicated to the patient, their enduring power of attorney(s) or their statutory health attorney(s). I support the suggested documentation of the communication in the patient's records including:

- Date and time of discussion
- Decision makers present
- Risks and benefits of proposed/withheld treatment discussed
- Documentation of consent to treatment/withholding of treatment by relevant decision-makers
- Documentation of concerns raised, and decisions for/against decisions

I do not support the family's suggested recommendation that any clinical handover involving a patient with an admission period of 6 weeks or more requires a conversation between the outgoing and incoming doctors. I suggest that, instead Queensland Health consider requiring the inclusion of the contact telephone number and/or email address of the summary author or the consultant/registrar who had care of the patient in all discharge summaries, to invite communication from receiving medical practitioners.

I accept the follow up comment for the Cairns Health District to follow up with training.

I commend to government the targeting of increased funding to provide slow stream rehabilitation to assist people with brain injury, particularly in north Queensland.

Finally, I note that the Jacana facility no longer exists. It has been relocated in early 2019 to the Brighton Health Campus.

Upon admission to the Brighton Brain Injury Unit a comprehensive assessment is undertaken by the medical officer. This includes completion of the ongoing medical management tool which documents any invasive devices, ongoing medical needs, or investigations required. The process is repeated following re-admission, after any investigation, or follow up required., enabling recognition by staff when a follow up investigation or appointment is required.

The admission process includes the patient, the Clinical Nurse Consultant, Social Worker and Case Manager. Case conferencing occurs weekly for patients in the rehabilitation phase of their treatment.

The medical, nursing and allied health resourcing was reviewed. A clinical nurse consultant role was appointed to provide clinical supervision, the development of clinical practice guidelines and identification of clinical risk and service improvement requirements.

Training for all staff in basic life support is mandatory. Training in acute resuscitation plans or advanced health care directives has occurred. Patients' current acute resuscitation plan is now visible on the display board and in a printed format.

In the event of a seriously deteriorating patient requiring ambulance transfer, a transfer form documenting critical information for handover has been developed and implemented.

Following Craig's death, his family were involved with review processes and participated in open disclosure meeting. They advocated on behalf of others who suffer brain injury. It is welcome to see that their suggestions have been considered and incorporated in the development of the Brighton Brain Injury Unit.

I thank all those, including the family, who have assisted this inquest into the death of Craig Leeton Williams.

I close the inquest.

Christine Clements
Brisbane Coroner
BRISBANE

30 November 2021