



MAGISTRATES COURT *of* TASMANIA

CORONIAL DIVISION

Record of Investigation into Death (Without Inquest)

*Coroners Act 1995
Coroners Rules 2006
Rule 11*

I, Robert Webster, Coroner, having investigated the death of Emily Margaret Rose Jones

Find, pursuant to Section 28(1) of the Coroners Act 1995, that

- a) The identity of the deceased is Emily Margaret Rose Jones;
- b) Mrs Jones died as a result of suffering a head injury due to a fall from standing;
- c) Mrs Jones's cause of death was a traumatic closed head injury (subdural haematoma);
and
- d) Mrs Jones died on 15 November 2021 at Hobart, Tasmania.

In making the above findings I have had regard to the evidence gained in the comprehensive investigation into Mrs Jones' death. The evidence includes:

- The Police Report of Death for the Coroner;
- Tasmanian Health Service (THS) Death Report to Coroner;
- Affidavits as to identity and life extinct;
- Report of the forensic pathologist Dr Donald Ritchey;
- Report of the cardiologist Dr Jonathan Lipton;
- Royal Hobart Hospital (RHH) safety event management form;
- THS root cause analysis (RCA) report;
- Medical records obtained from the RHH;
- Medical records obtained from the Hobart Private Hospital (HPH); and
- Report of the coronial medical consultant Dr Anthony Bell MB BS MD FRACS FCICM.

Background

Mrs Jones was 82 years of age (date of birth 3 February 1939), married and she resided with her husband, Maxwell, in Campania at the date of her death. They were married for 64 years. Mr and Mrs Jones had five children together namely three girls and two boys.

When Mrs Jones was very young she was given up by her father and looked after by a woman who attended church with the family. This woman was strict on Mrs Jones however she taught her a lot including cooking and sewing. They lived on a farm in Gippsland where Mrs Jones milked cows and made cream to sell. Mrs Jones had an older sister who was raised by the Salvation Army but they had little contact.

At the age of 13 Mrs Jones left Gippsland and travelled to Queenstown, Tasmania to locate and live with her mother. She worked as a seamstress for many years and she was also involved with the Country Women's Association.

Mr and Mrs Jones lived in Tasmania together for most of their married life except for two years when they ran a piggery in New South Wales and for four years when they owned a truck and machinery business in Victoria.

Mrs Jones and her husband enjoyed going to the Wrest Point casino for dinner and to gamble. In addition Mrs Jones did a lot of work around the house and garden as they had in excess of 20 acres of land to attend to. The property they owned had been subdivided and blocks had been sold off however they kept a package of land on which their house stood and a separate block for their shed. They had, prior to Mrs Jones's death, sold the house and shed and were waiting on a new house to be built.

Over the past 12 months or so Mr Jones had noticed his wife was suffering from problems with her memory.

Circumstances Leading to Death

Mrs Jones' general practitioner referred Mrs Jones to the HPH on 29 October 2021 as she had a fast heart rate (tachycardia). She was given thinners and treated. Mrs Jones was discharged from the HPH on 5 November 2021 and went home. While at home she suffered from confusion and stability issues which resulted in her having a number of falls. She was therefore transported on the same day to the RHH by ambulance.

While at the RHH she was seen by doctors in the emergency department and then admitted to K block where her heart rate issues were treated. She appeared to be improving and was

cleared by a physiotherapist to walk by herself. She was mobilising, eating and was going to the bathroom by herself and her confusion appeared to be getting better.

At approximately 4:27am on 15 November 2021 Mrs Jones was checked by nursing staff and was found to be well, eating, drinking, alert and orientated. No concerns were noted.

Approximately three hours later she was found slumped on the ground in her room in an unconscious state. It was determined she had sustained an unwitnessed fall sometime between 6:30am and 7:30am.

Mrs Jones underwent a CT scan of the head because of concerns as to whether or not she had sustained an intracranial haemorrhage in the fall. That diagnosis was confirmed by the scan. Mrs Jones was assessed by the neurosurgical team who concluded she was not suitable for an operation as she would not survive it. Her family were consulted and they advised doctors that their mother would not like to live with any ongoing disability. She had previously told her husband that if she ever became unable to care for herself then she did not wish to live. Mrs Jones was taken to the intensive care unit at 8:50am on 15 November 2021 and immediately intubated. She passed away at 11:47am that day.

Investigation

Police attended and determined there were no suspicious circumstances surrounding Mrs Jones' death. An examination revealed no obvious trauma or bruising or broken bones as a result of any fall.

Dr Ritchey conducted a post-mortem examination on 17 November 2021. He noted a history that Mrs Jones was transported to the RHH after multiple falls and delirium. She was found by medical staff to be in atrial fibrillation (AF) which was stabilised and she was placed on apixaban anticoagulation. A CT scan performed after her fall showed an acute subdural haematoma with mass effect. As a result of Dr Ritchey's examination and his consideration of the medical records he determined Mrs Jones died as result of a traumatic closed head injury (subdural haematoma) as a result of a fall from standing. It was noted she was also suffering from type II diabetes and chronic kidney disease.

The medical records disclose a history of hypertension, diabetes myelitis type II, hypocalcaemia, a right total knee replacement in 2019, four months of labial pain in 2021 and a body mass index in that year of 36.9.

The safety event management form reveals that nursing staff did not hear Mrs Jones fall and nor did the patient in the next bed. At the time of the admission she was assessed as being a high falls risk. It was determined that a RCA would be performed.

The HPH records indicate a referral by the GP to that hospital on 29 October 2021 was made as Mrs Jones was found to be in rapid fibrillation. There were no cardiac symptoms. There was a worsening of her shortness of breath over the last couple of weeks. There was a recent cognitive decline. The heart rate was 130 to 150 bpm, blood pressure 160/80 mmHg, and respiratory rate 95% on ambient air. The heart sounded normal with a soft pan-systolic murmur. Chest auscultation¹ was normal. An electrocardiogram² (ECG) showed AF at a rate of 150 bpm with no acute ischaemic changes. Blood tests showed chronic renal function decrease. There was hypocalcaemia³ and hyperphosphataemia⁴. The haemoglobin was low with microcytosis⁵. Chest radiology showed no abnormalities. A CT scan of the brain showed no acute changes. There was prominent vascular calcification of the major intracranial arteries and internal carotid arteries. There was idiopathic basal ganglion calcification. Metoprolol and apixaban were administered and Mrs Jones was admitted to hospital under the care of Dr Jonathan Lipton (cardiologist, electrophysiologist).

On 30 October 2021 Mrs Jones returned to a normal sinus rhythm on ECG. An echocardiogram⁶ showed a moderately dilated left atrium, normal left ventricular ejection fraction, and a dilated right ventricle with reduced function. There was mild to moderate aortic stenosis. Fluid over-load was suggested and Mrs Jones was treated with a diuretic. On the ward she was treated with increasing doses of metoprolol and later flecainide was commenced by Dr

¹ Listening for sounds of the heart with a stethoscope.

² An ECG is a simple, non-invasive test that records the electrical activity of the heart. An ECG can help diagnose certain heart conditions, including abnormal heart rhythms and coronary heart disease (heart attack and angina).

³ Too little calcium in the blood.

⁴ Too much phosphate in the blood.

⁵ Red blood cells that are smaller than normal.

⁶ An echocardiogram uses sound waves to show how blood flows through the heart and heart valves. Sensors attached to the chest and sometimes the legs check the heart rhythm during the test. The test can help a health care provider diagnose heart conditions.

Lipton. Dr R McCallum treated the hypocalcaemia with calcium and vitamin D. Diabetic medications were changed due to Mrs Jones' deteriorating renal function; creatinine rising to 142 micromol/L (normal 45 to 95 micromol/L). Before discharge AF returned. By 2 November 2021 the creatinine level had fallen to 109 micromol/L. Mrs Jones was discharged on 5 November 2021 with a cardioversion⁷ booked for 23 November 2021.

The RHH records indicate an admission to that hospital between 5 November 2021 until 15 November 2021. Mrs Jones' husband called Ambulance Tasmania (AT) at 7:44pm on the 5 November 2021. The discharge from the HPH earlier that day at 3:00pm was noted. Over the evening Mrs Jones had decreasing cognitive function with drowsiness, confusion and changes to speech. The AT officers found she was bradycardic⁸ with a heart rate 42 bpm, blood pressure 98/58 mmHg, afebrile and she appeared to be jaundiced. Mrs Jones was transported to the RHH emergency department (ED).

In the ED the history included Mrs Jones being unsteady on her feet and she had experienced a number of falls since returning home. The vital signs were unchanged. She was able to shuffle to the bathroom without ataxia. An ECG showed sinus bradycardia with first degree AV block, intraventricular conduction block and T wave inversion in leads VI to V4 (unchanged from the ECG at HPH). The blood glucose was 19.5 mmol/L (normal 3.5 to 7.3 mmol/L). The creatine was 192 micromol/L (normal 35 to 74 micromol/L), which indicated moderate kidney failure. There was mild elevation of liver function tests but no jaundice. The brain natriuretic peptide (BNP) was 9653 ng/L suggestive of cardiac failure. The haemoglobin was normal but with microcytosis (later shown Mrs Jones was iron deficient). The white blood cell count was elevated. A non-contrast scan of the brain showed no acute changes. There was prominent vascular calcification of the major intracranial arteries and internal carotid arteries. There was idiopathic basal ganglion calcification. Mrs Jones was admitted to hospital. Flecainide, apixaban and metoprolol were ceased. Ezetimibe, gliclazide and simvastatin were ceased.

On 6 November 2021 Mrs Jones' condition was unchanged. A renal ultrasound showed no urine flow obstruction. The kidney function had worsened.

⁷ Cardioversion is a medical procedure that uses quick, low-energy shocks to restore a regular heart rhythm.

⁸ A slower than normal heart rate.

On 7 November 2021 her heart rate had increased to 60 bpm. Her renal function had improved. Mrs Jones was orientated to place. Apixaban and gliclazide were recommenced.

On 8 November 2021 her cognition had improved. Constipation remained and her kidney function was improving. The blood glucose was elevated, the haemoglobin A1C showed good long-term control. Later Mrs Jones developed AF at a rate of 170 bpm, she was asymptomatic and metoprolol was restarted. An amiodarone infusion was commenced.

Over the next week Mrs Jones' cognition varied, but she seemed to be improving. There were continued problems controlling her heart rhythm which was very slowly controlled. The kidney function continued to improve. The liver function tests remained slightly abnormal.

On 15 November at 07:30am Mrs Jones was found on the floor of her room. She was in a decreased conscious state. An urgent CT scan of the brain showed a large subdural haematoma. After stabilization in the intensive care unit and a family discussion palliative care was commenced.

The RCA looked at the potential clinical causes for Mrs Jones's fall. The 3 possibilities were a spontaneous subdural haemorrhage, an earlier fall which may have caused a subdural haemorrhage with slow impact or a cardiac event. As to the first potential cause that was discounted given the preliminary forensic pathology report which identified Mrs Jones' injury was caused by trauma and was consistent with a fall particularly given her age and associated clinical risk factors. The second potential cause resulted from an interview with a registered nurse, caring for Mrs Jones on the night she fell, who recalled a conversation with Mrs Jones about her finding a "chair on wheels" which was unsteady, sometime over the previous day. The nurse did not think it important but on reflection wonders if Mrs Jones had fallen from the chair earlier in the day and suffered a head injury. CCTV footage could not be accessed as it is deleted after 14 days. There was no documentation of a fall in the clinical notes or reported at nurse handover. Given there were no changes to Mrs Jones' vital signs or cognitive function or other signs of head trauma together with the forensic pathologist's assessment the review panel was satisfied there was no evidence of a previous fall. In relation to the third cause the panel noted Mrs Jones was monitored with continuous cardiac rhythm monitoring via telemetry. Those records could not be accessed because they are digital and deleted after a period of time however interviews and documentation demonstrate there was no change to Mrs Jones' heart rhythm prior to her fall. In addition, the preliminary forensic pathology report did not indicate

cardiac involvement and this was supported by her vital signs and other observations prior to her fall. Accordingly, the panel members who conducted the RCA agreed that none of these three possibilities did in fact occur.

The RCA then considered her management at the RHH and noted on discharge from the HPH Mrs Jones was provided with a Webster pack which was made available to the RHH and which was used to inform the prescription of her inpatient medications. It was noted that both aspirin and apixaban, which are both blood thinners, were present in the Webster pack and so both were charted by the admitting medical team. Two documents were received by the RHH medical records from the HPH which were the nursing discharge summary which was scanned into the correspondence tab whereas the other was Dr Lipton's medical discharge summary which is dated 30 October 2021 and which was faxed to the RHH medical records at 7:00pm on 8 November 2021. It was scanned to the diagnostic tab which is not the usual location for such a document and was not likely to be found for review by the admitting medical team. The discharge medication in Dr Lipton's summary included apixaban but not aspirin. The panel learnt correspondence from external services are not automatically allocated to specific tabs but instead clinical judgement is used to determine the most appropriate location for the document within somebody's medical record. As the letter of Dr Lipton was headed clinical consultation it was put in the diagnostic tab. Recommendations were therefore made to improve the process for the transfer of clinical information from external organisations. The use of both anticoagulants likely led to Mrs Jones having more anticoagulation than was therapeutically necessary and therefore increased her risk of significant bleeding. The admitting medical team however believed that as both medications were recently prescribed by a cardiologist at the HPH, due to their presence in the Webster pack, and absent them having any contrary information⁹ it was reasonable to chart both medications on admission to the RHH.

While an inpatient Mrs Jones had one complete pharmacy review and one incomplete review. The role of the pharmacist's review of medications is to alert the treating medical team of any problems or risks so the medical team can consider any necessary changes or seek further advice. The complete review occurred on Sunday, 7 November 2021; two days after her late evening admission on 5 November 2021. That review did not highlight the prescription of aspirin in addition to apixaban. The evidence was a pharmacist undertaking this review, in the

⁹ The letter from Dr Lipton, although incorrectly filed, was not provided to the RHH until 2 days after Mrs Jones' admission.

context of recent care by a cardiologist, is not likely to identify the addition of aspirin as an immediate concern. The second review conducted five days later was incomplete so again the risk of prescribing aspirin in addition to apixaban was not identified. This review was not completed because of chronic staffing issues. Accordingly, priority was given to patients who were newly admitted or those who were being discharged and it was noted that this review was not undertaken on a newly admitted patient or one who was to be discharged. The staffing issue was well known and it was being managed by the THS at a statewide level.

Next it was queried why Mrs Jones was admitted under the general medicine team, who sought assistance from the cardiology team, rather than the cardiology team itself. The answer was that patients with complex medical issues; e.g. delirium, are often omitted under general medicine with specialty input as required. In addition the cardiology ward had been identified as less suitable for patients suffering from complex delirium which is what Mrs Jones was suffering from for a period of time. A request for review by cardiology occurred on Saturday 6 November 2021 but the review did not take place until Monday 8 November 2021. It was usual for cardiology patients to be seen in person during ward rounds over the weekend. The panel could not determine the reason for the delay but agreed it did not contribute to Mrs Jones's fall or death.

The identification of aspirin as a risk would have required a consultant cardiologist review however that did not occur. It is usual practice for registrars to provide specialist consultations in some cases and in this case a referral was made to request input in controlling Mrs Jones' AF and that task was within the capabilities of a cardiology registrar. Had she been seen by a consultant cardiologist the likelihood of aspirin being ceased would have been improved but not guaranteed. However, in the absence of identifying the risk of aspirin and apixaban together a review by a consultant cardiologist was not consistent with expected and reasonable practice.

The RCA panel found nursing staff correctly completed the falls risk assessment tool within the required timeframe and identified strategies to reduce Mrs Jones' risk of falling. It was identified she had a high risk of falling due to her delirium, medications, clinical judgement and history of previous falls. Strategies included a bed check alarm (which was later removed because she had become independently mobile), a physiotherapy mobility assessment, having her bed height adjusted appropriately with bed rails down and a toileting regime.

The mobility assessment was conducted by a physiotherapist on 9 November 2021. That included an assessment of Mrs Jones walking independently for 50 m and an observation of her spontaneously squatting beside her bed. Mrs Jones' mobility was assessed as being consistent with her premorbid baseline and it was determined she required no further physiotherapy review. There was no balance assessment undertaken however the evidence was, although not formally documented, the physiotherapist was satisfied Mrs Jones' balance was safe as demonstrated by her ability to safely squat. Again, the fact this was not included in the formal documentation of the assessment was due to chronic staffing issues and a high workload. Again, this staffing issue was being managed. Nursing and allied health documentation and interviews consistently reported Mrs Jones had been ambulating without issues throughout her admission. The panel therefore concluded her mobility assessment was adequate and it was satisfied documentation of the balance assessment would not have changed the outcome.

Mrs Jones delirium was identified on her admission as were her many predisposing risk factors. An OT assessment was undertaken to determine what support would be required at discharge. Her premorbid performance demonstrated she was independent with activities of daily living and driving and the occupational therapist also spoke to Mr Jones to obtain a history with respect to her recent cognition. The occupational therapist assessed the severity of the confusion on multiple occasions and she was positive for delirium on two occasions. Later on the occupational therapist assessed Mrs Jones' delirium was resolving and it was determined she could undertake a functional cognitive assessment to guide any discharge or rehabilitation plans. It was queried whether or not she should have been referred to the Aged Services Team to manage her delirium. That is a specialist nursing service that assists in complex medical or social needs for patients over the age of 65 and coordinates rehabilitation residential care placements. Given Mrs Jones' delirium was resolving it was considered a referral to that team was not required.

Finally, it was noted Mrs Jones had an acute episode of AF in the evening of 13 November 2021 which required management overnight. This event involved an acute change in her condition, use of medications and interrupted sleep within 48 hours of her fall and head injury. Subsequent to this episode there was no reassessment of her falls risk or delirium and in addition it was noted, as the falls risk assessment tool was due for reassessment on that day, that was not attended to either. This occurred over the weekend where allied health and medical services are limited. The panel therefore queried whether this was a missed opportunity to identify an increased risk to Mrs Jones however it was noted her blood pressure remained stable during

this period and she remained assessed as a high risk of falls but continued to demonstrate safe, independent mobilisation and therefore it was determined that if a reassessment had taken place no additional interventions were likely to have been implemented.

The panel therefore acknowledged the risk of harm Mrs Jones was exposed to by being a patient at the RHH but was satisfied all reasonable measures were taken to prevent her from falling, noting it is a challenge for doctors to strike a balance between ensuring a safe environment and providing patients with appropriate freedom to move around. The panel acknowledged Mrs Jones did not need to be prescribed aspirin and apixaban and the risk of her head injury being fatal may have been reduced if aspirin had been ceased on her admission however the panel could not be certain to what extent the injury would have been impacted.

Dr Lipton provided a report with respect to his treatment of Mrs Jones which sets out his training and experience as a cardiologist together with details of his subspecialty training in cardiac electrophysiology which was undertaken at the Royal Prince Alfred Hospital and Royal Melbourne Hospital. His area of specialty is the management of patients with arrhythmias, including medical management, invasive electrophysiology studies, catheter ablation and cardiac implantable electronic devices. He is the clinical lead for the cardiac rhythm service of the THS and he established invasive electro physiology services at the RHH and he developed state-wide care pathways and protocols for the management of arrhythmias including AF. Dr Lipton provided a copy of his discharge letter which was incorrectly filed in the RHH medical records to the diagnostic tab rather than the correspondence tab.

Dr Lipton says Mrs Jones was referred to the HPH by her GP who had seen her for a vaginal infection and found her to be in AF with rapid ventricular rates. The GP was concerned about a possible cervical malignancy and there was concern about her cognitive decline over the past few weeks and shortness of breath. He then sets out what was found on presentation and noted her most concerning problem was the AF with rapid ventricular rates so she was admitted under Dr Lipton's care. She was also assessed by Dr Daniels with respect to vulval pathology and Dr McCallum was involved in relation to her diabetes and calcium management. He then sets out what he did. He then provides the reasons for the medications which he treated her with. He was not informed of her admission to the RHH which he says is unfortunate because he believes he could have provided potentially outcome altering input into her care. He would have probably discussed her for a dual chamber pacemaker implantation

given her “brady – tachy”¹⁰ syndrome which would allow for safe up – titration of rhythm/rate control medication, possibly at a later stage followed by AV node ablation.

Next it was pointed out to Dr Lipton that Mrs Jones appeared to have suffered a significant complication related to slow heart rate induced by treatment with metoprolol leading to cognitive decline and a fatal fall at the RHH. He was asked to provide his opinion about the safety and efficacy of using metoprolol and flecainide in an elderly female patient with decreased renal function. He says after reading the notes of her admission at the HPH and RHH he agrees she presented with symptomatic bradycardia related to her treatment with those two medications but he was not convinced her cognitive decline and fall were related to the bradycardia. He says she initially presented to HPH with AF and rapid ventricular rates that did not respond readily to rate control medications. He says such patients are challenging to manage and require careful titration of medications. Older age and decreased renal function are additional complicating factors. There is a risk of bradycardia if and when these patients revert to sinus rhythm. There is also a significant risk of haemodynamic compromise (resulting in renal functional decline, heart failure and cognitive decline) in the case of sustained rapid ventricular rates. Flecainide is in part (30%) renally cleared however he notes renal clearance has been shown to be a poor predictor of plasma clearance of the drug. Given her situation his assessment was that the combination of metoprolol and flecainide was a safer combination than a beta-blocker alone, noting the maximum dose of metoprolol did not result in adequate rate control, addition of calcium channel blocker (due to blood pressure lowering effect), digoxin (due to high risk of toxicity due to renal clearance) or amiodarone (due to overall much longer half life). He says discharge without adequate rate control would have put her at high risk for heart failure and a trans-oesophageal echo followed by cardioversion without sufficient anti arrhythmic medication would not have prolonged success. He says the fact that during her admission at the RHH she reverted back to AF with rapid ventricular rates within days of her admission support his view that flecainide did not have a prolonged effect even with the renal impairment and that there was a need for further rate control.

He says AF with rapid ventricular rates can be challenging to manage, especially in elderly patients. The switching between very rapid rates in AF and then slow rates is called “brady-tachy” syndrome. Medical management is often not successful and implantation of a dual chamber pacemaker allows up titration of rate control medication while a pacemaker prevents

¹⁰ See the explanation of this condition at the bottom of the page.

bradycardia. Implantation of a pacemaker also carries considerable risk especially in elderly patients and will not be considered as a first-line therapy for all patients with AF and rapid ventricular rates.

Dr Lipton agrees the sinus bradycardia was related to the medication but he was not convinced this was the cause for her cognitive decline and/or falls. He noted on presentation to the RHH she was in sinus bradycardia with a rate of 43/min, however she had adequate blood pressure at 117/74 mmHg. Mrs Jones was noted to be quite confused and unsteady when mobilising. He notes her acute cognitive decline may be contributed to by bradycardia but it did occur on the background of existing cognitive decline.

Dr Lipton goes on to say flecainide and metoprolol were appropriately discontinued. However, on the second day she went back into AF with rapid ventricular rates. Metoprolol was restarted and after consultation with the cardiology team amiodarone was started as well. At the moment of her unwitnessed fall she appears she was still on telemetry and the rhythm during the event was said to be AF with ventricular rates around 100 per minute. He is therefore not convinced she had a bradycardic event which caused her to fall. Given her blood pressures had been stable he thinks the fall was more likely mechanical or balance related. In hindsight he says he would still have in the first instance initiated the medications he treated her with and perhaps kept her in a bit longer however she was keen to discharge herself for several days and was deemed suitable for discharge based on her mobilisation at the HPH. If he had been contacted on admission to the RHH he would discuss the option of a pacemaker implantation in the context of paroxysmal AF with “brady – tachy” syndrome. He does not however think the pacemaker would have prevented her fall given it was not bradycardia related and therefore he concludes the outcome would unfortunately not have been any different.

Given the circumstances of Mrs Jones’ death I arranged for the coronial medical consultant Dr Bell to review this file. He noted due to its significant effect on sodium channels, flecainide prolongs depolarization and can slow conduction in the AV node¹¹, the His-Purkinje system¹²,

¹¹ The atrioventricular (AV) node is a small structure in the heart. It transmits impulses from the atria to ventricles and coordinates their contraction.

¹² The His-Purkinje System is responsible for the rapid electric conduction in the ventricles. It relays electrical impulses from the atrioventricular node to the muscle cells and, thus, coordinates the contraction of ventricles in order to ensure proper cardiac pump function.

and below. These changes can lead to prolongation of the PR interval¹³, increased QRS duration¹⁴, and first- and second-degree heart block¹⁵. In addition, profound sinus bradycardia can be induced in patients with pre-existing sinus node disease.

Flecainide accumulates in patients with renal failure and therefore close monitoring of concentrations is needed. Although the absorption and volume of the distribution of flecainide are unaffected by renal failure, the plasma elimination half-life is prolonged in mild to moderate renal impairment (10 to 30 hours) compared with normal renal function (6 to 15 hours).

Metoprolol and flecainide are both drugs that slow heart rate through different mechanisms.

Dr Bell notes Mrs Jones was discharged from HPH in AF at a ventricular heart rate (pulse rate) of 90 plus bpm. She appeared well at discharge. Then in the evening of discharge her heart rate fell to 40 bpm with decreased perfusion of the brain leading to delirium. The cognitive dysfunction then led to the fatal fall in the RHH.

The course of renal failure is harder to determine. Renal function seemed stable in the HPH, but in the last three days there were no measurements of creatinine. The level of kidney dysfunction suggests kidney dysfunction started in the HPH, but as is usual it would be asymptomatic; that is there would be no identifying symptoms evident.

Mrs Jones' falls risk assessment placed her in the high-risk category, due to cognitive disorder and impaired judgement. High risk falls management was put in place.

From a medical point Dr Bell says Mrs Jones was well managed at the RHH.

Dr Bell says Dr Lipton is a well-trained and experienced electrophysiologist (a cardiologist who has gone on to specialise in the management of heart rhythm disorders or arrhythmias). Dr Lipton has provided cogent reasons for the drugs he selected to treat Mrs Jones.

Dr Lipton indicated her cognitive decline may have been worsened by the bradycardia. After the bradycardia resolved Mrs Jones' cognition was noted to improve over several days. Dr

¹³ The PR interval is the time from the onset of the P wave to the start of the QRS complex. It reflects conduction through the AV node.

¹⁴ Prolonged QRS duration is an important prognostic indicator in patients with systolic heart failure.

¹⁵ Heart block occurs when the electrical signals from the top chambers of the heart do not conduct properly to the bottom chambers of the heart.

Lipton says the fall was not due to bradycardia as proven by the continuous heart rhythm monitoring at the time. Dr Bell says Dr Lipton's statement in that regard is clearly correct.

However, Dr Bell notes Mrs Jones had several falls at home (history in the ED). In the RHH she was assessed as a high risk of falls due to her cognitive disorder and impaired judgement. This, he says, proved to be the case.

The worsening of her cognition may have increased the chance of a fall, but her cognition was actually improving at the time of the fall.

Dr Bell says the RHH medical team recognised Mrs Jones' presentation with bradycardia was drug related. The prescribing physician, Dr Lipton should have been notified, in particular because he was a specialist in the area.

The management plan was reasonable as explained by Dr Lipton. Dr Lipton has clearly reviewed the case and considered practice adjustments.

Dr Bell concluded by saying there are no medical issues apart from the RHH not communicating with Dr Lipton.

I agree with the opinions of Dr Bell, Dr Lipton and the findings of the RCA panel. Even if Dr Lipton had been consulted by the RHH then the provision of both aspirin and apixaban would have been discovered and no doubt aspirin would have ceased. It is however unclear, had this occurred, whether the result would have been any different.

Comments and Recommendations

The only **comment** I make is that it would be prudent in cases where a patient is admitted to the RHH soon after discharge from another hospital, that the treating staff at the RHH should contact the doctor at the other hospital under whose care the patient was admitted. That doctor could provide the treating team at the RHH invaluable advice and would avoid any difficulties caused by any delay in the transmission, or misfiling, of discharge information.

The circumstances of Mrs Jones's death are not such as to require me to make any further comments or any recommendations pursuant to Section 28 of the *Coroners Act 1995*.

I convey my sincere condolences to the family and loved ones of Mrs Jones.

Dated: 11 October 2023 at Hobart in the State of Tasmania.

Robert Webster
Coroner