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 Lois Winifred Mackey

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

a) The identity of the deceased is Lois Winifred Mackey (Mrs Mackey);

b) Mrs Mackey died as a result of decompensated right heart failure (cor pulmonale) immediately following mitral valve replacement in the setting of multifactorial chronic pulmonary hypertension;

c) Mrs Mackey's cause of death was decompensated right heart failure (cor pulmonale); and

d) Mrs Mackey died on 21 May 2020 at Hobart, Tasmania.

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

- The Police Report of Death;
- Royal Hobart Hospital (RHH) death report to coroner;
- Affidavits establishing identity and life extinct;
- Affidavit – Dr Donald Ritchey, State forensic pathologist;
- Affidavit of Leanne Seabrook, senior next of kin;
- Medical records obtained from Kings Meadows Medical Centre (KMMC);

- Medical records obtained from the Tasmanian Health Service (THS); and
- Reports of the coronial medical consultant Dr Anthony Bell MD FRACP FCICM.

Background

Mrs Mackey was born on 7 May 1937 at Wynyard in Tasmania. She was raised on Flinders Island and attended Ladies Methodist College in Launceston as a boarder. That school is now known as Scotch Oakburn College. She married Trevor Mackey and lived in northern Tasmania for her entire adult life. Mr and Mrs Mackey were unable to have children of their own. Mr Mackey passed away in 2014.

During her working career her usual occupation was that of a clerical office worker. She was retired and aged 83 years at the date of her death.

Her niece Leanne Seabrook says she was extremely close with Mrs Mackey and was the closest thing Mrs Mackey had to a daughter. Ms Seabrook saw Mrs Mackey weekly and spoke to her almost daily on the phone. Mrs Mackey was heavily involved in Ms Seabrook's life and treated Ms Seabrook's children as her grandchildren. While Ms Seabrook did not provide any care to Mrs Mackey she would provide Mrs Mackey with meals from time to time. Mrs Mackey was well supported by her neighbours and although she lived in her own unit this was only approximately 6 minutes' drive from Ms Seabrook's home.

Mrs Mackey's Health

Ms Seabrook says throughout her life Mrs Mackey was very agile, fit and healthy. However about 5 years prior to her death she began to experience problems with her health which required hospitalisation. Ms Seabrook believes the condition was chest infections/pneumonia which was a recurring issue and resulted in Mrs Mackey being hospitalised at least once per year. Ms Seabrook says Mrs Mackey was admitted to hospital in Launceston 3 times between mid-March 2020 and her date of death due to heart problems. She says on 19 May 2020 that Mrs Mackey was transferred from the Launceston General Hospital (LGH) to the RHH for heart valve surgery which Ms Seabrook understood went well. Ms Seabrook says her understanding is if Mrs Mackey's heart condition had been detected and treated earlier then her heart would have been strong enough to survive the surgery conducted at the RHH.

THS Records

These records disclose Mrs Mackey was admitted to the LGH on 10 occasions. Of relevance are the following:

- 28 February to 1 March 2006: sudden onset of central chest tightness, associated shortness of breath, nausea and weakness;
- 24 to 29 December 2010: pneumonia and shortness of breath;
- 29 December 2010 to 3 January 2011: fluid overload and shortness of breath;
- 31 October to 1 November 2013: chest pain and shortness of breath. A CT pulmonary angiogram to rule out a pulmonary embolism; i.e. a blood clot was conducted and it was clear;
- 18 March to 1 April 2020;
- 6 May to 13 May 2020 and
- 15 May to 18 May 2020.

On 18 May 2020, Mrs Mackey was transferred to the RHH where, on 21 May 2020, she underwent surgery to replace a mitral valve. Sadly, she did not survive that surgery.

The records for the admission on 18 March 2020 show the presenting problem was severe mitral valve prolapse and decompensated heart failure which was treated. On 6 May 2020, Mrs Mackey presented at the LGH by ambulance after the onset of sudden chest and neck pain with associated breathlessness on a background of progressive shortness of breath over 2 days with a history of heart failure with preserved ejection fraction and severe mitral regurgitation. She was admitted to the cardiology unit and treated and consideration was given to mitral valve replacement surgery. A coronary angiogram was performed which showed normal coronary arteries. A trans-oesophageal echocardiogram was attempted but had to be abandoned due to difficulties passing the probe as a result of a narrow crycopharyngeus. On review it was decided she was appropriate for discharge on 13 May 2020 with a follow-up at the cardiologist's clinic in

4 weeks, medication changes were made and she was advised to see her GP weekly for fluid management and monitoring of her symptoms. She was to re-present to the emergency department if she had any serious concerns. Mrs Mackey presented again to the LGH on 15 May 2020 after a further syncopal episode. She was treated and monitored until being transferred to the RHH on 18 May 2020.

The records of the RHH set out the treatment Mrs Mackey received including details of the operation which was performed on 21 May 2020.

Post Mortem

On 22 May 2020, Dr Ritchey performed the post-mortem. He says the autopsy revealed advanced valvular heart disease and secondary lung disease. A prosthetic mitral valve was normally/securely seated without apparent surgical error and it appeared to function normally. Microscopic sections of lung revealed significant thickening of septal arterial walls by intima and medial hyperplasia and fibrosis. Dr Ritchey says this evidence suggested to him long-standing secondary pulmonary hypertension (elevated blood pressure within the pulmonary artery system supplying blood to the heart). He says the secondary hypertension was likely multifactorial caused by, amongst other things, increased pulmonary pressure exacerbated by long-standing mitral valve regurgitation. In conclusion, Dr Ritchey says:

"Acute right ventricular heart failure as observed in this case likely resulted from decompensated chronic pulmonary hypertension in a setting of additional acute stresses placed on the right ventricle during general anaesthesia and cardiac surgery."

In plain English, Dr Ritchey is saying that the right side of Mrs Mackey's heart failed due to long-term high blood pressure in the arteries of the lung and right ventricle and while undergoing additional stress caused by the general anaesthesia and cardiac surgery. I accept Dr Ritchey's opinion.

Dr Bell's First Report

Because of Ms Seabrook's concerns, I arranged for the medical consultant to the coronial division of the Magistrates Court, Dr Bell, to review this file including all medical records. In his first report he concentrates on the surgery performed at the RHH and notes Mrs Mackey's

past significant medical history and her current medication regime. He says at the surgical assessment her frailty was acknowledged, as was a predicted mortality rate of 7%. The major concern was Mrs Mackey's pulmonary artery hypertension with right ventricular dysfunction. Her weight was 45kg.

Surgery proceeded on the 21 May 2020 by way of a mitral valve replacement. It went as planned. At removal from cardiopulmonary bypass (CPB) over 15 minutes the right ventricle contractility worsened and Mrs Mackey's blood pressure crashed. CPB was restarted. Drugs to support the right ventricle were commenced. CPB ceased again and the right ventricle failed. An intra-aortic balloon pump was inserted and further drug infusions commenced. CPB was ceased and the right ventricle failed again. All support was ceased and Mrs Mackey sadly died on the operating table.

Dr Bell notes the opinion of Dr Ritchey and says the surgery was necessary and the major risks were recognised beforehand. His conclusion is there are no issues with the treatment received by Mrs Mackey at the RHH. I accept Dr Bell's opinion.

Dr Bell's second report

In Ms Seabrook's affidavit she says *"I've been told by two cardiologists at the Launceston General Hospital that if Lois' condition had been detected and treated earlier that she would still be with us, and her heart would have been strong enough to survive surgery. I am extremely disappointed that she had been misdiagnosed with chest infections for years, as I feel her death at this point in her life could have been prevented."* In my view, Ms Seabrook is criticising the conduct of the general practitioner. This is confirmed by a note which has been entered into the general practitioner's records by an administrative officer of the Kings Meadow Medical Centre (KMMC) on 22 May 2020 which says:

"Patient's niece called to let us know that Lois passed away in hospital last night undergoing surgery in Hobart. The niece also stated that if this problem was picked up earlier it could have been prevented, and they (sic) whole family are quite upset. I spoke to Dr Hopwood and he passed on his sincere condolences to the whole family."

The general practitioner's records confirm that for the majority of the period from 4 May 2015 until 5 May 2020, Mrs Mackey consulted Dr Christopher Hopwood at the KMMC.

I raised Ms Seabrook's concerns with Dr Bell, asked him to review the records of the KMMC and sought his advice with respect to these concerns which he provided in a second report. Dr Bell says mitral valve prolapse (MVP) is the most common cause of organic severe mitral regurgitation (MR) in the Western world and is characterised by myxomatous degeneration of the mitral valve leaflet(s) in the absence of a recognisable connective tissue disorder. The degree of involvement of the mitral valve leaflets is variable and this results in a wide spectrum of the disease. Dr Bell goes on to say with chronic severe MR most patients remain asymptomatic for years and the development of symptoms is generally insidious with time or at the onset of atrial fibrillation. The most common symptom of severe MR is dyspnoea, which is difficult or laboured breathing. Fatigue is a much less specific symptom and less likely to improve after surgery. The natural history of MVP is generally benign however serious complications such as infective endocarditis, cerebrovascular accidents, and the need for mitral valve surgery, heart failure and death do occur.

In this case he says there was a delay in the diagnosis which should have been considered if the cardiac murmur had been heard. In that regard he says there is no record of cardiac examination in the records of the KMMC however in March 2020 at the LGH the murmur was detected. Dr Bell says the murmur was almost certainly present for a number of years. As to whether the general practitioner has been deficient in his or her management of the patient Dr Bell says in his experience a general practitioner would not routinely listen to the heart unless there was an indication to do so and in this case it seems there was no such indication. In addition, Dr Bell acknowledges time pressures on general practitioners are great and the general practitioner was *"also anchored into the lung disease which was present and could account for the symptoms."* Dr Bell therefore concludes Dr Hopwood acted reasonably in his management of Mrs Mackey.

Would earlier surgery have produced a better outcome? Dr Bell says observational data, which he acknowledges is subject to limitations, suggests that if the surgery was performed earlier there would have been a better outcome and a lower mortality. By the time surgery was performed in this case the assessed mortality rate was 7%. Prior to the onset of pulmonary hypertension the operative mortality rate is lower because in those circumstances patients can have mitral valve repair rather than replacement which of itself avoids the complications associated with mechanical valves. He therefore concludes by saying while earlier surgery would have resulted in a better outcome. Dr Hopwood's medical management of Mrs Mackey was of a reasonable standard. I accept Dr Bell's opinions.

Accordingly, I conclude no criticism can be levelled at Dr Hopwood in relation to his management of Mrs Mackey.

Comments and Recommendations

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

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

Dated: 21 March 2022 at Hobart Coroners Court in the State of Tasmania.

Robert Webster
Coroner