IN THE CORONERS COURT

OF VICTORIA

AT MELBOURNE

Court Reference: COR 2016 0801

FINDING INTO DEATH WITHOUT INQUEST

Form 38 Rule 63(2)

Section 67 of the Coroners Act 2008

Findings of:	**AUDREY JAMIESON, CORONER**
Deceased:	**LYDIA MAXFIELD**
Date of birth:	**28 July 1930**
Date of death:	**22 February 2016**
Cause of death:	**Multisystem failure complicating ischaemic heart disease and ischaemic bowel in the setting of recent total knee replacement**
Place of death:	**Maryvale, Victoria 3840**

Pursuant to section 67(1) of the **Coroners Act 2008**, I make findings with respect to **the following circumstances**:

1. Mrs Lydia Maxfield was 85 years of age at the time of her death. She lived in Drouin with her son Robert and was mobile and independent in activities of daily life.

2. Mrs Maxfield's medical history included osteoarthritis, hypertension, ischaemic heart disease,[1] ulcerative oesophagitis, obesity,[2] right hip replacement (2009), right knee replacement (2012), and left hip replacement (2013).

3. Following left hip replacement surgery in January 2013, Mrs Maxfield developed 'indigestion', was found to be anaemic and received a blood transfusion, after which the symptoms spontaneously settled. Six weeks post-operative, Mrs Maxfield was reviewed by interventional cardiologist Dr Tony White, and a persantin nuclear myocardial perfusion scan[3] was performed. Mrs Maxfield's cardiac ejection fraction[4] was found to be 65 per cent with limited uptake in the basal lateral wall, which was suggestive of stenosis in the circumflex artery. Dr White summarised:

> Mrs Maxfield has had an episode of probable angina post-operatively…she is now asymptomatic […] I would like to advocate conservative management. There was a clear cause for the post-surgical angina (she was anaemic).

4. A Computed Tomography **(CT)** Angiogram[5] was performed in December 2013 which showed minor atherosclerotic plaques[6] in the proximal and mid left anterior descending coronary artery and mid circumflex coronary arteries, for which conservative management was also advocated.

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[1] On autopsy, Dr Lynch notes Mrs Maxfield had evidence of ischaemic heart disease with coronary artery atherosclerosis and myocardial fibrosis. The ischaemic change most likely reflects hypo-perfusion in the setting mesenteric atherosclerotic disease.

[2] Height 147 centimetres, weight 84 kilograms. Mrs Maxfield had a body mass index (BMI) of 37 kg/m².

[3] A test which examines the blood supply to the heart muscle non-invasively.

[4] The term ejection fraction thus applies to forward performance cardiac output of the right and left ventricles. Normal ejection fraction 55-70 per cent.

[5] CT angiography is performed by the administration of a rapid bolus of standard intravenous CT contrast.

[6] Coronary artery wall thickening due to fatty plaque deposits collecting within the blood vessels causing them to narrow, resulting in reduced blood supply, and therefore reduced oxygen supply to tissues.

CIRCUMSTANCES PROXIMATE TO DEATH

5. Mrs Maxfield was electively admitted under the care of Orthopaedic Surgeon Mr George Owen to Maryvale Private Hospital **(MPH)** on Tuesday, 16 February 2016 for a planned left-sided total knee replacement secondary to osteoarthritis.

Maryvale Private Hospital

6. MPH is a 46-bed acute care medical and surgical private hospital situated in Morwell, wholly owned by Latrobe Health Services and accredited to international and National Safety and Quality Health Service Standards.[7] In 2016, it employed 19 full-time staff and 108 nurses across the wards and theatre.[8]

7. MPH did not, and does not, employ any medical staff.[9] Surgeons and specialists working at the hospital are independent – known variously as Admitting Visiting Medical Staff and Visiting Medical Officers (**VMO**) – and retain medical responsibility for their patient's care throughout an admission.[10]

8. In February 2016, MPH had an On-Call VMO Roster, with the VMO on duty (**Night VMO**) available for patient review overnight and at weekends.[11] Admitting VMOs were required to indicate their preference for the degree of involvement of the rostered Night VMO in their patients' care on a Medical By-Laws preference sheet reviewed annually.[12] Given MPH's regional location, it was not always possible to fill the On-Call Roster.[13] When this occurred, VMOs were ordinarily notified and they or their delegate[14] remained the person responsible for their patient's care.[15]

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[7] Statement of Kerry Snare dated 22 November 2016.

[8] Ibid.

[9] Ibid.

[10] Ibid.

[11] Ibid.

[12] Ibid.

[13] Ibid.

[14] The Medical By-Laws preference sheet also enables VMOs to nominate a Locum Tenens to act on their behalf if they are unavailable.

[15] Statement of Kerry Snare dated 22 November 2016.

Immediate Pre-Operative Management

9. Mrs Maxfield completed her own patient health assessment paperwork. The pre-admission assessment documentation was reviewed by a pre-anaesthetic nurse and an anaesthetist. An anaesthetist[16] assessed Mrs Maxfield as 'ASA-2',[17] identifying her to be a patient with mild systemic disease who did not require review by an anaesthetist in the hospital prior to surgery.[18]

10. The pre-operative nursing admission was completed, including an electrocardiogram **(ECG)** and pathology investigations.[19] Observations on MPH's Adult Observation and Response Chart **(AORC)** were recorded to be within normal limits.[20] A total knee replacement care track[21] was commenced, which reinforces an expected length of inpatient stay of between five to seven days.

11. Around midday on Wednesday 17 February 2016, Anaesthetist Dr Hedda Robinson reviewed Mrs Maxfield on the ward. Dr Robinson reviewed Mrs Maxfield's medical history, and the results of pre-operative blood tests and the ECG.[22] Although the anaesthetist assessed Mrs Maxfield as an ASA-3 patient, she considered her fit for surgery.[23] After discussing the benefits and risks of general and regional anaesthetic, Dr Robinson obtained Mrs Maxfield' consent for a femoral nerve block and intrathecal anaesthesia with light sedation and canvassed options for post-operative analgesia.[24]

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[16] Ordinarily this assessment would be performed by the anaesthetist who would be present during an operation but this did not occur in Mrs Maxfield's case: Statement of Dr Robinson dated 23 October 2017.

[17] The ASA rating – or American Society of Anaesthesiologists Physical Status Classification System – reflects a patient's fitness to undergo anaesthesia. The rating system ranges from ASA1 signifying a 'normal healthy patient' to ASA6 applicable to patient who is brain dead. Relevantly, ASA2 and ASA3 ratings refer to patients with mild and severe systemic disease respectively.

[18] Statement of Dr Robinson dated 23 October 2017.

[19] Slight elevation in urea 10.7 mmol/L (reference range 3-10 mmol/L) and creatinine 91 umol/L (reference range 40-80 umol/L).

[20] Blood Pressure was 123/73 mmHg and oxygen saturations on room air were 96 per cent.

[21] This was a MPH clinical pathway.

[22] Statement of Dr Robinson dated 7 August 2017.

[23] Submission of Dr Robinson dated 7 May 2019.

[24] Statement of Dr Robinson dated 7 August 2017.

Left Total Knee Replacement

12. On 17 February 2016, Mrs Maxfield underwent a left total knee replacement with femoral bone graft performed by Mr Owen.[25] Postoperative orders included routine post anaesthetic observations **(RPAO)**, analgesia, intravenous fluids,[26] x-ray of the knee and haemoglobin monitoring.[27]

13. Mrs Maxfield appeared in 'good spirits' on the evening of her surgery, complaining of no pain and able to tolerate a post-operative diet. She appeared to sleep well overnight.[28]

Post-Operative Management

14. On Thursday, 18 February 2016, routine post-operative bloods were performed and the results were available at 09.50am. Blood results indicated a marginal drop in haemoglobin and platelets compared with pre-operative results.

15. Later in the day, Mrs Maxfield complained of nausea and was administered ondansetron.[29] Observations obtained at 4.40pm indicated oxygen saturation levels of 79 per cent[30] on room air and a manual blood pressure of 100/50 mmHg. A nurse noted this as a variance from normal vital observations and requested review by a VMO.[31] In the interim, Mrs Maxfield was provided with six litres per minute of oxygen therapy. At 5.15pm, Mrs Maxfield's oxygen saturations had improved to 83 per cent[32] and by 5.45pm had improved further to 96 per cent.

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[25] Mr George Owen had previously performed Mrs Maxfield's left total hip replacement in 2013, right knee replacement in 2012 and right total hip replacement in 2009.

[26] In her statement Dr Robinson stated that she placed a 18 gauge cannula on Mrs Maxfield's left arm.

[27] Mr Owen's Operation Report dated 17 February 2016.

[28] Mrs Maxfield's MPH medical records, Nursing notes dated 17 February 2016.

[29] Ondansetron is an anti-emetic drugs.

[30] Oxygen saturations should be greater than 93 per cent on room air. On the MPH variance analysis chart, Registered Nurse **(RN)** Hillbrick notes that Mrs Maxfield's fingers were cold and that she had decreased urine output. Mrs Maxfield was warmed by using a Bair Hugger (a forced air patient warming device). The Bair Hugger was removed at 6.15pm, when oxygen saturations had improved to 95 per cent and her temperature was greater than 36 degrees Celsius.

[31] Mrs Maxfield's MPH medical records, Variance Analysis Sheet dated 18 February 2016 at 4.40pm.

[32] On MPH's AORC this falls in the category of an Emergency Call-Code Blue.

16. At 5.15pm, VMO Dr David Ogilvy[33] performed a clinical review of Mrs Maxfield. Low oxygen saturations were initially thought to be due to a technical issue associated with the oximetry machine and Mrs Maxfield's cool peripheries. Mrs Maxfield's chest was clear upon auscultation, and she was not experiencing dyspnoea (shortness of breath) or chest pain. Mrs Maxfield's intravenous fluids[34] were continued.

17. Mrs Maxfield's recorded blood pressures throughout Friday, 19 February 2016 ranged from 90-100mmHg systolic, which fell in either the 'clinical review-VMO' criteria or 'AUM/UM[35] review' as per the AORC. A clinical review by a VMO was not requested or performed and it is unclear if an AUM/UM was contacted.

18. At approximately 11.00am on Friday, 19 February 2016, Mrs Maxfield vomited[36] and at approximately 12.00pm, complained of nausea. Ondansetron was subsequently administered. Between 12.00pm and 1.00pm, Mrs Maxfield's oxygen saturation levels were noted to be 88 per cent on six litres per minute of oxygen via a Hudson mask.[37] According to the AORC parameters, this oxygen saturation level also warranted a 'clinical review by the VMO'. This was not requested or performed.

19. Throughout Saturday, 20 February 2016 and Sunday, 21 February 2016 (day three and four post-operatively), Mrs Maxfield's blood pressure continued to be assessed as sufficiently low to warrant either an AUM/UM or VMO review.[38] Throughout this weekend, it was apparently occasionally difficult to obtain an oxygen saturation recording, with nurses placing the probe on Mrs Maxfield's toe and at other times

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[33] Dr Ogilvy is a Consultant Physician in General Medicine and was at February 2016 a Visiting Medical Officer/General Physician.

[34] The intravenous orders chart indicated that on 18 February 2016, Dr Ogilvy charted a one litre bag of intravenous Hartmann's fluid to run over 12 hours. This bag was commenced at 5.45pm on 18 February 2016. There is a one litre 0.9 per cent normal saline fluids charted on 19 February 2016 to run 6-8 hourly, for which the doctor's signature is undetermined (there is a place for a signature but not a place to print the signing doctor's name). This bag was commenced on 19 February 2016 at 11.00am. The fluid balance worksheet ceases documentation at 9.30pm on 19 February 2016. The documented totals are inaccurate as Mrs Maxfield had been mobilised and passed urine in the toilet. However, the CPU has calculated from the available information that on 19 February 2016, Mrs Maxfield had a positive fluid balance of over five litres.

[35] Assistant Unit Manager (AUM) or Unit Manager (UM).

[36] Documented on the AORC. No volume or description is documented.

[37] Nursing staff implemented various oxygen delivery methods included a non-rebreathing mask, a Hudson mask and nasal prongs.

[38] An AUM performed observations on both the 20 and 21 February 2016. However there was no escalation of review. According to Ms Snare's statement (Point 41, page 8) the AUM was informed of Mrs Maxfield's 'condition' by the registered nurse.

placing it on her ear (rather than her finger). Mrs Maxfield continued to require supplemental oxygen and was provided with an incentive spirometer;[39] the frequency of observations increased.

20. Mrs Maxfield declined lunch and dinner over the weekend.[40] On 21 February 2016, she had several bowel movements, complained of abdominal pain and had ongoing nausea and vomiting.[41] Although nausea, vomiting and abdominal pain were noted as a variance from normal observations,[42] and intravenous metoclopramide[43] was administered, it does not appear that Mrs Maxfield's condition was communicated to the ANUM or VMO.

21. In the early hours of 22 February 2016, Mrs Maxfield complained of abdominal pain and experienced faecal incontinence. At 2.00am, a question mark related to Mrs Maxfield's pain score is documented, with no variance or comment in relation to this notation. Mrs Maxfield had oxygen saturations of 93-94 per cent and required up to three litres per minute of supplemental oxygen. According to the AORC, this warranted increased observations surveillance to a minimum of four hourly. However, observations were documented as being performed at five to six hourly intervals.

22. On the morning of Monday, 22 February 2016, nursing staff documented that Mrs Maxfield was 'difficult to keep awake…unable to assist with movement…sleepy unable to keep eyes open'.[44] Mrs Maxfield's complained of '5/10' pain in her abdomen.[45] Observations at 8.40am[46] warranted a 'clinical review – VMO' pursuant to the AORC and were noted as a variance from normal vital observations.[47] The ANUM and VMO were informed.[48]

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[39] A medical device used to help patients improve the functioning of their lungs.

[40] Mrs Maxfield's MPH medical records, Nursing notes dated 20 and 21 February 2016.

[41] Mrs Maxfield's MPH medical records, Variance Analysis Sheet dated 21 February 2016.

[42] Ibid.

[43] Metoclopramide is used to treat nausea and vomiting.

[44] Mrs Maxfield's MPH medical records, Nursing note dated 22 February 2016.

[45] Ibid.

[46] Respiratory rate of 24, oxygen saturations of 85 per cent on room air, blood pressure of 99/44 mmHg and abdominal pain of 5/10.

[47] Mrs Maxfield's PH medical records, Variance Analysis Sheet dated 22 February 2016 at 8.40am.

[48] Mrs Maxfield's MPH medical records, Nursing note dated 22 February 2016.

23. Dr Ogilvy reviewed Mrs Maxfield at about 8.50am. He noted her to be 'looking unwell,' with a tender and distended abdomen and absent bowel sounds.[49] The VMO requested urgent chest and abdominal x-rays, pathology and an ECG.[50] Pathology results included C-reactive protein **(CRP)** 575 mg/L,[51] troponin I of 6.59 ug/L,[52] a creatinine level of 459 umol/L[53] and a potassium level of 5.9 mmol/L.[54]

24. Moderate cardiomegaly[55] and limited visualization of the lungs were evident on chest x-ray. An abdominal x-ray reported:

> Few dilated small bowel loops filled with gas are noted in the central abdomen. Rectal gas is visualised […] xray finding suggest possible subacute small bowel obstruction, suggested CT for assessment.

25. Mrs Maxfield had an abdominal CT scan at 10.30am which concluded:

> Small bowel obstruction, likely transition point is in the distal jejunum/proximal ileum ?due to addition/stricture ?/ischaemia. Suggested correlation with serum lactate level and urgent surgical referral.

26. Dr Ogilvy liaised with an Intensivist at Latrobe Regional Hospital with a view to transferring Mrs Maxfield to the public hospital for further management.[56] The VMO notified Mr Owen and Mrs Maxfield's son of her deterioration. Mrs Maxfield returned to the ward and at 12.30pm rapidly deteriorated. With Dr Ogilvy in attendance, a decision was made that it was not appropriate for Mrs Maxfield to be resuscitated.

27. Mrs Maxfield died at 12.40pm on 22 February 2016.

28. Mrs Maxfield's death was reportable pursuant to section 4 of the *Coroners Act 2008* (Vic) ('the Act'), because it occurred in Victoria following a medical procedure where the death is or may be causally related to the medical procedure and a registered medical

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[49] Mrs Maxfield's MPH medical records, Dr Ogilvy's note dated 22 February 2016 at 8.50am.

[50] Statement of Dr David Ogilvy dated 5 June 2018.

[51] C-reactive Protein (CRP) is a non-specific marker for infection or inflammation. The normal level in a person without an infection is less than 5.

[52] Cardiac enzyme biomarker suggestive of heart muscle injury when elevated. Trop I (Beckman) reference range (<0.04).

[53] Creatinine is a measure of kidney function. Normal creatinine 40-80 umol/L.

[54] Higher-than-normal levels of potassium in the blood. Normal potassium 3.5-5.0 mmol/L.

[55] Cardiomegaly is an enlarged heart.

[56] Statement of Dr Ogilvy dated 5 June 2018.

practitioner would not, immediately before the procedure was undertaken, have reasonably expected the death.

INVESTIGATIONS

Forensic pathology investigation

29. Dr Matthew Lynch, Forensic Pathologist at the Victorian Institute of Forensic Medicine (**VIFM**), performed a post-mortem examination upon the body of Mrs Maxfield, reviewed a post-mortem computed tomography (**CT**) scan, the e-Medical Deposition Form and referred to the Victoria Police Report of Death, Form 83.

30. Dr Lynch post-mortem examination findings included:

    a. coronary artery atherosclerosis;

    b. myocardial fibrosis;

    c. right ventricular hypertrophy;

    d. probe patent foramen ovale;

    e. calcification of mitral valve annulus;

    f. pulmonary oedema;

    g. small bowel (proximal to large bowel) appearance suggestive of ischaemic damage;

    h. nephrosclerosis;

    i. cholelithiasis; and

    j. diverticular disease.

31. Toxicological examination results of ante-mortem samples were considered reflective of hospital care, however biochemistry revealed a markedly elevated CRP in keeping with inflammation/tissue damage and an electrolyte profile suggestive of a degree of renal impairment.

32. Dr Lynch ascribed the cause of Mrs Maxfield's death to multisystem failure complicating ischaemic heart disease and ischaemic bowel in the setting of recent total knee replacement. Dr Lynch commented that on the evidence available to him, he considered that Mrs Maxfield's death was due to natural causes.

Compilation of a coronial brief

33. At my direction, a coronial brief was prepared. The coronial brief contained, *inter alia*, statements made by Orthopaedic Surgeon Mr George Owen, Anaesthetist Dr Hedda Robinson, Consultant Physician Dr David Ogilvy, MPH's Chief Executive Officer and Director of Nursing Ms Kerry Snare, Dr Lynch's Medical Investigation Report, a letter of concern from Mrs Maxfield's sons, and Mrs Maxfield's MPH medical records.

Coroners Prevention Unit

34. Mrs Maxfield's family raised a number of concerns regarding her medical management. In light of these concerns, I requested the Coroners Prevention Unit **(CPU)**[57] to review the circumstances surrounding Mrs Maxfield's death, in particular to address the family's specific questions, as follows.

Mrs Maxfield was not reviewed by Mr Owen over the weekend 20-21 February 2016

35. Mr Owen states:

> [Mrs Maxfield] had her surgery on 17/2/16.[58] I reviewed her on the following two days, that being 18/2/2016[59] and 19/2/16. I reviewed her twice on 19/2/2016[60] first in the morning and later in the day after she had the x-ray of her knee. I did not see her on the weekend of the 20 and 21.[61] I am always available to be called on those days and if I am not contactable colleagues with the Gippsland Orthopaedic Group are available, whoever is on call for that particular weekend.

[57] The Coroners Prevention Unit (CPU) was established in 2008 to strengthen the prevention role of the coroner. The unit assists the coroner with research in matters related to public health and safety and in relation to the formulation of prevention recommendations, as well as assisting in monitoring and evaluating the effectiveness of the recommendations. The CPU comprises a team with training in medicine, nursing, law, public health and the social sciences.

[58] Wednesday.

[59] Thursday.

[60] Friday.

[61] Saturday and Sunday.

> I did assess and review Mrs Maxfield on the immediate post-operative day and twice on the following day. Unfortunately this was not documented in the notes.
>
> I have never had a conversation with Mr Stephen Maxfield nor knew his existence until receiving this request. I spoke to Robert Maxfield who lived with or in close proximity to his mother. I spoke to him twice.

36. Ms Snare states:

> There is no specific timeframe for post-operative surgical review. However, clause 6(a) of the MPH By-Laws, Rules & Regulations for Visiting practitioners state
>
> 6(a) Medical Responsibility
>
> > The visiting Medical Staff member is the person responsible for the patient's care and for the decisions about transfer or discharge. In the interest of high quality patient care, it is expected that the visiting Medical Staff member will visit patients with reasonable frequency[62] – as dictated by the patient's clinical condition.

37. On the available evidence, it appears that neither Mr Owen nor any other surgeon reviewed Mrs Maxfield over the relevant weekend.

38. That said, Dr Robinson advised that she reviewed Mrs Maxfield on 18, 19 and 20 February 2016. During her last review around 8am on Saturday 20 February 2016, the anaesthetist ascertained that Mrs Maxfield's pain was effectively managed and observed her to appear well, sitting up in bed with breakfast, but describing some nausea.[63] Dr Robinson opined that it is not uncommon for patients to experience nausea on post-operative day three when treated with opioid analgesia as Mrs Maxfield had been twice each day since the surgery.[64]

39. None of Dr Robinson's post-operative reviews of Mrs Maxfield were documented. The anaesthetist attributed this to there being no change to Mrs Maxfield's pain management plan.[65] She noted that it was her usual practice to liaise with nursing staff about any 'concern in relation to pain management' though had no specific recollection of doing so

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[62] In Ms Snare's statement, she highlights that the review requirement will vary depending on individual patient circumstances. The frequency of review is a matter determined by the patient's medical practitioner.

[63] Submissions of Dr Robinson dated 7 May 2019.

[64] Ibid.

[65] Submissions of Dr Robinson dated 7 May 2019.

during Mrs Maxfield's admission.[66] Dr Robinson did not review Mrs Maxfield's AORC and stated that no concerns were raised with her by nursing staff or anyone else; had this occurred, she would have contacted Dr Owen or the Night VMO and commenced any relevant investigations.[67] She did not identify any reason to liaise with Mr Owen at the time of her reviews of Mrs Maxfield.[68]

Mrs Maxfield's family states that the surgeon contacted them (after the death) and informed them that he was unaware of Mrs Maxfield's deterioration

40. Mr Owen states:

> I discussed the situation immediately I became aware of her circumstances on 22/2/16. This was with her son who was nominated as the next of kin on her admission papers. That was Robert Maxfield.

41. On the available evidence, I consider it likely that Mr Owen was unaware of Mrs Maxfield becoming unwell over the weekend, as there was no escalation of concern nor any medical review over the weekend.

Mrs Maxfield's clinical management

Pre-operative assessment

42. Considering Mrs Maxfield's age, co-morbidities, proposed surgery and history of having four years prior undergone a pre-operative physician assessment, a pre-operative assessment for the February 2016 total left knee replacement was arguably indicated.

43. Mr Owen had known Mrs Maxfield for nine years and had performed her bilateral hip and right total knee replacement surgeries. A pre-operative physician assessment had occurred prior to Mrs Maxfield's right total knee replacement in 2012.[69] Mr Owen was aware that Mrs Maxfield had been diagnosed with ischaemic heart disease following her most recent surgery in 2013.[70]

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[66] Ibid.

[67] Ibid.

[68] Ibid.

[69] Statement of Mr Owen dated 17 March 2017.

[70] Statement of Mr Owen dated 9 May 2019.

44. Mrs Maxfield consulted Mr Owen in November 2015 about her painful left knee and difficulty mobilising; she wanted knee surgery.[71] Mr Owen stated that he was 'reluctant to recommend' left total knee replacement – in his view she was 'not symptomatic enough to want to rush into this procedure' – and reportedly communicated this to Mrs Maxfield's general practitioner.[72] Although by his own admission likely in less detail than before her 2012 knee replacement, Mr Owen canvassed the risks of the surgery with Mrs Maxfield including that 'as she was getting older, the risk of an adverse outcome from major surgery increased'.[73] The Orthopaedic Surgeon counselled Mrs Maxfield to consider over the Christmas-New Year period whether the surgery was 'absolutely necessary' and anticipated seeing her again before surgery was scheduled.[74]

45. Mrs Maxfield reportedly advised Mr Owen's secretary that she wished to proceed with surgery.[75] Mr Owen did not insist upon another pre-operative appointment because they had already discussed the benefits and potential risks of surgery and, though she was 'getting older and had a heart condition', he was reassured by the fact that she had recovered well from her previous surgeries and would be reviewed by an anaesthetist before surgery.[76]

46. Mr Owen states:

> No particular pre-operative assessment was made on this occasion and this was made on the basis of her previous three episodes of major surgery without complication. A pre-operative assessment was made by a physician, Dr Julian Rong, for admission for surgery for her right knee replacement in 2012. His assessment was that he saw no difficulty with the general anaesthesia or spinal anaesthesia for a procedure *at that time*.
>
> *…pre-operative assessments should be made ideally by the physician who will be looking after her in the ward* and where appropriate by the anaesthetists. This is common practice but in this instance was not carried out. Again, I believe we were lulled into a false sense of security by her previous successful surgeries.[77]

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[71] Ibid.

[72] Ibid.

[73] Ibid.

[74] Ibid.

[75] Ibid.

[76] Ibid.

[77] Statement of Mr Owen dated 17 March 2017 (emphasis added).

47. Ms Snare was asked to comment on Mr Owen's assertion about pre-operative patient care at MPH. She states:

> MPH does not have medical practitioners on staff. Accordingly:
>
> (1) MPH does not arrange for physicians to see patients prior to surgery;
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> (2) pre-operative assessments by the '*physician who will care for a patient on the ward*' is
>
> a. not common practice at MPH; and
>
> b. not in accordance with MPH policy.
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> …To some extent, the anaesthetists are the physicians who will care for a patient on the ward for the first 24 hours as it is generally understood that anaesthetists have responsibility to manage post-operative pain, and nausea and vomiting, during the 24-hour post-operative period.

48. Mr Owen appears to misunderstand MPH policy.[78] Pursuant to MPH By-Laws, Rules & Regulations for VMOs, Mr Owen was the physician who would care for (his) patient on the ward and medical responsibility for Mrs Maxfield remained with him during her admission, save for the limited exception articulated by Ms Snare.

49. As noted above, in paragraph 11, Dr Robinson undertook a pre-anaesthetic review, and though her assessment of Mrs Maxfield's risk under anaesthetic differed to that of the review conducted by another anaesthetist on the papers, she considered Mrs Maxfield fit for surgery.[79]

50. Although the CPU advised that the lack of pre-operative assessment of an elderly patient undergoing orthopaedic surgery would, in general, be considered suboptimal care by Mr Owen it was unable to determine what prevention opportunity such an assessment would have created. Accordingly, I note that while performance of a pre-operative physician assessment of Mrs Maxfield may have been prudent – given her advancing age, diagnosed heart condition since the one conducted nearly four years earlier and Mr Owen's apparent reservations about the procedure – I cannot conclude on the available evidence that failure to do so materially altered her clinical course.

<u>Post-operative management</u>

[78] I note that in his statement dated 9 May 2019, Mr Owen commented that he had read the MPH by-laws and was aware of MPH's expectations of am admitting surgeon in 2016.

[79] Statement of Dr Robinson dated 7 May 2019.

51. In a statement, Mr Owen reported that he reviewed Mrs Maxfield on the morning of 18 February 2016, on post-operative day one. He did not document this review as, in 2016, it was his practice to only 'write down abnormal findings or any concerns'.[80] The orthopaedic surgeon stated that his usual practice was to check that the patient's pain is controlled, urine output and loss from the wound drain are adequate and that the patient can move his or her feet.[81]

Care track – Total knee replacement pathway

52. Care track is a hospital document providing guidance to staff regarding pre-operative assessment and post-operative progression towards discharge. If a patient does not follow the care track, this is to be documented as a variance. Variances usually require investigation and further patient assessment.

53. It appears as though Mrs Maxfield had variances to her care track, including that:

    a. no daily weight was performed;

    b. bloods had been obtained but it is unclear whether they were reviewed; and

    c. there is no documentation related to the IV cannulae[82] inserted by the anaesthetist at time of surgery.

54. Day three post-surgery (20 February 2016) on the care track indicates that prolonged nausea and vomiting is a variance. Mrs Maxwell had ongoing requirement for anti-emetics, which were administered intravenously from 18 until 22 February 2016. A variance was entered for 21 February with treatment provided for abdominal pain.

55. From day three post-surgery (20 February 2016), Mrs Maxfield's observations were to be 'QID', that is, four times per day. At the time, Mrs Maxfield remained on oxygen

[80] Statement of Mr Owen dated 9 May 2019.

[81] Ibid.

[82] Ms Snare In her second statement Ms Snare states:

> … the removal of Mrs Maxfield's cannula on 22 February 2016 did not comply with MPH policy at the relevant time because it remained in situ for approximately 115 hours before being removed and replaced.

therapy and her observations according to the AORC were consistently within the need for review markings.

56. Mrs Maxfield appears to have had variances from the pathway in her post-operative period. The variances do not appear to have been discussed with Mr Owen, which led to a lack of opportunity for Mrs Maxfield to be assessed and for intervention to be offered.

Response to Mrs Maxfield's ongoing need for antiemetics

57. On 17 February 2016, Dr Robinson prepared a hand-written antiemetic order for Mrs Maxfield on a template document, Post Operative Nausea and Vomiting (PONV), which authorised the use of antiemetics as required. Antiemetics were administered in accordance with the anaesthetist's orders daily on 18 and 19 February and twice daily on 20 and 21 February 2016.[83] Although the PONV order states 'if PONV persists consult the anaesthetist' (without any timeframe specified), there is no record of nursing staff contacting Dr Robinson about Mrs Maxfield's ongoing nausea.[84]

Response to Mrs Maxfield's abnormal oxygen saturation levels and blood pressure readings

58. The AORC is a colour-coded chart that provides a four-tier response system.[85] On review of Mrs Maxfield's AORC, the CPU identified that several of Mrs Maxfield's observations fell within areas of the chart that required intervention. The CPU sought clarification from MPH whether intervention was undertaken in accordance with the AORC.

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[83] Mrs Maxfield's MPH medical records.

[84] Statement of Ms Snare dated 23 March 2018.

[85] The four responses are: observations in the purple band – Emergency Call – Code Blue – for observations in that colour band and 'you are worried about the patient' or for cardiac or respiratory arrest. The required responses are initiating an emergency alert, commencing basic life support as indicated, response by VMO and AUM to contact the emergency services; observations in the red band – Clinical Review – VMO – any observation in that colour band or there is concern for the patient. The required responses are for VMO review within 30 minutes, clinical review request must be documented and increased frequency of observations to 30-minutely until the patient is reviewed; observations in the orange band – AUM/UM Review - any observation in that colour band or there is concern for the patient. The AUM/UM is to respond/review within 30 minutes, treat pain or distress, and increased frequency of observations to 30-minutely until the patient has been reviewed or is stable; observations in the yellow band – Increased Surveillance – for any observation in that colour band or there is concern for the patient. Actions required include notification of the team leader/AUM, treat pain or distress and increase the frequency of observations to a minimum of hourly for four hours.

59. On the afternoon of 18 February 2016, Mrs Maxfield's oxygen saturations fell in the emergency Call-Code Blue AORC criteria. No code blue was called, but nursing staff initiated treatment and a VMO review was performed by Dr Ogilvy.

60. Mr Owen was asked whether he was informed of this clinical review, he stated:

> I have no recall of being informed of this by Dr Ogilvy or the nursing staff.[86]

61. On 19 February 2016, Mrs Maxfield's oxygen saturations and blood pressure readings fell into the AORC 'Clinical review – VMO' criteria.[87] In her statement Ms Snare states:

> Nursing staff did not contact Mr Owen or the VMO and none of the nursing staff responsible for the care of Mrs Maxfield on that day recall observing Mr Owen see Mrs Maxfield. If Mr Owen saw Mrs Maxfield on 19 February 2016, he did not record the consultation on the hospital's medical record.

62. Mr Owen states that he had reviewed Mrs Maxfield twice on 19 February 2016 (morning and afternoon). Mr Owen does not state whether he was informed of Mrs Maxfield's observations which warranted a review, nor does he state that he reviewed Mrs Maxfield's observations chart.[88]

63. Ms Snare provides a timeline of Mrs Maxfield's observations and interventions provided by the nursing staff from 19 to 22 February 2016. Specific to 19 February, Ms Snare states:

> …measures were put in place by nursing staff to respond to Mrs Maxfield's condition
>
> …further observations taken at 15:00, 17:00 and 19:30 showed similar improvement, following which Mrs Maxfield's blood pressure remained stable.

64. A review of Mrs Maxfield's observations (in particular her blood pressure) as documented on the AORC indicates that although her blood pressure remained within the same range, it remained in the 'AUM/UM review or clinical review – VMO' part of

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[86] Statement of Mr Owen dated 17 March 2017.

[87] Oxygen saturation levels between 85-89% and 70-90 systolic blood pressure.

[88] Statement of Mr Owen dated 17 March 2017.

the AORC from the 18 February 2016 until her time of death.[89] It appears that Mrs Maxfield's abnormal blood pressure readings were reported to the AUM on 20 February 2016 but at no other time.[90]

65. It therefore appears that escalation and review of Mrs Maxfield's observations was warranted according to the AORC, but that it did not occur. From the statements received, I am unable to determine what, if any, barrier existed for escalating appropriate review of Mrs Maxfield in accordance with the AORC.

Patient review

66. Dr Robinson reviewed Mrs Maxfield on 18, 19 and 20 February 2016 but did not record these visits in the medical records.

67. Mr Owen reviewed Mrs Maxfield on 18 February 2016 and twice on 19 February 2016 but did not record these visits in the medical records.

68. Ms Snare states that it is not considered common MPH practice for VMOs to review patients without a nurse being aware or documenting their review in the medical record.[91]

69. Dr Ogilvy reviewed Mrs Maxfield on 18 February 2016 but does not appear to have informed Mr Owen.

70. It appears as though there was a significant lack of communication, review and assessment of Mrs Maxfield post-operatively. The lack of communication from treating medical and nursing staff appears to have led to a lack of opportunity for discussion of Mrs Maxfield. It is unclear whether the assessments performed by Mr Owen and Dr Robinson included review of the AORC, which could have prompted intervention. I accept however that these apparent shortcomings occurred in the context of systemic issues.

[89] Mrs Maxfield's MPH medical records, AORC dated 18-22 February 2016.

[90] Statement of Ms Snare dated 22 November 2016.

[91] Statement of Ms Kerry Snare dated 23 March 2018.

Out-of-hours medical cover

71. Ms Snare provided a Medical By-laws preference sheet[92] form signed by Mr Owen regarding the involvement of the Night VMO in the care of his patients. The form requests full night cover and locum *tenens*.[93] Ms Snare also provided a copy of the February 2016 VMO Roster which indicated that no VMO was on-call between Friday 19 February and Sunday 21 February 2016 inclusive.[94]

72. Ms Snare states:

> …it was later learned, staff did not verbally inform Mr Owen that the VMO roster was not resourced and the email usually sent to the specialist rooms to notify them that the VMO roster was un-resourced was not sent.[95]

73. That said, at about 8.30pm on 20 February 2016, Registered Nurse Gillespie informed Associate Nurse Unit Manager (**ANUM**) Jeanette Minchella that Mrs Maxfield's Xarelto medication was not prescribed. Ms Snare states:

> The ANUM called Latrobe Regional Hospital and asked which orthopaedic surgeon was on call from the Gippsland Orthopaedic Group … she was informed that Mr Andries de Villiers was on call.
>
> …A prescription for Xarelto 10 mg nocte, an anticoagulant, was given by Mr de Villiers and is recorded in the telephone orders section of the medication chart…Mr de Villiers was not requested and did not attend and see Mrs Maxfield.

74. Although there was no VMO-cover for the weekend of Mrs Maxfield's admission, patients at the MPH remained the responsibility of the admitting VMO unless other arrangements had been made. Mr Owen states 'there is coverage by the on-call surgeon for the Gippsland Orthopaedic Group if I was not contactable'.

75. On the available evidence, including that there was no particular difficulty in contacting Mr de Villiers regarding Mr Maxfield's Xarelto, there were no apparent barriers in identifying a member of the Gippsland Orthopaedic Group who could review Mrs Maxfield if her deteriorating state had been appreciated.

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[92] This is identified as KS-4 in the documents attached to Ms Snare's statement dated 21 November 2016.

[93] Locum tenens is in any periods of absence, the doctor will nominate a locum to attend the patient. I note that the form provided is dated 2 February 2015.

[94] Exhibit KS-6 appended to Ms Snare's statement dated 22 November 2016.

[95] Statement of Ms Snare dated 22 November 2016.

Practice and policy developments since Mrs Maxfield's death

76. Mr Owen conceded that his practice in 2016 with regards to clinical documentation was 'unsatisfactory'.[96] He now ensures that every consultation with a patient is recorded in the medical record, even in the absence of concerns about clinical progress or any change of management.[97]

77. Dr Robinson asserted that her 'trivial omission' in failing to document her reviews of Mrs Maxfield had 'no bearing whatsoever on subsequent events'.[98] Nonetheless, she advised that she has changed her routine practice and now makes an entry in the medical records regardless of whether any concerns or change of management arise from a patient review.[99]

MPH

78. Ms Snare confirmed that MPH had undertaken a case review relating to Mrs Maxfield's death. She provided a comprehensive statement and supporting MPH policies. Ms Snare appointed a Root Cause Analysis **(RCA)** team which identified the following issues:

    a. nursing staff had a limited understanding of how to develop an effective staff-patient relationship;

    b. Mrs Maxfield's clinical deterioration was not communicated across all levels of the clinical handover. This increased the likelihood of a delay in 'escalation reporting' and delayed medical review; and

    c. there was no documented process for admitting visiting medical practitioners to be notified if their patient was reviewed by another visiting Medical Practitioner due to the patient's clinical deterioration or other concerns.

[96] Statement of Mr Owen dated 9 May 2019.

[97] Ibid.

[98] Submission of Dr Robinson dated 7 May 2019. I note that Dr Robinson submitted a report prepared by Anaesthetist Dr Elliot Rubinstein which found her management of Mrs Maxfield to be reasonable; he characterised Dr Robinson's failure to document patient reviews as a 'trivial omission'.

[99] Submission of Dr Robinson dated 7 May 2019.

79. The RCA Team made recommendations to address the issues identified above. The recommendations included:

    a. arranging further mandatory education and training for nursing staff regarding effective communication and MPH's policies and procedures. In particular, arranging further education and training in relation to:

        (i) caring for elderly patients in the acute care setting; and
        (ii) use of the MPH AORC; and

    b. conducting a full system review of the clinical handover processes.

80. The RCA highlighted deficits of knowledge in relation to the AORC and communication.

81. Following the RCA Team's recommendations, a RCA working party was formed to implement the recommendations.

82. To assist with implementation, the working hours of MPH educators have been increased. The further mandatory education and training, including basic life support and the use of the AORC, was commenced in February 2016 and completed in November 2016.

83. In addition, the MPH VMO roster system in place at the time of Mrs Maxfield's death was discontinued on 1 September 2016.

84. MPH has also updated the corresponding Patient Care - Observations policy. The updated policy Patient Care - Observations policy has clearly identified:

> The admitting VMO or his/her delegate is always the person responsible for making decisions about the care given to a patient and therefore should be the person contacted by nursing staff in response to deterioration. The VMO, who is called to respond to changes in the patient's health status must document their actions and management plan in the medical record. In the event that the VMO who responds to the call is not the admitting VMO or his/her delegate, he or she is required to communicate with the admitting doctor or their delegate, he or she is required to communicate with the admitting doctor or delegate as soon as is practical.

85. In March 2018, Ms Snare provided an update on implementation of the recommendations arising from the RCA. Ms Snare states: [100]

> …the RCA Working Party has been implementing the RCA Team's recommendations on an ongoing basis as outlined in the RCA Working Party Action Plan dated 7 December 2017.

86. The following MPH policies and staff education programs have been updated:

a. update of policy N-073 Intravenous (IV) Cannulation (26 June 2017);

b. Total knee replacement (V3) (22 August 2016);

c. Total knee replacement (V5) (16 January 2018);

d. PACU pain management & Post Op nausea & vomiting Protocol (21 March 2018);

e. Post-operative nausea and vomiting Protocol Order (V4) (7 July 2017);

f. AORC (V2) (17 January 2017);

g. MPH Policy HW – 007A Documentation policy and procedure Policy (V2) (15 July 2016);

h. MPH Policy N-108 Patient care –Observations and escalation of care (v5) (1 September 2017);[101]

i. From 26 November 2016, "First2Act" education module, recognising and responding to patient's deterioration, was included in MPH's Mandatory competency calendar. In February and March 2017, additional mandatory online learning modules included 'open disclosure', 'partnering with consumers' and 'Patient centred care', and in 2018, 'working with the elderly'.

87. Further education and training on using the AORC has been completed and is ongoing, including:

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[100] Statement of Ms Kerry Snare dated 23 March 2018.

[101] Please note at time of Ms Snare's statement, this is a further updated version. It was to be presented for approval and ratification at the Medical Advisory Committee on 16 April 2018.

a. the introduction of regular discussions regarding use of the AORC and the AORC V2 at '14:30' meetings[102] with nursing staff;

b. training in relation to a patient deterioration scenario was included in the MPH graduate nurse program from 20 September 2016 and in subsequent years; and

c. a copy of the AORC v2 has been included in the orientation competency book for new nursing staff (the 'blue book'). All new nursing staff are required to complete the tasks in the 'blue book' within one month of commencing at MPH and completion is tracked by HR.

COMMENTS

Pursuant to section 67(3) of the *Coroners Act 2008* (Vic), I make the following comments connected with the death:

1. Clinical communication – verbally and in writing – plays a vital role in the quality and safety of healthcare. It is unclear from the received statements whether poor communication about Mrs Maxfield's care arose from a lack of education about procedures, failure to appreciate her deteriorating condition, reluctance or apparent indifference, or a combination as these factors. Suboptimal communication between and among clinical staff impeded escalation of concerns, particularly as required pursuant to the AORC.[103]

2. On the available evidence, it appears that there were several missed opportunities for Mrs Maxfield to have been medically reviewed. These include multiple opportunities seemingly underpinned by non-compliance with the MPH's AORC guidelines many conceded by Ms Snare, and the apparent absence of any opportunity for medical and nursing staff to jointly review Mrs Maxfield despite joint reviews purportedly being

[102] '14.30' meetings are held Monday to Friday at handover from morning shift to afternoon shift staff when maximum nursing staff are present. They are informal meetings run by the NUM and/or ANUMs to provide general information and 'pop up education' for nursing staff.

[103] The updated MPH patient care – observation policy (18 March 2016) includes the ISBAR tool, to ensure clear communication is provided with healthcare workers when a patient is deteriorating. A "REACH out' (R-recognise, E-engage, A-act, C-call, H-help is on the way) program was introduced by MPH to involve family members and communicate more effectively if the individual deteriorates.

common practice. There was a further missed opportunity for the nursing staff to discuss Mrs Maxfield's condition when telephoning Mr de Villiers for a script for Xarelto.[104]

3. A lack of escalation appears to have also occurred in relation to the expected discharge time and variances on Mrs Maxfield's Care track, again resulting in a missed opportunity for Mrs Maxfield to be reviewed.

4. I acknowledge that the MPH has responded quickly and appropriately, in identifying and implementing practice improvements, including considerable changes in practice and reviewing/ updating relevant hospital policy. These changes are holistically aimed at addressing the confusion around responsibilities for medical care and the failure to escalate clinical concerns in an attempt to prevent a similar future occurrence. I accordingly make no further comment.

5. I acknowledge the reported improvements made by Mr Owen and Dr Robinson to their clinical documentation practices.

FINDINGS

Mrs Maxfield's sons raised concerns regarding the clinical care provided to their mother during her February 2016 admission to the Maryvale Private Hospital. In light of these concerns, I asked the CPU to review the circumstances of Mrs Maxfield's death. The CPU advised that there were deficiencies in the medical and nursing care provided to Mrs Maxfield, in terms of communication, documentation, and several apparent missed opportunities to escalate abnormal clinical observations and instigate earlier clinical review. I accept that these deficiencies occurred in the context of systemic issues to an extent, reflected in the remedial actions taken by the MPH seemingly in response to Mrs Maxfield's death. In this respect, I acknowledge these remedial steps aimed at preventing future like occurrences.

I accept and adopt the medical cause of death as ascribed by Dr Lynch and find that Lydia Maxfield died from multisystem failure complicating ischaemic heart disease and ischaemic bowel in the setting of recent total knee replacement

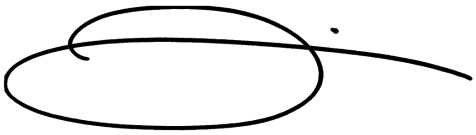
[104] I note that although there was an opportunity to discuss concerns with the Mr de Villiers, the responsibility of Mrs Maxfield's care remained with Mr Owen and ought to have be directed to Mr Owen. I also note that while I cannot be certain that a discussion regarding Mrs Maxfield's condition with Mr de Villiers did not occur, there is no evidence before me that it did.

Pursuant to section 73(1A) of the *Coroners Act 2008* (Vic), I order that this Finding be published on the internet.

I direct that a copy of this finding be provided to the following:

Mr Robert Maxfield
Mr Stephen Maxfield
Ms Nicole Wearne, Norton Rose Fulbright on behalf of Maryvale Private Hospital Pty Ltd
Dr Hedda Robinson
Mr George Owen
Dr David Oglivy
Australian Health Practitioner Regulation Agency
First Constable S Pettingill

Signature:



AUDREY JAMIESON
CORONER
Date**: 16 July 2020**