STATE CORONER'S COURT
OF NEW SOUTH WALES

Inquest:	Inquest into the death of Sandra Cree
Hearing dates:	4 to 7 September 2018 at Dubbo; 10 to 14 September at Glebe
Date of findings:	22 October 2018
Place of findings:	NSW State Coroner's Court, Glebe
Findings of:	Magistrate Derek Lee, Deputy State Coroner
Catchwords:	CORONIAL LAW – ruptured abdominal aortic aneurysm, Lightning Ridge Multi-Purpose Service, remote and rural medical facilities, password access to health care records, NSW Ambulance Aeromedical Control Centre, medical retrieval, patient transfer, Royal Flying Doctor Service, State Retrieval Consultant, Clinical Coordinator, consultant to consultant handover, FAST ultrasound, permissive hypertension, pre-arrival documentation, work instructions
File number:	2016/118575

Representation:

Ms N Sharp SC, Counsel Assisting, instructed by Mr V Musico, Office of the General Counsel

Mr M Windsor SC, instructed by Mills Oakley, for the Royal Flying Doctor Service (South Eastern Section)

Ms T Berberian, instructed by Colin Biggers & Paisley, for Rural and Remote Medical Services

Mr D Brezniak, instructed by NSW Legal Aid Commission, for Mr L Cree

Mr D Brown for Dr K Kumar

Mr M Lynch, instructed by Avant Law, for Dr D Jones & Dr P Clark

Mr P Rooney, instructed by Crown Solicitor's Office, for Ambulance Service of New South Wales and Western New South Wales Local Health District

Dr D Mutasa, in person, unrepresented

Findings:

I find that Sandra Cree died on 17 April 2016 at Dubbo Base Hospital, Dubbo NSW. Mrs Cree died from a ruptured abdominal aortic aneurysm, with coronary artery atherosclerosis being a significant condition contributing to her death, but not relating to the condition which caused it. Mrs Cree died from natural causes.

Recommendations:

1. ***To the Chief Executive, Rural and Remote Medical Service (RaRMS):***

I recommend that consideration be given to the development of a written procedure or policy which provides for the means by which General Practitioners/Visiting Medical Officers (**GPs/VMOs**) are provided with the password to access the laptop provided for by RaRMS at the Lightning Ridge Multi-Purpose Service. I further recommend that consideration be given by RaRMS to the development of a similar written procedure or policy in relation to any other hospital where it provides a computer to allow GPs/VMOs to remotely access GP records.

2. ***To the Chief Executive, Western New South Wales Local Heath District (WNSWLHD):***

I recommend to that WNSWLHD clinicians should be directed that when it is known that a patient who has presented in a serious condition at hospital has had a recent surgical procedure at another hospital, the clinician responsible for the patient's care must make all reasonable efforts as soon as it is reasonably practical to contact the hospital at which the recent surgery was conducted to obtain full details of that surgery and the patient's history.

3. ***To the Chief Executive, Western New South Wales Local Heath District (WNSWLHD):***

I recommend that a direction should be given to WNSWLHD clinicians, receiving emergency calls from other hospitals about possible patient transfers, that they should comprehensively document in the pre-arrival notes information provided to them by the transferring hospital, including all information as to the patient's history and suspected diagnosis.

4. ***To the Chief Executive, Ambulance Service of New South Wales:***

I recommend to that the Aeromedical Control Centre should prepare a written policy requiring a State Retrieval Consultant to take a full handover from the referring clinician with care of a patient to be retrieved from a medical facility. This requirement does not prevent the State Retrieval Consultant's supplementary discussions with other health practitioners at the facility.

5. ***To the Chief Executive, Ambulance Service of New South Wales:***

I recommend that the Aeromedical Control Centre provide express written guidance to State Retrieval Consultants that they must expressly inform the senior clinician with care of a patient and the most senior retrieving practitioner of: (a) their preferred diagnosis as well as any secondary diagnosis; and (b) the appropriate facility to which to transfer a patient as soon as forming a view about that matter.

6. ***To the Chief Executive, Ambulance Service of New South Wales:***

I recommend that consideration be given to revision of current Aeromedical Control Centre policy documentation, including work instructions, to clearly identify which officers bear the ultimate responsibility in relation to: (a) the clinical management of patients to be retrieved; and (b) and in the decision as to where to transfer patients to.

7. ***To the Chief Executive, Ambulance Service of New South Wales:***

I recommend that consideration be given to providing an express definition in any relevant Aeromedical Control Centre policy documentation, including work instructions, as to what is meant by requiring State Retrieval Consultants to provide active input in all actual or potential medical retrievals.

8. ***To the Chief Executive, Ambulance Service of New South Wales:***

I recommend that comprehensive training be provided to all relevant Aeromedical Control Centre staff in relation to any current policy documentation, including the revision of any such documentation that might be made in accordance with Recommendations 6 and 7.

9. ***To the Chief Executive, Ambulance Service of New South Wales:***

I recommend that consideration be given to the introduction of an express written policy requiring a Consultant to Consultant handover at the change of each shift, and that comprehensive training be provided to all State Retrieval Consultants and Clinical Coordinators in relation to such a requirement.

10. ***To the Chief Executive, Ambulance Service of New South Wales:***

I recommend that consideration be given to informing the Royal Flying Doctor Service (South Eastern Section) of any applicable protocols, contained in internal NSW Ambulance documentation, relevant to the potential use of permissive hypertension in a medical retrieval setting where a patient has ruptured an aneurysm.

11. ***To the Chief Executive, Royal Flying Doctor Service (South Eastern Section)***

I recommend that consideration be given to the need to provide explicit written guidance to clinicians regarding the potential use of permissive hypertension in a medical retrieval setting where a patient has ruptured an aneurysm.

12. ***To the Chief Executive, Ambulance Service of New South Wales:***

I recommend that consideration be given to the introduction of an express written policy requiring that, in all medical retrievals, a handover be provided by the Aeromedical Control Centre to the hospital to which a patient is being transferred to.

13. ***To the Chief Executive, Western New South Wales Local Heath District (WNSWLHD):***

I recommend that consideration be given to the issuing of a policy directive requiring receiving WNSWLHD clinicians to review a Patient Transfer Form where a critically ill patient has been received from another hospital. Where the patient has been received from the Lightning Ridge Multi-Purpose Service (**LRMPS**) the receiving clinician should also review the electronic notes of LRMPS.

Table of Contents

1. Introduction

1.1 Sandra Cree was a beloved wife, mother and grandmother, and well-respected member of the local community where she lived in Lightning Ridge, a remote town in north-western New South Wales. In the early hours of the morning on 17 April 2016 Sandra was at home when she experienced a sudden medical emergency. About 18 hours later Sandra was pronounced deceased in a hospital in Dubbo, some 350 kilometres away.

1.2 During the 18 hours that elapsed a number of different medical services and medical practitioners became involved in Sandra's care and treatment. She was taken from her home to a health care facility in Lightning Ridge, and then by air to the hospital in Dubbo. Tragically, at the time of her death Sandra's family were not by her side as they were travelling from Lightning Ridge to Dubbo.

2. Why was an inquest held?

2.1 Under the *Coroners Act 2009* (**the Act**) a Coroner has the responsibility to investigate all reportable deaths. This investigation is conducted primarily so that a Coroner fulfil their statutory responsibility to answer questions that they are required to be answer pursuant to the Act, namely: the identity of the person who died, when and where they died, and what was the cause and the manner of that person's death.

2.2 In Sandra's case, most of the answers to these questions could be answered from evidence gathered during the coronial investigation that followed her death. The investigation, and the inquest itself, was primarily concerned with the manner of Sandra's death. In other words, what were the circumstances surrounding Sandra's death, what events led up to it, and how did those events affect the tragic outcome?

2.3 In conducting this investigation, certain issues arose in relation to the provision of health care services to persons, such as Sandra, who live in remote rural communities, such as Lightning Ridge. The geographic isolation of such members of the community, and their ability to access health care services in a timely manner, particularly in the case of sudden and unexpected emergency, became a central focus of the inquest. Accordingly, it was necessary during the inquest to examine the conduct of personnel and staff associated with the following organisations:

(a) The Lightning Ridge Multi-Purpose Service, commonly referred to as the hospital in Lightning Ridge;
(b) Dubbo Base Hospital;
(c) The Ambulance Service of New South Wales;
(d) The Royal Flying Doctor Service (South Eastern Section); and
(e) Rural and Remote Medical Services.

2.4 In the course of this examination, certain shortcomings were identified. It is important to acknowledge that this examination was conducted with the benefit of hindsight and in circumstances markedly different to those that confronted individual health care providers on 17 April 2016. There is no doubt that those circumstances were extremely challenging and confronting, and likely one which many of those involved had never experienced before.

2.5 However, it is with the benefit of hindsight, and with an opportunity for reflection, that an inquest is able to identify whether there have been any shortcomings, whether by an individual or an organisation, with respect to any matter connected with a person's death. It seeks to identify shortcomings, not for the purpose of assigning blame or fault but, rather, for the purpose of learning lessons from them so that they are, hopefully, not repeated in the future.

2.6 In this regard, inquests look backwards in time, but have a forward-thinking, preventative focus. At the end of many inquests Coroners often exercise a power, provided for by section 82 of the Act, to make recommendations. These recommendations are usually made to government and non-government organisations, seeking to address systemic issues that are highlighted and examined during the course of an inquest. Recommendations in relation to any matter connected with a person's death may be made if a Coroner considers them to be necessary or desirable.

2.7 The coronial investigation into the death of a person is one that, by its very nature, occasions grief and trauma to that person's family. The emotional toll that such an investigation, and any resulting inquest, places on the family of a deceased person is enormous. The recommendations made by Coroners are made with the hope that they will lead to some positive outcome by improving general public health and safety.

3. Sandra's life

3.1 Inquests and the coronial process are as much about life as they are about death. A coronial system exists because we, as a community, recognise the fragility of human life and value enormously the preciousness of it. Recognising the impact that a death of a person has, and continues to have, on the family and loved ones of that person can only serve to strengthen the resolve we share as a community to strive to reduce the risk of preventable deaths in the future.

3.2 Understanding the impact that the death of a person has had on their family only comes from knowing something of that person's life and how the loss of that life has affected those who loved that person the most. A few brief words written by someone who never had the privilege of meeting Sandra cannot possibly do justice to her remarkable life. However, it is hoped that these words recognise and acknowledge Sandra's life in a meaningful and respectful way.

3.3 Lawrence (Lawrie) Cree, Sandra's defacto husband described her as someone who was put on Earth to fulfil a role: to care for others. And it was a role she performed selflessly for her entire life.

3.4 Lawrie met Sandra when he was 16 years old. They formed a relationship several years later. At the time, Sandra was living in the Melbourne suburb of Thornbury. Even at a young age, Sandra was performing the role of carer: looking after her stepson, Jason; her father; her elderly grandmother; and even the residents of the street where she lived.

3.5 Sandra and Lawrie later moved to Lightning Ridge. Lawrie describes the first two years there for Sandra as being a shock to her system. However, Sandra's strength and resilience came to the fore over time and she settled into life in Lightning Ridge. She was known as someone who would never complain, despite adversity or challenge. Instead, Sandra was always more concerned for those around her, always putting the welfare of others ahead of her own, and never wanting to impose or be a burden to anyone.

3.6 Sandra initially worked at a not-for-profit company which provided community and employment services. At the time of her death, Sandra was still working part-time, at the age of 71, in an opal shop in Lightning Ridge. Unsurprisingly, Sandra excelled at her jobs, gaining the respect of those she met and making her a popular work colleague. The indigenous community in Lightning Ridge held Sandra in high esteem and had enormous respect for her. This respect probably best illustrates the type of person that Sandra was, and the positive impact she had on others. Sandra was a much-loved member of the community and helped to maintain harmony within it, often conciliating between community groups.

3.7 Sandra always had much love to give to others. She made Lawrie feel that no one else was more loved than him. For Sandra herself, she was happiest surrounded by family. Lawrie describes the best years of Sandra's life as being after their daughter, Teresa, gave birth to a daughter of her own, Maddy. It is most distressing to know that Sandra only had a few cherished years to spend with her granddaughter.

3.8 Hundreds of people attended Sandra's funeral. This is a simple testament to the enormous respect that those who knew Sandra had for her, how greatly she is missed by family, friends, and her local community, and what a tragic loss her death is.

4. Background and factual overview

4.1 The specific circumstances surrounding Sandra's death, and in particular the events of 17 April 2016, will be discussed at length below. At this point it is convenient to provide a brief overview of the critical events leading up to Sandra's death.

4.2 Before doing so, it is necessary to understand the setting in which the events of 17 April 2016 occurred. Lightning Ridge is a remote rural community. It is located about 720 kilometres from Sydney and about 540 kilometres from Brisbane. According to the 2016 census it had a modest permanent population of 2,284 people. Medical facilities in Lightning Ridge were limited compared to other, larger regional centres. The Lightning Ridge Multi-Purpose Service was the local hospital in Lightning Ridge. It had a small emergency department and a limited number of acute care beds. The Lightning Ridge Health Centre, a general practitioner clinic, also provided health care services to the local residents.

4.3 In March 2012 Sandra was diagnosed with an abdominal aortic aneurysm (**AAA**). An aneurysm is a bulge or dilatation of a weakened area in a blood vessel. The aorta is the largest blood vessel in the human body. It delivers oxygenated blood to the rest of the body and is divided into two anatomical compartments: the thoracic aorta (which runs from the heart to the diaphragm), and the abdominal aorta (which runs from the diaphragm to the pelvis). Hence, an aneurysm in the region of the abdominal aorta is known as an AAA.

4.4 The primary concern associated with an AAA is that it may rupture or burst. A diagnosis of an AAA does not necessarily mean that it will rupture. However, if there is a rupture, this causes a person to lose a significant amount of blood in a short space of time and is regarded as a life-threatening condition. The risk of aneurysm rupture in a person is related to the size of the aneurysm, its rate of growth, and the person's gender.[1]

4.5 Following Sandra's diagnosis it was recognised that she had a juxtarenal AAA. This meant that her AAA was extremely close to her renal arteries, blood vessels which supply the kidneys with blood. Most people have one renal artery branching left off the aorta, and one renal artery branching right off the aorta. However, Sandra had three renal arteries on the right and two renal arteries on the left. This placed her in a very small sub-set of patients for whom juxtarenal AAA treatment becomes extremely challenging and complicated.

4.6 Following diagnosis of the AAA, Sandra was referred by her general practitioner to a specialist for further opinion and advice. It was decided at that time that the aneurysm was too small to be surgically repaired. In many cases of persons diagnosed with an AAA, the aneurysm does not increase to a size requiring surgical treatment. In the period from March 2012 to October 2015, Sandra's treating doctors monitored her, and the size of the aneurysm.

4.7 By October 2015 the aneurysm had grown to a size where it was deemed suitable for repair. The treatment options available for Sandra included open repair with re-implantation of the renal

[1] Exhibit 1, Tab 92, page 2.

arteries, or endovascular aneurysm repair (**EVAR**) using the implantation of custom-made grafts. In Sandra's case, it was decided to follow the latter option as it was less invasive than open repair, had a lower surgical mortality rate, and reduced the length of post-operative stay in hospital. Plans were made for this to be performed early the following year.

4.8 On 10 April 2016 Sandra was admitted to St Andrews War Memorial Hospital (**St Andrews**) in Brisbane. The following day, Dr Andrew Cartmill, a vascular and endovascular surgeon, performed a preliminary procedure to prepare the aorta for the grafts to be implanted during a subsequent procedure. The preliminary procedure involved coil embolisation (or blocking) of three renal arteries. This was done in order to prevent the potential development of endoleaks after implantation of the grafts. An endoleak is a common complication of EVAR and occurs when blood flows outside of the graft and leaks back into the aneurysm. Sandra's procedure proceeded without complication and she was discharged from hospital the following day. On 13 April 2016 Sandra and Lawrie left Brisbane to drive back home to Lightning Ridge.

4.9 In the days between 12 and 16 April 2016 Sandra was unwell and experienced episodes of vomiting and abdominal pain. In the early hours of the morning on 17 April 2016 Sandra's condition rapidly deteriorated. Mr Cree made a Triple Zero call at 2:20am seeking emergency medical assistance. Mr Cree was advised by an operator that a doctor would call him back within an hour. When no call was forthcoming Mr Cree called back at about 3:37am. By this time, Sandra's was in a critical condition.

4.10 Paramedics from the Ambulance Service of NSW (**NSW Ambulance**) were tasked to the job and arrived at Sandra's home at about 4:01am. Sandra was found to be hypotensive, diaphoretic, pale and hypothermic with lower abdominal pain and a cold pain in her lower back. She was conveyed to Lightning Ridge Multi-Purpose Service (**LRMPS**), arriving at 4:37am, and was off the stretcher 10 minutes later.

4.11 Dr Kamlesh Kumar was the locum General Practitioner/Visiting Medical Officer (**GP/VMO**) on duty at LRMPS at the time. Working together with Registered Nurse (**RN**) Sharon Gardiner, Dr Kumar triaged Sandra, took a history from her and attempted to diagnose her complaint.

4.12 At about 5:56am Dr Kumar spoke to Dr Michael Novy, the State Retrieval Consultant (**SRC**) for the Aeromedical Control Centre (**ACC**).[2] The ACC is a control centre within NSW Ambulance which coordinates the air transport and clinical care of patients between hospitals and from out-of-hospital locations. As a result of this call, and subsequent discussion with Dr Novy and RN Gardiner, a retrieval team from the Royal Flying Doctor Service (South Eastern Section) (**RFDS**) was tasked to retrieve Sandra from LRMPS for transfer to another facility. The RFDS, in agreement with NSW Health, provides emergency evacuations and inter-hospital transfer services for people who require urgent medical attention. Relevantly here, RFDS services to the Lightning Ridge area operated from an RFDS base located in Dubbo.

4.13 Dr Dean Jones and RN Michael Cook were the members of the RFDS retrieval team. They departed their base in Dubbo at about 7:10am and arrived at LRMPS at about 8:30am. Dr Jones, RN Cook and LRMPS staff worked together to stabilise Sandra. At about 11:01am, Dr Jones called Dr Peter Clark

[2] At the time of the events of April 2016 the Aeromedical Control Centre (**ACC**) was previously the Aeromedical Operations Centre (**AOC**). For convenience, the AOC will be referred to as the ACC in these findings.

the SRC on duty at the time and a decision was made to transfer Sandra to Dubbo Base Hospital (**DBH**).

4.14 Sandra was loaded on to the RFDS flight at about 11:30am and arrived at DBH at about 12:57pm. On arrival Sandra was triaged and stabilised by staff from the DBH emergency department and intensive care unit. At 3:45pm a CT scan was performed on Sandra. The scan was reported on at about 4:07pm where it was noted that Sandra's diagnosis was that she had a ruptured AAA.

4.15 At about 4:23pm Sandra suffered a cardiac arrest and became hypotensive and pulseless. Resuscitation attempts were made and at 4.44pm a weak pulse was noted. At this time, Mr Cree and his daughter and granddaughter were en route to DBH, driving from Lightning Ridge to Dubbo. Over the next hour consultation between various clinicians and Mr Cree resulted in a decision being made that, due to Sandra's poor prognosis, no attempt would be made to repair the ruptured AAA, and that Sandra would not be transferred to any other hospital. Accordingly, Sandra was placed on life support and provided with palliative care.

4.16 At 8:05pm Sandra suffered a further cardiac arrest and was pronounced life extinct. Mr Cree and his daughter and granddaughter later arrived at DBH shortly before 12:00am.

5. What issues did the inquest examine?

5.1 There were several critical events from the time of Mr Cree's phone call to Triple Zero in the early hours of the morning on 17 April 2016 up until the time, some 16 hours later, when the results of the CT scan at DBH became known. The coronial investigation, and the inquest itself, sought to examine the care and treatment provided to Sandra during this period, and the decision-making process surrounding aspects of her care.

5.2 To assist with this examination, opinion was sought from two medical experts:

(a) Professor Anthony Brown, a senior staff specialist in emergency medicine at the Royal Brisbane and Women's Hospital, Brisbane; and

(b) Associate Professor Anthony Grabs, a staff specialist in vascular and general surgery at St Vincent's Clinic, Sydney.

5.3 Both experts provided reports which were tendered in evidence during the course of the inquest. Both experts also gave oral evidence during the inquest.

5.4 Set out below is a consideration of each of the critical events that occurred in the circumstances that led up to Sandra's death.

6. What was the cause and manner of Sandra's death?

6.1 Sandra was later taken from Dubbo to the Department of Forensic Medicine in Newcastle. On 26 April 2016 an autopsy was performed by Dr Leah Clifton, forensic pathology registrar. Postmortem examination confirmed the presence of a large AAA at the level of the renal arteries and below. A rupture site was identified and it was found that there was extensive haemorrhage into the retroperitoneum.

6.2 Dr Clifton noted that there was no evidence of complication from the embolization procedure performed at St Andrews and "*no evidence that this procedure precipitated the aneurysm rupture*".[3] Dr Clifton also identified significant coronary artery atherosclerosis in two of the major coronary arteries which she noted was "likely to have further hastened the death".[4]

6.3 **Conclusion:** Sandra died from a ruptured abdominal aortic aneurysm. Pre-existing natural disease in the form of coronary artery atherosclerosis was a significant condition contributing to Sandra's death, but was unrelated to the condition causing death. In the absence of any trauma, or evidence of complication from Sandra's earlier procedure, the manner of Sandra's death was from natural causes.

[3] Exhibit 1, Tab 6, page 3.
[4] Exhibit 1, Tab 6, page 3.

7. Background to Sandra's procedure at St Andrews

7.1 On 9 March 2012 Sandra had an ultrasound performed on her abdomen.[5] It was discovered that she had an AAA. A CT scan of the abdomen was performed the following month which identified a fusiform aneurysm of the infrarenal aorta just below the level of the renal arteries, with two renal arteries on the right and a single renal artery on the left.[6]

7.2 Sandra's GP, Dr Richard Green, referred her to Dr Greg Leslie, a vascular and endovascular surgeon, for further review. In July 2012 Dr Leslie noted that the AAA was just under 40mm in diameter, asymptomatic and too small for repair. He decided to keep an eye on the aneurysm and arranged for Sandra to have a further abdominal ultrasound in three months' time.

7.3 Between July 2012 and October 2013 Dr Leslie continued to monitor the aneurysm. On 21 October 2013 Dr Leslie wrote to Sandra's GP at the time, Dr Martin Panter, to advise that the aneurysm had grown to 45mm in diameter but was still not suitable for a straight endovascular repair. In his letter Dr Leslie expressed the view that because Sandra lived in a remote location such as Lightning Ridge "*any rupture [of the aneurysm] would almost certainly be fatal*".[7]

7.4 By November 2014 Dr Leslie noted that Sandra's aneurysm had grown to about 45mm but noted that endovascular repair would be "*extremely difficult*" because there was a poor neck and multiple renal arteries. For this reason Dr Leslie indicated that he would not consider surgery until the aneurysm reached 50 to 55mm in size.[8]

7.5 At around this time Sandra sought a second opinion from another vascular and endovascular surgeon, Dr Andrew Cartmill. A teleconference was arranged and Dr Cartmill later wrote to Sandra's GP at the time, Dr Ihtisham Ul-Haq, confirming the same opinion expressed by Dr Leslie. Dr Cartmill did note that, in his opinion, a fenestrated EVAR would be possible but favoured waiting until the aneurysm reached 50mm in diameter. In his letter Dr Cartmill noted that he was aware of Sandra's "*isolation and the need to for evacuation on an urgent basis should a rupture occur*".[9]

7.6 Dr Cartmill continued to review Sandra and on 13 October 2015 he again wrote to Sandra's GP to note that a CT scan showed that the aneurysm had grown to 55cm in diameter. Dr Cartmill discussed the risk of rupture with Sandra and a decision was made to go forward with intervention. The intervention was to proceed in two stages. Firstly, coil embolization of three small renal arteries, inferior to the main renal arteries, was required to prevent the potential for endoleaks. Secondly, a fenestrated endograft needed to be implanted.

[5] Exhibit 1, Tab 46, page 36.
[6] Exhibit 1, Tab 47, page 1.
[7] Exhibit 1, Tab 47, page 16.
[8] Exhibit 1, Tab 47, page 27.
[9] Exhibit 1, Tab 46, page 51.

8. The procedure at St Andrews and Sandra's discharge from hospital

8.1 Sandra and Mr Cree travelled to Brisbane and Sandra was admitted to St Andrews at 4:00pm on Sunday 10 April 2016. At around 4:30pm the following day, 11 April 2016, Dr Cartmill performed the first stage of surgical intervention, a bilateral renal artery coil embolization. The procedure was described as "*uneventful*" and an aortagram performed afterwards showed that the arteries were successfully blocked on both sides and that there were good nephrograms bilaterally.[10] Following the procedure Sandra was admitted to the vascular ward for overnight observation.

8.2 Dr Cartmill reviewed Sandra the following morning at around 7:30am. He noted that Sandra had stable cardiovascular, vascular and respiratory observations overnight. He also noted that Sandra said that she had slept well and denied any nausea or vomiting. Dr Cartmill also noted that test results for Sandra's renal function indicated that there was no change between her pre-operative and post-operative results. In evidence Dr Cartmill said that he observed Sandra to be in good spirits with no abdominal, groin or back pain. He said that her observations were within normal limits and that he had questioned her about food and she replied that she had eaten and been able to keep food down. Dr Cartmill said he made it clear to Mr Cree that he could contact him if there were any concerns or if Sandra was unwell or in pain.

8.3 Based on his review, Dr Cartmill decided that Sandra could be discharged. He explained that there was no clinical indication for her to remain in hospital and her discharge was in keeping with "*standard accepted practice following uneventful percutaneous vascular intervention*".[11]

8.4 Sandra was later discharged at around 9:30am. At the time of her discharge Dr Cartmill understood that Sandra and Lawrie would stay at a hotel near the hospital for several days before driving home to Lightning Ridge. In evidence Dr Cartmill said that he had no difficulty with Sandra returning home the day after her discharge provided that she was not driving and she was given opportunity to get out of the car and walk around.

8.5 Following her discharge Sandra returned to the hotel room, across the road from the hospital, where Mr Cree had been staying. She and Lawrie stayed in the hotel for one night and then left at around 10:00am the next morning, 13 April 2016, to drive home. On the way, they spent the night in Mungindi, before arriving home in Lightning Ridge on 14 April 2016.

8.6 Mr Cree's recollection of the events of 12 April 2016 are somewhat different to Dr Cartmill's. In evidence, Mr Cree said he was stunned when he received a call the morning after Sandra's procedure advising that she was ready to be discharged. When he went to collect Sandra from the hospital he described her as holding her stomach, not being able to walk properly, and having difficulty walking. Mr Cree described Sandra as being unable to even keep down a cup of coffee, which she normally enjoyed, let alone any food.

8.7 In his report, and in evidence, Associate Professor Grabs was invited to consider whether it was reasonable for Sandra to have been discharged on 12 April 2016, the morning after her procedure.

[10] Exhibit 1, Tab 11, at [2.9].
[11] Exhibit 1, Tab 11, at [3.4].

Associate Professor Grabs considered that it was reasonable and appropriate to discharge Sandra "*as the procedure she had undergone was straightforward*".[12]

8.8 **Conclusion:** Sandra's procedure at St Andrews on 11 April 2016 was performed without complication. When Sandra was reviewed the following morning, there were no clinical findings to indicate that she should not be discharged. Despite Mr Cree's observations, creating misgivings about the timing of her discharge, accepted clinical practice was followed. Given Sandra's selfless nature as person who did not like to complain or bother anyone, it may have been the case that she was less forthcoming with how she was feeling when speaking to Dr Cartmill, compared to when she spoke to Lawrie. Nevertheless, Sandra's observations were noted to have been stable overnight following the procedure, and her vital signs were within normal limits the following morning. Therefore, the available clinical and expert evidence establishes that it was appropriate for Sandra to have been discharged from St Andrews on 12 April 2016.

[12] Exhibit 1, Tab 92, page 5.

9. The response to the Triple Zero call made by Mr Cree

8.1 Between 12 April and 16 April 2016 Sandra felt increasingly unwell. She suffered from episodes of vomiting and coughing and experienced sporadic abdominal pain. On 16 April 2016 Sandra felt particularly unwell. She felt light-headed, developed diarrhoea, experienced flushes and chills, and had constant abdominal pain. She also reported feeling a cold pain in her lower back.

8.2 At around 2:00am on 17 April 2016, Mr Cree was woken up by his daughter, Teresa. She told her father that Sandra was "*crook*". Mr Cree responded by making a Triple Zero call at around 2:20am. After obtaining Mr Cree's name, address and contact details the Triple Zero operator asked Mr Cree to tell him what had happened with Sandra. Mr Cree replied:

> "*Well, what's happened is we took Sandra over to St Andrews, ahh last week – we've just got back. Now on Monday she had an operation, she's got to have an aneurysm done on her kidneys, it's pretty, well, for the size, and it's got to be done. So they went in there and, look, I'm not quite sure what they did, they got some other veins out of the way or – "*.[13]

8.3 Mr Cree went on to tell the operator that Sandra was "*really crook*", "*vomiting*" and "*as cold as ice*".[14] After ascertaining that Sandra was responsive and breathing normally the operator asked whether Sandra had any pain. Mr Cree replied that she had pain "*where she had the operation*", "*near the kidneys*".[15] Mr Cree went on to tell the operator that Sandra did not want to go in an ambulance even though she was "*really crook*".[16]

8.4 Mr Cree's call was triaged using the Medical Priority Dispatch System (**MPDS**). This is an internationally renowned protocol utilised by NSW Ambulance for the triaging of emergency calls using a software algorithm. The MPDS follows a standard, repetitive questioning regime which ultimately allows for the selection of a Chief Complaint Protocol. Following a series of questions related to a patient's described specific condition an appropriate response to the call is determined.[17] In Sandra's case the information provided by Mr Cree resulted in Sandra being found to be vomiting, but alert and breathing normally, and not bleeding. On this basis it was determined that Sandra was eligible for secondary triage.[18]

8.5 This secondary triage involved the operator informing Mr Cree that the call would be transferred to a registered nurse from Healthdirect Australia (**Healthdirect**) to provide further advice. Healthdirect is a not-for-profit public company jointly funded by the federal, state and territory governments to deliver health services to the public.[19] One of the services provided by Healthdirect is a secondary triage service. This involves the provision of nurse-based telephone secondary triage services to low acuity patients of NSW Ambulance who contact the Triple Zero emergency number.[20] In turn, Healthdirect outsources the delivery of services under a contract to Medibank Health Solutions Telehealth Pty Ltd. For convenience, the calls below will be referred to as being between Mr Cree and Healthdirect.

[13] Exhibit 1, Tab 54, page 1.
[14] Exhibit 1, Tab 54, page 1.
[15] Exhibit 1, Tab 54, page 2.
[16] Exhibit 1, Tab 54, page 2.
[17] Exhibit 1, Tab 87 at [3]-[6].
[18] Exhibit 1, Tab 87 at [18].
[19] Exhibit 1, tab 13 at [3]-[4].
[20] Exhibit 1, tab 13 at [9].

8.6 In his report Professor Brown expressed the view that it was appropriate for the Triple Zero operator to make a referral for secondary nurse triage. This is because the interrogation performed as part of the operation of the MPDS identified that Sandra was awake and alert, breathing normally, and not bleeding or vomiting blood. On this basis, Professor Brown was not critical of the referral made to Healthdirect and a registered nurse.[21]

8.7 **Conclusion:** The information provided to the Triple Zero operator did not warrant a more urgent response than referral for secondary nurse triage. On this basis, it was appropriate and reasonable for such a referral to be made.

8.8 At about 2:23am the Triple Zero operator transferred Mr Cree's call to a nurse (identified on the transcript of the call as to "*Dianne*") from Health Direct and provided this handover:

> "*OK, you'll be speaking to Mr Cree; he's calling on behalf of his partner, a 71 year old lady who's very crook and vomiting*".[22]

8.9 Once on the phone with Healthdirect, Mr Cree again explained that Sandra had had an operation at St Andrews and said:

> "*Now what's done – they've got to go in and do the – she's got an aneurism. Now's it's got to be operated on in a month. Now this part of the first part of the operation is to prepare it ready to do the aneurism*".[23]

8.10 Mr Cree also repeated that Sandra was "*as cold as bloody ice*", that she had "*pains in her groin where she had this operation*", that she felt very weak but that she still did not want to go in an ambulance.[24]

8.11 At one point, whilst asking about whether Sandra had any other medical conditions, the nurse referred to Sandra having a brain aneurysm.[25] It appears that Mr Cree did not notice this being said as he did not correct the operator. The nurse went on to note that Sandra's breathing appeared laboured to Mr Cree and that she was not bleeding from the wound site. The nurse asked Sandra to rate the pain that she was experiencing. After enquiring with Sandra, Mr Cree told the nurse, "*Two out of 10 so she reckons, but she looks half dead*".[26] After telling the nurse that Sandra had been vomiting and unable to eat properly since her operation, Mr Cree offered the following opinion: "*It's certainly connected with this operation whatever's going on*".[27]

8.12 Towards the end of the call, which lasted about 15 minutes, the nurse recommended to Mr Cree that Sandra should see a doctor within the next six hours, and that an after-hours doctor would call him back within an hour. To do so, the nurse asked Mr Cree for his phone number[28], which he had also

[21] Exhibit 1, Tab 90 at [2(b)].
[22] Exhibit 1, Tab 54, page 3.
[23] Exhibit 1, Tab 13, Annexure F, page 2.
[24] Exhibit 1, Tab 13, Annexure F, pages 2-3.
[25] Exhibit 1, Tab 13, Annexure F, page 5.
[26] Exhibit 1, Tab 13, Annexure F, page 8.
[27] Exhibit 1, Tab 13, Annexure F, page 8.
[28] Exhibit 1, Tab 13, Annexure F, page 9.

provided on two occasions earlier during the call.[29] The nurse told Mr Cree that if he did not receive a call from the doctor to call a 1800 number back in two hours, or to call back immediately if Sandra's condition worsened.

8.13 At the conclusion of this call, the afterhours GP helpline attempted to make two calls to Mr Cree: one at 2:53am (about 15 minutes after the secondary triage call ended at about 2:38am) and another 3:27am (about 50 minutes after the secondary triage call ended).[30] Neither call was answered. It was later discovered that this was because the GP helpline was calling an incorrect number. This was due to the fact that one digit of Mr Cree's phone number had been incorrectly recorded during his call with Healthdirect: a number "9" had been entered instead of a number "6". To prevent the possibility of such an error occurring, it was standard practice for a caller's number to be repeated to them so that it could be verified. This practice was not followed during the call with Mr Cree.[31]

8.14 **Conclusion:** Human data entry error resulted in Mr Cree's phone number being recorded incorrectly during the secondary triage call. There was a prescribed process in place for a caller's phone number to be read back to them to mitigate the possibility of such error. This process was not followed on 17 April 2016.

8.15 The available evidence establishes that appropriate consideration has been given to the implementation of a technical solution, such as voice recognition software, to further mitigate the possibility of error.[32] It has been determined that due to the high proportion of incoming numbers being not visible (because they originate from private numbers, or are transferred calls) and due to accuracy challenges associated with such software (because of poor reception), that such a possible solution is not a viable one. On the evidence available it appears that the outcome of the consideration given is reasonable in the circumstances. The prescribed process already in place to mitigate against the possibility of a caller's number being recorded in error means that a recommendation in this regard is neither necessary nor desirable.

8.16 After not receiving a call from a doctor within an hour as had been indicated, Mr Cree later called Healthdirect back at about 3:37am. On this occasion he spoke to a different triage nurse (identified as "Bronwyn" on the transcript) and told her:

> "*Well my missus sent in for an operation last Monday. She's having an aneurysm fixed and she had to go in for part A of the operation, whatever that – stints or stents or some bloody thing*".[33]

8.17 Mr Cree again repeated that Sandra was "*really crook*", very weak, not breathing properly, that her blood pressure had dropped, and that he could barely move her.[34] Mr Cree went on to tell the nurse that Sandra's condition had worsened since her operation and that she was cold and clammy. The nurse indicated that Sandra should be taken by ambulance to a hospital emergency department. After obtaining Sandra's agreement, Mr Cree was transferred back to NSW Ambulance at about

[29] Exhibit 1, Tab 13, Annexure F, page 4.
[30] Exhibit 1, Tab 13, Annexure J, page 3.
[31] Exhibit 1, Tab 13, Annexure K, page 3; Annexure L, page 3.
[32] Exhibit 1, Tab 13, page 317.
[33] Exhibit 1, Tab 13, Annexure L, page 1.
[34] Exhibit 1, Tab 13, Annexure L, page 2.

3:46am. This occurred because the nurse assessed Sandra's breathing as requiring a more urgent level of response.[35]

8.18 During this call, Mr Cree again repeated that Sandra had been unwell since having an operation on Monday and getting worse, that she was clammy, in pain, barely able to move, vomiting, about to pass out, and not breathing properly.[36] At one point Mr Cree told the operator: "*Because she had work on – the operation, or the prep, was on her kidney, so it's probably doing –*".[37] This subsequent call with NSW Ambulance resulted in the MPDS triage identifying that Sandra was experiencing breathing difficulties and that her level of consciousness required clarification. As a result, a 2I response priority was allocated to Mr Cree's call, which required an immediate response by NSW Ambulance paramedics.[38]

8.19 **Conclusion:** During the 3:46am call with NSW Ambulance information was provided that Sandra was experiencing breathing difficulties. This was new information, not provided earlier, because there had been a change in Sandra's condition after the initial call to NSW Ambulance at 2:20am. Given this change, it was entirely appropriate during the subsequent 3:46am call for there to have been a higher level of response, requiring the despatch of NSW Ambulance paramedics.

[35] Exhibit 1, tab 13, page 3 at [27].
[36] Exhibit 1, Tab 54, page 5.
[37] Exhibit 1, Tab 54, page 6.
[38] Exhibit 1, Tab 87 at [19].

9. Attendance by NSW Ambulance at Sandra's home

9.1 An ambulance was despatched at 3:51am and the job was accepted by paramedics Mitchell McCabe and Helen Theuma. They arrived at Sandra's home at 4:01am. Paramedic McCabe found Sandra to be hypotensive, hypothermic and hypoglycaemic. The paramedics attempted to cannulate Sandra in order to give her fluids to treat her hypotension and hyperglycaemia, but were unsuccessful.

9.2 According to the NSW Ambulance electronic records, the paramedics noted that Sandra had a history of incontinence and that when this was being investigated she was found to have an "*aneurism on kidneys*".[39] The paramedics noted that the wound site from the procedure at St Andrews appeared clean with nil signs of infection. Paramedic McCabe formed the view that Sandra needed to be taken to hospital immediately and the electronic records note the initial assessment to be sepsis.[40]

9.3 At 4:33am NSW Ambulance called Lightning Ridge Multi-Purpose Service to provide Sandra's vital signs and to note that she was en route and arriving shortly. During the call it was noted by the NSW Ambulance operator, "*Query sepsis*".[41]

[39] Exhibit 1, Tab 15, page 5.
[40] Exhibit 1, Tab 15, page 6.
[41] Exhibit 1, Tab 54, page 8.

10. Sandra's arrival at Lightning Ridge Multi-Purpose Service

10.1 According to NSW Ambulance records Sandra arrived at LRMPS at 4:37am and was off the stretcher at 4:37am. Registered Nurse Sharon Gardiner was working at the time. She triaged Sandra and took a history from her, during which Sandra said that she had a procedure performed recently at another hospital for urinary incontinence, angiogram and aneurysm.[42]

10.2 Dr Kamlesh Kumar was working as a locum GP/VMO at the time. He had been called in to the hospital to attend to Sandra who, he was informed, had abdominal pain and was dehydrated.[43] Dr Kumar examined Sandra and took a history from her in which she said that she had been seen by a vascular surgeon on 10 April 2016, had been treated for urinary incontinence and had recent surgery at St Andrews to insert three stents in the right renal vein with plans to return to hospital for further treatment.[44] Dr Kumar's recollection is that at some stage both Sandra and Mr Cree told him that Sandra "*had an aneurysm in the kidney/vein and that it was going to be repaired in a week*".[45] Similarly, RN Gardiner recalled that Mr Cree also mentioned to her that Sandra had "*an aneurysm close to her kidney*", and recorded this in her progress notes at 6:57am.[46]

10.3 During the course of Sandra's treatment, RN Gardiner instructed one of her colleagues, RN Anne Scanlon, to seek further assistance from NSW Ambulance, the two other permanent VMOs who worked at LRMPS, and other nursing staff. At 5:26am RN Scanlon made a call to NSW Ambulance requesting a Clinical Emergency Response System (**CERS**) assist. This is a request made by a hospital to NSW Ambulance for assistance in the event of a clinical emergency. During the call, RN Scanlon noted that Sandra was hypotensive, hypothermic, that the treating team were having difficulty cannulating her, and that there was a concern that she might suffer a cardiac arrest.[47] Paramedics McCabe and Theuma acknowledged the CERS assist request at 5:28am and returned to LRMPS at about 5:31am. Once there, the paramedics assisted with treating Sandra.

10.4 The progress notes completed by RN Gardiner at 7:14am record the following:

> "*…pt presented via CDA with ?sepsis after procedure at private hospital in brisbane [sic]. had [sic] felt unwell past few days after discharge on Tuesday. pt states she had a [sic] aneurysm ?aortic near kidney according to patients [sic] husband*".[48]

10.5 RN Gardiner said that at the time of Sandra's arrival she considered a diagnosis of sepsis due to Sandra's recent urological procedure, history of feeling unwell, and her presenting blood pressure, tachycardia and hypothermia.[49] However, once RN Gardiner knew of the aneurysm she said that she considered that possibility as well, and that sepsis became a secondary possibility.[50]

10.6 In evidence Dr Kumar said that given Sandra's history and other observations he considered the possibility of a bleed in the abdomen. He said that her low blood pressure and low temperature

[42] Exhibit 1, Tab 18 at [9].
[43] Exhibit 1, Tab 17 at [1].
[44] Exhibit 1, Tab 17 at [2].
[45] Exhibit 1, Tab 17 at [2].
[46] Exhibit 1, Tab 18 at [10].
[47] Exhibit 1, Tab 54, page 11.
[48] Exhibit 1, Tab 50, page 1.
[49] Exhibit 1, Tab 18 at [14].
[50] Exhibit 1, Tab 18 at [15].

made him consider that a bleed was likely. He also referred to her dropping haemoglobin levels and explained that this was not consistent with sepsis.

10.7 Dr Kumar explained in evidence that, according to his progress notes, he suspected by 5:38am that Sandra had suffered a ruptured aneurysm. This is because her haemoglobin level had dropped to 71g/L.[51] Dr Kumar went on to explain that his suspicion had become a conclusion by 6:37am when Sandra's haemoglobin level had dropped further to 65g/L.[52]

10.8 Later in his notes, Dr Kumar recorded the following assessment:

> *1. Intra abdominal bleed ? ruptured aneurysm*
> *2. Sepsis*.[53]

10.9 In evidence Dr Kumar indicated that this progress note entry meant that his preferred assessment of Sandra was that she had suffered a ruptured aneurysm. He further indicated that his secondary assessment was that she was suffering from sepsis.

10.10 **Conclusion:** On the limited information available to him, Dr Kumar made a correct assessment that Sandra had suffered a ruptured aneurysm. He correctly identified that Sandra's clinical presentation, and in particular, her marked drop in haemoglobin levels, was more consistent with a ruptured aneurysm than with sepsis.

[51] Exhibit 1, Tab 50, page 4.
[52] Exhibit 1, Tab 50, page 4.
[53] Exhibit 1, Tab 50, page 4.

11. Were reasonable attempts made at LRMPS to gather collateral information

11.1 Apart from the history provided by Sandra, and the performance of a clinical assessment, other sources were available to Dr Kumar to gather collateral information. These sources can be separated into three areas:

(a) Electronic records;
(b) Information from Mr Cree; and
(c) Information from Dr Cartmill and St Andrews.

11.2 Each potential source of information will be considered separately below.

11A. Information gathered from electronic records

11.3 In April 2016 Rural and Remote Medical Services (**RaRMS**), a not-for-profit incorporated association, managed the Lightning Ridge Health Centre (**the Health Centre**). This was the only General Practice clinic in Lightning Ridge. At the relevant time RaRMS entered into contracts with permanent GPs to conduct their practices out of the Health Centre. RaRMS also held a contract with the WNSWLHD to provide VMOs to cover LRMPS. Therefore, it was usually a requirement for GPs conducting practices at the Health Centre to also work as VMOs at LRMPS.

11.4 RaRMS provides their contracted GPs, including those working as VMOs at LRMPS, with a user name and password to access Best Practice. This is a software package used at the Health Centre which provides access to patient files kept at the Health Centre.[54] This access is provided to doctors at the beginning of their first shift at the Health Centre. Additionally, RaRMS provides a laptop at LRMPS, which is located in a publically accessible area, for both permanent and locum VMOs to use Best Practice in order to remotely access Health Centre patient files. In order to use this laptop a VMO is first required to enter a password in order to log into the laptop. A VMO at the LRMPS seeking to access Health Centre patient files therefore needed to possess two sets of information: firstly the password to log into the LRMPS laptop; and secondly, the a user name and password to log into Best Practice.

11.5 On 17 April 2016 Sandra's patient files from the Health Centre were capable of being accessed remotely using Best Practice. In his statement[55] Dr Kumar said that he could not recall whether he tried to remotely access Sandra's files using the laptop available at LRMPS. However, he said that the laptop was password protected and that neither he, nor any of the nurses, knew the password. Dr Kumar went on to explain that he also could not recall whether he tried to contact one of the permanent VMOs in order to find out the password from them, but believed that he did not do so as it was early in the morning.

11.6 In evidence Dr Kumar said that he knew what his user name and password were in order to access Best Practice. However, he explained that at no time up to 17 April 2016 was he provided with the

[54] Exhibit 1, Tab 46A at [13]-[14].
[55] Exhibit 1, Tab 17 at [7].

password to log into the laptop.[56] He said that this was despite having commenced his appointment on 10 April 2016[57] and having worked 3 shifts at LRMPS up to 17 April 2016.

11.7 In evidence Dr Kumar confirmed that he did in fact try to long into the laptop but could not do so. He also said that none of the nursing staff at LRMPS knew the password either. He also said that when he instructed the nursing staff to contact one of the permanent VMOs to assist with Sandra's management, there was an opportunity to obtain the password from the VMO. Unfortunately none of the permanent VMOs were able to be contacted. In evidence, it appeared that Dr Kumar perhaps sought to indicate that accessing patient files remotely may not have been a practice he was accustomed to. He explained that prior to April 2016 he had previously worked in a rural centre 400km from Brisbane for 7 years. Within that centre, there was a GP clinic within 100 metres of the hospital he was working in. Therefore, as Dr Kumar explained, if patient records were required he would simply physically go to the clinic to access such records.

11.8 Ms Ashlee Brennan, the Executive Manager of Clinical Services at RaRMS, confirmed in evidence that if Dr Kumar had been able to log in to the laptop, and then log in to Best Practice, he would have been able to remotely access the entirety of Sandra's patient file from the Health Centre. If Dr Kumar had such access he would have been able to see the correspondence between Sandra's treating GPs at the Health Centre on the one hand, and Dr Leslie and Dr Cartmill on the other. This correspondence, as well as the electronic records, would have set out in clear terms Sandra's diagnosis of an AAA.

11.9 In evidence Dr Kumar agreed that if he had access to such records, and known that Sandra had been diagnosed with an AAA, he would have wanted to convey this information to both the RFDS retrieval doctor and to the SRC. This issue will be explored further below. However, Dr Kumar went on to explain that even if had known of the previous diagnosis of an AAA, it would have made no difference to his management of Sandra at LRMPS. According to Dr Kumar, Sandra would have been still given fluids and arrangements would have been to transfer her to a different facility.

11.10 Ms Brennan said in evidence that currently no RaRMS policy exists which provides guidance as to how the password for the laptop at LRMPS is provided to locum or permanent VMOs. In circumstances where no such policy exists she explained that the usual practice is for the practice manager of the Health Centre to ensure that the VMO has access and is aware of the password. She also explained that it is also practice for permanent VMOs to make visiting VMOs aware of the password at the time of handover.

11.11 It is evident that neither of the above practices were followed in Dr Kumar's case. In evidence Ms Brennan said that she was surprised to learn that Dr Kumar was not provided with the laptop password until seven days after his appointment and, obviously, after Sandra's death. Ms Brennan agreed that this was an administrative oversight on the part of RaRMS.

11.12 In evidence Ms Brennan was asked about the possible options available to Dr Kumar to obtain the laptop password. She explained that he could have contacted the Health Centre practice manager, any of the permanent VMOs, or the Information Technology (IT) Manager. Ms Brennan said that she

[56] The evidence established that Dr Kumar was only later provided with this password on 18 April 2016.
[57] It should be noted that although Dr Kumar expressed the belief that he commenced his appointment on 10 April 2016, according to records kept by RaRMS he actually commenced this appointment on 11 April 2016.

was unaware if the contact details for the IT Manager would have been readily available to Dr Kumar in April 2016. However, she explained that such details are now available by virtue of a business card for the IT manager being affixed to the laptop.

11.13 Ms Brennan further agreed in evidence that making LRMPS nursing staff aware of the laptop password, so that it could be provided to VMOs if needed, would "*in concept*" represent appropriate contingency planning – but would breach privacy legislation. Ms Brennan nevertheless agreed that consideration would be given by RaRMS to consultation with WNSWLHD to provide nurses with the laptop password as part of risk management procedures.

11.14 In this regard Ms Victoria Scott, the Health Service Manager at LRMPS, initially said in evidence that she saw the LRMPS as having no role in providing access to the laptop. This is because the LRMPS was only responsible for providing access to LRMPS records, and did not operate the laptop. Ms Brennan later agreed that it would be a good idea for the Western New South Wales Local Health District (**WNSWLHD**) and RaRMS to agree to an access protocol regarding the laptop password.

11.15 **Conclusion:** It was appropriate for there to have been two levels of password protection to the RaRMS provided laptop at LRMPS. The location of the laptop in a public area meant that, without the requirement to first log in with a password, protection against possible unauthorised access was required.

11.16 Sandra's patient files from the Health Centre contained crucial information which was highly relevant to her care at LRMPS on 17 April 2016. Armed with this information it is likely that Dr Kumar would have been able to make a diagnosis that Sandra had presented with a ruptured AAA. To remotely access such information required Dr Kumar to log in to a laptop at LRMPS. Dr Kumar was not provided with this password prior to 17 April 2016. It appears that a robust system for the provision of the password to VMOs had not been established by RaRMS and, therefore, represented an administrative oversight.

11.17 Notwithstanding, Dr Kumar's previous experience at a different hospital, where there was no need to access patient files remotely, further attempts should have been made to obtain the laptop password. The evidence established that this could have been done with a simple enquiry being directed to the Health Centre practice manager. Given the important information contained in Sandra's patient file, the management of her care in this regard was sub-optimal.

11.18 Counsel for RaRMS agreed in written submissions that RaRMS would benefit from developing a written procedure or policy governing provision of passwords at LRMPS to GPs/VMOs. However it was submitted that development of an access protocol with WNSWLHD (of the kind referred to by Ms Brennan and Ms Scott in evidence) to allow nurses working at LRMPS to be provided with the password would be problematic. This is due to concerns of potential breaches of privacy legislation and unauthorised access to medical records in circumstances where some nursing staff at LRMPS are agency nurse and not employed by the WNSWLHD. This submission is accepted.

11.19 **Recommendation 1:** I recommend to the Chief Executive, Rural and Remote Medical Service (RaRMS) that consideration be given to the development of a written procedure or policy which provides for the means by which General Practitioners/Visiting Medical Officers (GPs/VMOs) are provided with the password to access the laptop provided for by RaRMS at the Lightning Ridge Multi-Purpose Service. I further recommend that consideration be given by RaRMS to the development of a similar written procedure or policy in relation to any other hospital where it provides a computer to allow GPs/VMOs to remotely access GP records.

11B. Attempts to gather information from Mr Cree

11.20 Mr Cree did not accompany Sandra in the ambulance to LRMPS. He recalls arriving at LRMPS sometime around 6:30am or 7:00am and speaking to Dr Kumar shortly after his arrival. During this conversation, Mr Cree said that he told Dr Kumar that Sandra was being treated for "*an aneurysm near her kidney*" and said that he thought that this information would already be accessible to Dr Kumar within the hospital system.[58] According to Mr Cree, Dr Kumar said that he could not access such information because he was not aware of the password to allow for computer access. In response, Mr Cree said that he would return home in order to gather some documents and bring them back to Dr Kumar.

11.21 Mr Cree drove home to collect a number of documents that Sandra had been provided with at St Andrews. These documents were contained in a folder[59] which Mr Cree retrieved, brought to LRMPS and gave to Dr Kumar. Mr Cree said that he "*saw Dr Kumar flick very quickly through*" the folder.[60] In evidence, Mr Cree described Dr Kumar flicking through the documents like a deck of cards for less than a minute, without stopping or reading anything. Mr Cree said that what he saw Dr Kumar doing left him with the belief that Dr Kumar could not read English.

11.22 In evidence Dr Kumar agreed that Mr Cree told him that he had information about Sandra at home and offered to bring it to him. However, in contrast, Dr Kumar said in his statement that he had no recollection of Mr Cree giving him any documents; he only recalled Mr Cree giving him a business card which contained "*details of Mrs Cree's surgeon and/or hospital*".[61] In evidence Dr Kumar rejected the suggestion that Mr Cree gave him the folder, and also rejected the suggestion that he was given the folder but looked only at the business card.

11.23 **Conclusion:** There is no basis upon which it could be inferred that the accounts given by either Mr Cree or Dr Kumar are inherently unreliable. However, there is no dispute that Dr Kumar at least received Dr Cartmill's business card from Mr Cree. In these circumstances it is improbable that Mr Cree would not also have provided the folder of documents from St Andrews to Dr Kumar. Further, there is no evidence to suggest that Mr Cree, after he arrived at LRMPS, did not return back home in order to retrieve the folder of documents. Again, it is improbable that, after having taken the effort to do so, Mr Cree would not have provided it to Dr Kumar. On this basis it is more probable than not that Mr Cree provided the folder, containing documents from St Andrews and Dr Cartmill's business card, to Dr Kumar.

11.24 Further, given that Dr Kumar has no recollection of receiving such documents, it is more probable than not that he did not read them. Had Dr Kumar done so, it would have confirmed Sandra's previous diagnosis of an AAA, and in turn confirmed Dr Kumar's preferred working diagnosis that it had ruptured. This was a missed opportunity to gather information highly relevant to Sandra's care and treatment.

[58] Exhibit 1, Tab 9 at [34].
[59] Exhibit 2.
[60] Exhibit 1, Tab 9 at [36].
[61] Exhibit 1, Tab 17 at [5].

11C. Attempts to gather information from St Andrews and Dr Cartmill

11.25 Notwithstanding the above, it is clear that Dr Kumar did call St Andrews and, by inference, did so using the contact number contained on the business card. In his statement Dr Kumar said that he called the number for the hospital twice, that there was no answer, and that the call went to voicemail. Dr Kumar said that for two reasons he made no further attempt to contact the hospital: firstly, it was early in the morning and his calls had been unanswered; and secondly, at the time he had already formed the view that Sandra needed to be transferred to another facility and that the information from Sandra's treating surgeon could be obtained once the transfer had occurred.[62]

11.26 Dr Kumar, during his oral evidence repeated that he called the number on the card twice and it went to voicemail. However, Dr Kumar elaborated by saying that the voicemail message made reference to a second number that may have belonged to St Andrews or to a private clinic, but not to Dr Cartmill. Further, Dr Kumar added an additional reason why he made no further attempt to contact St Andrews: he said that at the time Sandra's management was ongoing and he felt that it was appropriate to stay with her and attend to her care. When asked if he felt it was inappropriate for him to leave Sandra's bedside in order to make the call he said that he felt he had to remain close to Sandra at all times.

11.27 In evidence, Dr Kumar agreed that obtaining information about Sandra's history would have "*helped a lot*", and that St Andrews would have been a vital source of information regarding Sandra's earlier procedure. Notwithstanding, Dr Kumar agreed that between 4:40am until 8:30am there was opportunity to ascertain the number for St Andrews and call it. This could have bene accomplished by an internet search, which would not have been difficult or time-consuming. Dr Kumar agreed that one of the team members – the nurses or paramedics – or even he himself, could have called St Andrews.

11.28 It should be noted that Dr Cartmill in his oral evidence said that he could guarantee that, in 2016, St Andrews knew his mobile number. Therefore, his number could be provided in response to an enquiry from another medical practitioner. Dr Cartmill went on to explain that in the previous nine years of his practice it was routine for him to receive calls at all times of the day and night, and that approximately 40% to 50% of his practice was conducted in regional areas. Further, Dr Cartmill explained that the only way for such regional patients to contact him was via St Andrews and that, for this reason, his mobile phone was almost always turned on.

11.29 **Conclusion:** Dr Kumar made inadequate attempts to seek collateral information from Dr Cartmill and St Andrews. Even allowing for the need to stabilise Sandra after her arrival at LRMPS and make arrangements for her transfer, Dr Kumar himself acknowledged that there would have been opportunity during a period of almost four hours for some further attempt at contact to be made. The evidence established that such attempt would not have been difficult or time-consuming, and could have been accomplished by a simple internet search. Further, such attempt could have been tasked by Dr Kumar to clinical support personnel. The failure to do so represented another missed opportunity to gather information highly relevant to Sandra's care and treatment.

[62] Exhibit 1, Tab 17 at [6].

11.30 **Recommendation 2:** I recommend to the Chief Executive, Western New South Wales Local Heath District that its clinicians should be directed that when it is known that a patient who has presented in a serious condition at hospital has had a recent surgical procedure at another hospital, the clinician responsible for the patient's care must make all reasonable efforts as soon as it is reasonably practical to contact the hospital at which the recent surgery was conducted to obtain full details of that surgery and the patient's history.

12. Communication with Dr Mutasa

12.1 In his statement Dr Kumar said that he was aware that Dubbo Base Hospital (**DBH**) was the closest major hospital to LRMPS.[63] In evidence Dr Kumar elaborated and said that whilst he did not know if DBH was a tertiary hospital, he was aware that it was the next referral centre from Lightning Ridge. However, Dr Kumar said that it had never been explained to him which hospital a patient in a serious condition at LRMPS should be transferred to. Notwithstanding, sometime before 8:00am, Dr Kumar rang DBH and spoke to Dr David Mutasa, an emergency medicine registrar, to discuss Sandra's treatment.

12.2 Dr Kumar said that during the call he provided Dr Mutasa with Sandra's clinical picture, described her falling blood pressure, and identified the need to transfer her out of Lightning Ridge.[64] In evidence Dr Kumar provided greater detail by explaining that he also told Dr Mutasa about Sandra having an aneurysm and that both her blood pressure and haemoglobin were low. Further, Dr Kumar said that he told Dr Mutasa that he was considering the possibility of a bleed or infection as the cause of Sandra's condition. Dr Kumar said that Dr Mutasa told him to give Sandra antibiotics and fluids, and to make arrangements for retrieval personnel to transfer her to Dubbo. Dr Kumar also said that Dr Mutasa indicated that he (Dr Mutasa) would be happy to accept Sandra into his care, and that further investigative tests could be performed in Dubbo. Dr Kumar said that there was no discussion between himself and Dr Mutasa regarding Sandra's actual treatment.

12.3 Dr Mutasa's recollection of this event is that he received the call from Dr Kumar sometime between 7:00am and 8:00am. He said that Dr Kumar told him that Sandra had a history of urinary tract infection, had presented with a recent history of vomiting and abdominal pain, and had undergone a recent stenting procedure in relation to a renal artery aneurysm.[65] Given this history, Dr Mutasa said that he considered it was possible had suffered a recurrence of her urinary tract infection, or problems with her aneurysm arising from her earlier procedure.[66] Dr Mutasa was asked about this portion of his statement in evidence and what he discussed with Dr Kumar. He said that they discussed the possibility of a post-operative infection and that Sandra's aneurysm had burst. Dr Mutasa went on to explain that he did not have in his mind at that point that Sandra had suffered a ruptured AAA.

12.4 Dr Mutasa documented his conversation with Dr Kumar in an electronic record titled "*Pre-Arrival Summary*". It records Sandra as having a presenting problem of urosepsis and notes that Sandra had a history of recent treatment for a urinary tract infection, lower abdominal pain, vomiting, loose bowel motions.[67] It also noted that Sandra had been given antibiotics (gentamycin and ceftriaxone) and concluded with the note, "*Transfer to DBH*".[68]

12.5 In evidence Dr Mutasa agreed that he made the entry, "*Transfer to DBH*". He was asked whether by writing this entry he was recording the fact that he had told Dr Kumar that Sandra should be transferred to Dubbo. Dr Mutasa said that this was not the case and that he only advised Dr Kumar that Sandra required a higher level of care and that if the facility of higher care was determined to be

[63] Exhibit 1, Tab 17 at [13].
[64] Exhibit 1, Tab 17 at [12].
[65] Exhibit 1, Tab 30 at [5]-[7].
[66] Exhibit 1, Tab 30 at [8].
[67] Exhibit 1, Tab 53, page 19.
[68] Ibid.

at Dubbo then he was happy to accept Sandra's care. However, Dr Mutasa agreed that by making the entry he considered the prospect that Sandra would in fact be transferred to Dubbo, and that the purpose of the entry was to alert other hospital staff to this fact.

12.6 Despite this acknowledgement, the *Pre-Arrival Summary* created by Dr Mutasa contained no reference to the fact that Sandra had undergone a recent stenting procedure in relation to a renal artery aneurysm, nor to the fact that he had discussed with Dr Kumar that Sandra had possibly suffered a burst aneurysm. Dr Mutasa agreed that this would have been significant information for other medical staff at DBH to know. Despite this, Dr Mutasa initially said that he did not know why he did not record this information in the *Pre-Arrival Summary*.

12.7 Later, Dr Mutasa sought to explain this apparent oversight in two ways. Firstly, he said that it was possible for Sandra's records from LRMPS to be accessed electronically from Dubbo. Therefore, there was no need to document the information provided to him by Dr Kumar. Secondly, he said that he conveyed the above information verbally to a consultant and a registrar in the Dubbo emergency department.

12.8 **Conclusion:** Although Dr Kumar was aware that DBH was next referral centre from LRMPS, he was unaware of the precise referral pathway and unaware if DBH was a tertiary hospital. In such circumstances, and given his role as a locum GP/VMO it is unlikely he would have made a decision that Sandra be transferred to DBH. In contrast, the creation of a *Pre-Arrival Summary* by Dr Mutasa and his entry of "*Transfer to DBH*", is plainly consistent with Dr Mutasa telling Dr Kumar that Sandra should be transferred to DBH.

12.9 Dr Mutasa did not adequately document his discussion with Dr Kumar, and he specifically made no note in the *Pre-Arrival Summary* of relevant information provided to him. The explanations provided by Dr Mutasa for these oversights cannot be regarded as being reasonable. Firstly, the potential to remotely access Sandra's medical records at LRMPS should not have precluded the documenting of important clinical information in accordance with accepted practice. Secondly, there is no evidence to support Dr Mutasa's assertion that he verbally told other medical officers at DBH of the fact that Sandra had undergone a recent stenting procedure and that she had possibly suffered a ruptured aneurysm.

12.10 **Recommendation 3**: I recommend to the Chief Executive, Western New South Wales Local Heath District that a direction should be given to clinicians, receiving emergency calls from other hospitals about possible patient transfers, that they should comprehensively document in the pre-arrival notes information provided to them by the transferring hospital, including all information as to the patient's history and suspected diagnosis.

13. Involvement of the Aeromedical Control Centre

13.1 The Aeromedical Control Centre (**ACC**), previously known as the Aeromedical Operations Centre, coordinates both inter-hospital transfers and pre-hospital responses. NSW Ambulance contracts the RFDS to provide clinical and retrieval services from a base in Dubbo, and the ACC is the sole tasking authority for RFDS Dubbo. As part of its contract, the RFDS is required to accept incidents referred to them by NSW Ambulance (via the ACC) and provide clinical treatment and transport.[69] However, the RFDS does so in accordance with its own clinical protocols and operating procedures.

13.2 If a case is referred to the ACC, the SRC on duty determines whether the incident requires retrieval. If it does, then the SRC determines the retrieval's level of clinical care and the retrieval's priority. The SRC is a senior specialist in emergency medicine, anaesthetics or intensive care and usually has a background as a medical retrieval clinician. The SRC determines which resource is most appropriate and the incident is then referred to the appropriate dispatcher for the allocation of the closest and most appropriate resource.[70]

13.3 This description is in accordance with the NSW Ambulance policy document "*Consultant Involvement*" (**the Consultant Involvement policy document**) which provides the following:

> "*There is an increasing expectation in the critical care community for [the ACC] to be the clinical and operational 'safety net' for patients across the state. This is in addition to established guidelines and protocols that exist within Local Health Districts (LHD's) [sic] and across NSW Health which are aimed at covering most situations*".[71]

13.4 The Consultant Involvement policy document contains a section titled "*What is Expected of the Consultant*". It provides:

> *1. All actual or potential medical retrievals require the active input (not just awareness) of the duty retrieval consultant (either AMRS or Regional).*
>
> *…*
>
> 5. *The duty retrieval consultant (AMRS or Regional) should stay in the call long enough to satisfy themselves that the right clinical management is being instituted, the urgency of transfer has been assessed, the right retrieval team has been tasked, and the patient is going to the right destination. These are the responsibility of the retrieval consultant, not the retrieving doctor*.[72] (original emphasis)

13.5 Aspects of the Consultant Involvement policy document, and its application to the events of 17 April 2016, are discussed in greater detail below.

[69] Exhibit 1, Tab 24 at [6].
[70] Exhibit 1, Tab 24 at [7].
[71] Exhibit 1, Tab 77, page 1.
[72] Exhibit 1, Tab 77, pages 2-3.

14. The general nature of the call between Dr Novy and Dr Kumar

14.1 At 5:55am an initial call was made by one of the nurses at LRMPS to the ACC, indicating that Dr Kumar wished to speak with someone in relation to Sandra's transfer.[73] This initial call resulted in Dr Kumar being transferred to the SRC on duty at the time, Dr Michael Novy. This transfer call commenced at 5:56am. During the transfer call Dr Kumar began by providing Dr Novy with a summary of Sandra's recent history and presenting condition: namely that she had a history of abdominal pain, fever, vomiting, loose bowel motions and her vital signs on presentation at LRMPS.

14.2 Following this, Dr Novy asked for information regarding Sandra's background history. The following exchange then occurred[74]:

> ***Dr Kumar:*** *Background. Background history, no known medical problems but she has a history of urinary incontinence. On Sunday she was admitted to the hospital for correction of that. On on on checking further they had a kidney aneurysm, so they cancelled the treatment, the operation and she was…*
> ***Dr Novy:*** *and, and found a what, sorry?*
> ***Dr Kumar:*** *Renal aneurysm.*
> ***Dr Novy:*** *A renal aneurysm? Or what?*
> ***Dr Kumar:*** *Yes, they say, they said renal aneurysm…what renal what aneurysm was it? (reply inaudible) … the patient says an aneurysm in the kidney…*

14.3 Dr Kumar went on to explain his findings after examining Sandra's abdomen, and indicated to Dr Novy that only limited imaging facilities were available at LRMPS. The transcript of the call records the following at this point[75]:

> ***Jess:*** *Michael, Josh is just asking…do you want a Dubbo Team to start been [sic] woken up? There is a…*
> ***Dr Kumar:*** *I have already spoken to Dr Mutasha [sic] at ED Dubbo. He says use Genta 248, Ceftriaxone 1 gram. Fluid resus and transfer up to Dubbo.*
> ***Jess:*** *Do you want me to get them in?*
> ***Dr Novy:*** *(inaudible) that's OK, alright, so well get to Dubbo to pick her up.*

14.4 Dr Novy went on to ask Dr Kumar how much fluid had been given to Sandra and whether she had a femoral pulse. At this point, the following exchange occurred[76]:

> ***Dr Novy:*** *And she has a femoral pulse? Can you get a femoral pulse on her?*
> ***Dr Kumar:*** *Yeah, can you feel a femoral pulse on her?*
> ***Dr Novy:*** *Can you do that doctor?*
> ***Dr Kumar:*** *Yes, I'll do it just a moment. I will go and examine the patient.*
> ***Dr Novy:*** *Well go and examine the patient.*
> *…*
> ***Dr Novy:*** *Some of the doctors…it's like, it's like a fucking secretary.*

[73] Exhibit 1, Tab 61, pages 1-2.
[74] Exhibit 1, Tab 61, page 5.
[75] Exhibit 1, Tab 61, pages 5-6.
[76] Exhibit 1, Tab 61, page 6.

14.5 Following this, Dr Kumar went on to relate Sandra's haemoglobin level and blood pressure to Dr Novy and there was discussion regarding insertion of an intraosseous line and an indwelling catheter, and Sandra's blood test results. The following exchange then occurred[77]:

> ***Dr Novy:*** *OK, alright…because really I'm a little bit worried…do you have any O negative blood there if you need to transfuse her?*
> ***Dr Kumar:*** *Just a moment, I'm a locum here, just a moment.*
> ***Dr Novy:*** *Yeah, I could figure that, you don't know half what you're…*
> ***Dr Kumar:*** *Well, do we have any bloods here? Any bloods?*
> *(inaudible responses)*
> ***Dr Kumar:*** *Bloods for transfusion?*
> *(inaudible response)*
> ***Dr Kumar:*** *Walgett. No! No, we don't have anything in this facility; it has to be brought from another facility which is Walgett. Which is about...?*
> ***Anne (nursing staff):*** *73km we have to go and pick it up.*
> ***Dr Kumar:*** *73km from here.*
> ***Dr Novy:*** *OK (inaudible) can I talk to the nursing staff?*
> ***Dr Kumar:*** *Staff, can you talk? Hello? Can you give them more information?*
> ***Anne Scanlon:*** *Hello, Anne speaking.*
> ***Dr Novy:*** *Hi Anne, Michael Novy state retrieval consultant, sorry, I am just getting bored that every question I ask having to be yelled out across the room, for you to give the answer to. Uh…what do you, you guys don't have 0 neg blood at all there do you?*

14.6 In evidence Dr Novy was taken to the transcript of the above exchanges. He said that upon reflection he considered his comments to be inappropriate statements to make to a colleague. Dr Novy was asked whether it was his usual practice to speak to a nurse in preference to a doctor. Dr Novy sought to explain that it was his practice to speak to every source of information available at the time. It was then suggested to Dr Novy that a fair reading of the transcript suggested that he did in fact display a preference for speaking with nursing staff over Dr Kumar. Dr Novy rejected this suggestion. Instead, he sought to explain that as Dr Kumar was a locum he may have been unfamiliar with the protocol-driven process of obtaining blood from an external facility. Dr Novy explained that, in his experience, nursing staff were more familiar with those protocols.

14.7 It was suggested to Dr Novy that his comments during the call indicated that he was annoyed with Dr Kumar. Dr Novy also rejected this suggestion. He said, instead, that he was simply attempting to obtain information as quickly as possible in order to treat Sandra. He again referred to his understanding that nursing staff are usually well-versed in what is available at a hospital and that Dr Kumar, as a locum, may not have been familiar with everyday protocols.

14.8 Dr Sarah Coombes, the Acting Executive Director of Aeromedical Operations within NSW Ambulance, was asked about Dr Novy's comments in evidence. She described Dr Novy's language as "*unfortunate*". She explained that in the course of practice it was not infrequent for a SRC to speak to medical personnel in a small facility (such as LRMPS) who are locum staff. In such circumstances she explained that the SRC quite often talks to the senior nurse, who is likely to be aware of the system and referral pathways, in order to obtain a better picture of the patient's needs.

[77] Exhibit 1, Tab 61, pages 9-10.

14.9 In his evidence Dr Kumar said that, to some extent, he felt that Dr Novy was being rude and abrupt towards him during the call. Dr Kumar described Dr Novy as being "*pushy*" with him because he was not prepared with his answers. Dr Kumar explained that it was his usual practice to have notes available when conducting a handover but said that he did not have information at hand at the time of his call with Dr Novy because he had been preoccupied with Sandra's care when he was called to the phone. Notwithstanding his lack of available handover notes, Dr Kumar said that he considered it unusual for the SRC to ask to speak to a nurse rather than the treating medical practitioner. Further, he agreed with proposition that Dr Novy was being professionally discourteous and rude. It should be noted that prior to April 2016 Dr Kumar had previously worked as the medical superintendent at a rural health facility in Queensland for seven years.

14.10 **Conclusion:** The comments made by Dr Novy during his call with Dr Kumar were professionally discourteous, at best, and clinically detrimental, at worst. Dr Novy's rejection of the suggestion that he became annoyed with Dr Kumar cannot be accepted. In Dr Novy's own words he had become "*bored*" with the way in which the conversation was being conducted. Whilst it might have been reasonable for Dr Novy to seek information which Dr Kumar, as a locum GP/VMO, was unaware of, any such intention to do so was not communicated to Dr Kumar. Further, even if Dr Novy did have a need to speak to one of the nursing staff, there was nothing preventing him from returning to his conversation with Dr Kumar afterwards. This did not occur. It is to be remembered that Dr Kumar was an experienced medical practitioner who had previously held a supervisory role at a different medical facility. In this regard, Dr Novy was unreasonably dismissive of information which could have, and should have, been provided to him by Dr Kumar.

15. Did Dr Novy take an appropriate handover from Dr Kumar?

15.1 The phone conversation between Dr Novy and Dr Kumar ended sometime shortly after 6:09am. It was the last time that Dr Novy spoke with Dr Kumar. In evidence it was suggested to Dr Novy that he had not taken a complete handover from Dr Kumar, who was the most senior LRMPS clinician available at LRMPS who had been treating Sandra, and who was primarily responsible for her care. Dr Novy initially sought to explain that he had taken a handover from the treating *team*. It was suggested that he should have taken a handover from Dr Kumar, as the most senior clinician treating Sandra at the time. Dr Novy again repeated that he had spoken to the treating team and that it was usual practice in an emergency setting to work as part of a team. Dr Novy was asked whether he was prepared to accept that a doctor was in charge of such a team. Dr Novy responded by saying that that was simply an assumption and repeatedly referred to the concept of a treating team, as distinct from an individual clinician.

15.2 After some time Dr Novy eventually agreed that, in layperson's terms, he had simply not asked the treating doctor what the presenting problem was. Despite this, Dr Novy said that he did not think that it was a problem for a SRC to not ask a treating doctor what he or she considered the diagnosis for a patient to be. Dr Novy was asked whether he regarded this to be in accordance with good clinical practice and indicated that he could have done things better. Eventually Dr Novy was prepared to accept that because he had not asked Dr Kumar for his diagnosis he had not conducted a complete handover.

15.3 **Conclusion:** Dr Novy failed to take a complete handover from Dr Kumar, the most senior clinician treating Sandra. On any fair reading of the transcript of the calls between Dr Kumar and Dr Novy it is evident that Dr Novy became annoyed and frustrated with Dr Kumar's responses to his enquiries. As a result Dr Kumar was not given an opportunity to provide Dr Novy with his diagnosis for Sandra, a diagnosis which ultimately proved to be correct. Dr Novy's rejection of two facts – that he had not taken a handover from the most senior clinician treating Sandra, and that he had not asked Dr Kumar for his diagnosis – demonstrated a lack of insight, even with the opportunity of reflection.

15.4 **Recommendation 4:** I recommend to the Chief Executive, Ambulance Service of New South Wales that the Aeromedical Control Centre should prepare a written policy requiring a State Retrieval Consultant to take a full handover from the referring clinician with care of a patient to be retrieved from a medical facility. This requirement does not prevent the State Retrieval Consultant's supplementary discussions with other health practitioners at the facility.

16. Did Dr Novy provide active and appropriate input regarding Sandra's care?

16.1 Despite not asking Dr Kumar for his diagnosis, Dr Novy also reached the correct conclusion regarding Sandra's diagnosis. In evidence Dr Novy agreed that within minutes of his call with Dr Kumar he had been told that Sandra had had a recent surgical procedure and that she had a kidney aneurysm. Dr Novy said that the term "*kidney aneurysm*" was not one that he was familiar with, but agreed that the information he was provided with caused him to consider the possibility of a ruptured AAA. Further, Dr Novy explained that regardless of whether Sandra had a renal, or an aortic, aneurysm her low blood pressure meant that either would have been a life-threatening event.

16.2 Counsel Assisting put to Dr Novy that by 6:09am he had received enough clinical information to reach a diagnosis of a ruptured aneurysm, a diagnosis that it was "*screaming out*" to be made. He agreed that this was "*absolutely*" the case and again confirmed that, in his mind, this was the most likely diagnosis.

16.3 Yet Dr Novy did not convey this most likely diagnosis to Dr Kumar. Instead, Dr Novy incorrectly assumed that Dr Kumar thought sepsis was "*in play*", when this was not in fact the case. As already noted above, Dr Kumar's preferred diagnosis, like Dr Novy's, was that Sandra had a ruptured aneurysm. It appears that Dr Novy made his assumption due to the fact that Dr Kumar had told him that Dr Mutasa had instructed that antibiotics (to treat sepsis) be given to Sandra.

16.4 In evidence Dr Novy said that he was concerned that Dr Kumar thought that it was most likely that Sandra was suffering from sepsis. Despite this, Dr Novy did not convey this concern directly to Dr Kumar. Dr Novy agreed in evidence that at no time did he make Dr Kumar aware of his view that Sandra was most likely suffering from a ruptured AAA. Dr Novy initially said that he did not convey his concern because he wanted to respect the diagnosis of the treating team. Later in his evidence, Dr Novy sought to explain that he had passed on his concern to RN Gardiner, who was part of the treating team, and that if had had an opportunity to speak to Dr Kumar he would have done so. It was suggested to Dr Novy that once he had spoken to RN Gardiner he could have also informed Dr Kumar of his likely diagnosis. Dr Novy agreed, and when it was suggested that it in fact ought to have been done he agreed that he should have "*closed the loop of conversation*".

16.5 It is acknowledged that Dr Novy later conveyed his view to RN Gardiner during a call at 6:44am. After being told by RN Gardiner that Sandra's haemoglobin level had dropped to 65 and that she was in tachycardia, Dr Novy said this:

> "*I'd say she has probably ruptured an aneurysm probably more than anything else*".[78]

16.6 Later, Dr Novy told RN Gardiner:

> "*…so [Sandra] has a very poor outcome. The question is whether Dubbo is the right place for her? We will wait for the guys to work that out*".[79]

[78] Exhibit 1, Tab 61, page 22.
[79] Exhibit 1, Tab 61, page 22.

16.7 Dr Novy asked if Sandra was looking unwell. After RN Gardiner provided details of Sandra's respirations and pulse rate, she told Dr Novy that an intraosseous line was in and that Sandra was up to her second or third bag of fluid. Dr Novy responded by saying:

> "*…I would flow the fluid down now. I think we are probably dealing with a bleed more than anything else. So wait for the blood to arrive hey*".[80]

16.8 Dr Novy agreed that, in retrospect, it would have been prudent for him to have spoken to Dr Kumar to advise him what he thought the primary diagnosis was.

16.9 **Conclusion:** Dr Novy failed to advise Dr Kumar of his opinion that it was most likely that Sandra had ruptured an aneurysm and that, more than anything else, the treating team were probably dealing with a bleed. This is despite the fact that Dr Novy had apparently reached such a conclusion within minutes of speaking to Dr Kumar. On the evidence available there is no legitimate reason to explain why Dr Novy withheld his diagnosis when it could have been easily and promptly conveyed to Dr Kumar.

[80] Exhibit 1, Tab 61, page 23.

17. The interaction between Dr Novy and Dr Jones

17.1 At 6:20am Dr Novy was put through to Dr Dean Jones who was a medical officer with the RFDS based at Dubbo. Dr Jones was a member of the RFDS retrieval team, along with RN Michael Cook. The transcript of the call records the following conversation[81]:

> ***Dr Novy:*** *There is a lady who is currently up at Lightning Ridge…has come in today of a [sic] couple day history with um sounds like some fevers and malaise, and is generally unwell and, some um right iliac, abdominal pain and with some guarding. Um sounds like, from that sort sense [sic], sound like she is septic more than anything else…I can't work this out but she may have had an angiogram done in the last week or so, which has shown what we think may be a renal artery aneurysm, which is due to be repaired, um I don't know whether it's on the left or right. The hb on the 3rd of March was ah 144, and on ISAT today it was 71…Um, I'm not quite sure whether she is just septic and (inaudible) or whether or not she may have ruptured the aneurysm…I have asked them to put an intraosseous line as well, that's what the nursing staff doing that [sic]. The local doctor up there who is not very particularly useful [sic]. So I was speaking to the nursing staff. I have asked them to repeat the lactate, repeat the CHEM8, um were speaking to Walgett to get some blood up from Walgett.*
> ***Dr Jones:*** *Yes*
> ***Dr Novy:*** *As well, you guys, don't have the ability to take blood or do you?*
> ***Dr Jones:*** *Yeah we do, we have units of blood we can take up with us.*
> ***Dr Novy:*** *Yeah, I would probably take that up as well. But as it's probably two hours before you get there. It's worthwhile for them to get a unit or two up from Walgett, in before you get there. In fact that is what's going on.*
> ***Dr Jones:*** *No problem.*
> ***Dr Novy:*** *That's about all the information I've got at the moment. Um, as I say it may just be that she's got a bit of sepsis going on there, she may be, and she has had some loose bowel stool so she may have had, she have some diverticulitis which is causing all this.*
> ***Dr Jones:*** *Sure.*
> ***Dr Novy:*** *It could be urinary sepsis which she has, or she may have an aneurism which [h]as ruptured. I can't quite tell. My main concern is her haemoglobin primarily and the high lactate and the ongoing hypertension. So I've got them to put in a second line at the moment, repeat those bloods and call me back. But I figure if I can get you going up there for that…*".

17.2 In evidence Dr Novy agreed that at the time he spoke to Dr Jones his primary diagnosis for Sandra was that she had ruptured an aneurysm and was in a life-threatening condition. It was suggested to Dr Novy that, despite having reached this view, he did not convey it to Dr Jones at any time. Dr Novy disagreed and said that he had clearly indicated to Dr Jones that he thought that Sandra had ruptured an aneurysm. Dr Novy maintained that he had done so by requesting Dr Jones to take units of blood with him. By this Dr Novy said that he was implying that the diagnosis was a ruptured aneurysm. Further, Dr Novy said that although he could have worded things better, any medical practitioner reading the transcript of his conversation with Dr Jones would form the opinion that his concern was for an aneurysm rather than sepsis. However, Dr Novy eventually agreed that as the SRC it would have been helpful if he had expressly told Dr Jones of his diagnosis.

[81] Exhibit 1, Tab 61, pages 16-17.

17.3 Dr Coombes was taken to Consultant Involvement policy document in evidence and asked whether it effectively meant that the "*buck stopped*" with the SRC. Dr Coombes said that it did. Dr Novy agreed in evidence that he had seen the Consultant Involvement policy document and was aware of it. The same question posed to Dr Coombes was also was posed to Dr Novy. He did not agree that the buck stopped with him and referred to the fact he, as a SRC, worked as part of a team to treat a patient. He was asked if he was surprised by Dr Coombe's evidence in this regard – he said that he himself would not use such terminology.

17.4 Dr Coombes was asked whether she agreed, having regard to the transcript, that Dr Novy at no point took responsibility for deciding the hospital which Sandra was to be taken to. Dr Coombes said that she felt that Dr Novy did not have enough information to make a final decision. She said that although a possible Dubbo destination had been raised, this preliminary question was to be revisited once an assessment had been performed by the retrieval team.

17.5 Dr Novy was asked in evidence whether, in accordance with the Consultant Involvement policy document, he had satisfied himself that Sandra was going to the right destination. He said that at the time of his involvement the destination was Dubbo because the working diagnosis was sepsis but the retrieval team had not yet assessed Sandra.

17.6 Dr Novy agreed that if Sandra had indeed ruptured an aneurysm her circumstances were urgent and that she could die within a matter of hours. This being the case, Dr Novy was asked whether he should have directed his attention at the earliest opportunity to ensuring that Sandra was being transferred to the correct facility for treatment of a ruptured aneurysm. Dr Novy explained that his priority was to task the retrieval team to Dubbo, and that once Sandra had been assessed in Dubbo, there was still enough time to determine where she should ultimately be transferred to.

17.7 However Dr Novy acknowledged that he knew at all times the retrieval team could not exclude a ruptured aneurysm and that a diagnosis of sepsis could not be ascertained with any certainty. Dr Novy agreed that the only way to exclude a ruptured aneurysm was to perform a CT or MRI scan, neither of which was able to be performed at LRMPS. Dr Novy also agreed that where there were two possible diagnoses, the most critical diagnosis should be treated first.

17.8 In these circumstances Dr Novy was asked why he did not ensure that Sandra was being taken to a tertiary facility. Initially Dr Novy said that he felt that Sandra's diagnosis and prognosis was so poor that she was highly unlikely to survive. In these circumstances he explained that transporting her to a facility where she may have received palliative care may have been more appropriate because it meant that Sandra would have been closer to her family. However, later in evidence Dr Novy sought to explain that he tasked the retrieval team to treat the patient; in other words, he explained, he tasked the team to a job, not a destination.

17.9 Dr Novy was asked whether there was any impediment to telling the retrieval team of the need to transfer Sandra to a tertiary facility. He initially again sought to explain that he had tasked the team to a job, and not a destination. Later, Dr Novy later agreed that it was the ultimate responsibility of the SRC to decide the transfer destination, but that he did not have this responsibility as he was not the SRC who was on duty at the relevant time when the eventual destination for Sandra was to be decided. Despite this, Dr Novy eventually agreed that there was no impediment to him informing the retrieval team earlier that the right destination was a tertiary facility.

17.10 Dr Novy was asked why, if in his own mind he knew that Sandra had to be transferred to a tertiary hospital, he did not convey this to Dr Jones. Dr Novy sought to explain by saying that Dr Kumar, as the treating doctor, was of the view that the most likely diagnosis was urinary sepsis. However, Dr Novy agreed that there was nothing contained in the call transcripts confirming Dr Kumar had communicated such a diagnosis to him.

17.11 It was finally suggested to Dr Novy that he had "*dropped the ball*" in failing to communicate to Dr Jones that Sandra needed to be transferred to a tertiary hospital. Dr Novy rejected this description and again repeated that he had tasked the retrieval team to a job, and that any discussion as to an appropriate destination could be had following the retrieval team's assessment of Sandra. Eventually, after having had the opportunity to reflect on the matter, Dr Novy conceded that he could have done things better.

17.12 **Conclusion:** On any fair reading of the transcript of the call between Dr Novy and Dr Jones, Dr Novy did not convey to Dr Jones his primary diagnosis that it was most likely Sandra had ruptured an aneurysm. As noted above, Dr Novy had come to this view within minutes of speaking to Dr Kumar, a time well before he spoke to Dr Jones. Having regard to the terms of the Consultant Involvement policy document, it could not reasonably be said that Dr Novy provided active input into Sandra's care.

17.13 Similarly, Dr Novy did not ensure that the right clinical management for Sandra had been instituted, that the urgency of her transfer had been assessed, and that she was going to the right destination. Dr Novy believed that Sandra had most likely ruptured an aneurysm. He was aware that this diagnosis could not be excluded by the retrieval team as there were no available CT or MRI services available at LRMPS. Therefore Dr Novy's explanation that the decision regarding the appropriate destination for Sandra could be deferred until after the retrieval team had conducted their assessment cannot be accepted.

17.14 Recommendation 5: I recommend to the Chief Executive, Ambulance Service of New South Wales that the Aeromedical Control Centre provide express written guidance to State Retrieval Consultants that they must expressly inform the senior clinician with care of a patient and the most senior retrieving practitioner of: (a) their preferred diagnosis as well as any secondary diagnosis; and (b) the appropriate facility to which to transfer a patient as soon as forming a view about that matter.

18. Was a handover conducted at LRMPS?

18.1 The RFDS retrieval team, consisting of Dr Jones and RN Cook, departed Dubbo at about 7:00am and landed at Lightning Ridge airport at around 8:10am. Paramedics McCabe and Theuma collected the retrieval team from the airport and conveyed them to LRMPS. En route, the paramedics provided a "*general handover*" to the retrieval team.[82] The retrieval team arrived at LRMPS at about 8:40am where, although he does not recall what was said, Paramedic McCabe said that "*the Dr on scene preceded [sic] to give a handover to the RFDS team*".[83]

18.2 Dr Kumar said in evidence that he performed a handover with Dr Jones in the emergency department. Dr Kumar said that he explained Sandra's history, the results of the examination findings that were to hand, and summarised the treatment provided to Sandra. Dr Kumar agreed that it was most likely that he gave Dr Jones all the information that he had documented in his progress notes.[84]

18.3 RN Gardiner said in her statement that she "*observed Dr Kumar giving handover to the RFDS doctor on their arrival and later the RFDS doctor talking to Mr Cree*".[85] However, in evidence RN Gardiner explained that she did not take part in the handover.

18.4 Mr Cree himself said that he saw Dr Kumar speaking to Dr Jones but could not hear the conversation.[86] Later, Mr Cree said that he was involved in a conversation with both Dr Jones and Dr Kumar during which the following was said[87]:

> ***Dr Jones:*** *There's nothing on the ultrasound to suggest a bleed. I think it's a viral infection. The only thing I can't work out is that, if it was an infection, the site of the infection must be massive to have affected Sandra so quickly.*
> ***Mr Cree:*** *But you got all that blood in from Walgett. If it's an infection, then where's all the blood going?*
> ***Dr Kumar:*** *It might be going in to the cells.*

18.5 In contrast, RN Cook said that he saw no formal handover take place. He described this as a structured handover from doctor to doctor. He said there was nothing preventing Dr Jones from asking to see the treating doctor and said that he found it unusual that for Dr Jones not to ask the treating doctor to provide a handover. Instead, RN Cook said that a nurse was there and she provided the handover, although he could not recall what was said. RN Cook further said that he was sure there was no other doctor in the room at Lightning Ridge and that he did not see Dr Kumar at any time. He said at the time the handover was being discussed he was helping the nursing staff transfer lines from hospital equipment to RFDS equipment to ensure expeditious continuity of care.

18.6 Dr Jones said that he did not recall Dr Kumar being present at handover. He was asked whether the comment from Dr Novy that the local doctor was "*not very particularly useful"* influenced his dealings in Lightning Ridge. Dr Novy said that he had no recollection of this particular discussion with Dr Novy until he saw the transcript of the call. Dr Jones said that he did not see a doctor at Lightning Ridge for around the 3 hours that he was there. He was asked whether he found this unusual. He said

[82] Exhibit 1, Tab 16 at [8].
[83] Exhibit 1, Tab 16 at [8].
[84] Exhibit 1, Tab 50, page 3.
[85] Exhibit 1, Tab 18 at [21].
[86] Exhibit 1, Tab 9 at [45].
[87] Exhibit 1, Tab 9 at [46].

that it was not unusual in the sense that he had attended rural hospitals in previous retrievals where there was no doctor present.

18.7 Dr Jones said that he recalled having a conversation with Mr Cree but did not recall Dr Kumar being present. He agreed that it was reasonable to say that he could not exclude the possibility that Dr Kumar was present. He later agreed that Dr Kumar potentially may have spoken to him and that he simply did not recall it. Dr Jones agreed that at Lightning Ridge it was possible Dr Kumar was present but that he was too preoccupied to notice Dr Kumar.

18.8 The 2007 RFDS *Emergency Aeromedical Manual* provides that as part of retrieval handover procedure[88]:

> *(a) The retrieval team is responsible for directing the coordinated handover and transfer of care;*
>
> *(b) The handover should be between the most senior Hospital clinician caring for the patient and the retrieval clinician; and*
>
> *(c) The handover should occur before the transfer of management begins (except in urgent situations) so as to ensure that all staff listen to the transfer and focus on the systemic transfer of care.*

18.9 Dr Jones agreed that it was fair to say that it was important to obtain a handover from the treating doctor but said that if there was only a nurse available to perform the handover he would cope with the situation. He said that he had no idea that it was RFDS policy to take handover from the most senior clinician available because he was never provided with the policy. Dr Jones was asked whether, as a matter of common sense, it had occurred to him to speak to the most senior clinician treating the patient. He explained that in practice that rarely occurred and that his previous experience was that if he attended, and there was a registrar present, he did not seek to speak with the consultant.

18.10 **Conclusion:** The evidence from both RN Cook and Dr Jones leaves open the possibility that Dr Kumar was present at LRMPS at the time of their arrival, and that he spoke to them, but that they were too preoccupied with Sandra's care to recall. Having regard to the clear evidence given by Paramedic McCabe, RN Gardiner, and Dr Kumar himself, it seems clear that Dr Kumar did provide a handover to Dr Jones. Dr Jones noted in his impressions that Sandra had a "*possible renal artery aneurysm rupture*"[89] is consistent with Dr Kumar's assessment of "*Intra abdominal bleed ? ruptured aneurysm*".

[88] Exhibit 1, Tab 85, page 20.
[89] Exhibit 1, Tab 53, page 17.

19. Assessment of Sandra by Dr Jones

19.1 Dr Jones said that prior to assessing Sandra, based on the information that he had been given, he was considering the possibilities of blood loss, infection or some other diagnosis. He agreed that on this basis it was reasonable to assume that he was thinking of a ruptured aneurysm of some kind.

19.2 Dr Jones agreed that Sandra's presenting symptoms – a drop in haemoglobin levels, hypotension (for which she was given noradrenaline to increase blood pressure), hypothermia, and no urine output – were all classic symptoms for a ruptured AAA. However, he explained that they were also classic symptoms for other diagnoses, in particular, sepsis. Nevertheless, Dr Jones agreed that it was necessary for him to exclude the possibility of a ruptured aneurysm, and said that he tried to do that with the skills and equipment that he had. Dr Jones considered that he did not have any other means of doing so other than by performing a bedside ultrasound.

19.3 In his assessment of Sandra, it appears that Dr Jones relied on three factors:

(a) Firstly, Dr Jones said that in order to rule out a bleed he used a Focused Assessment with Sonography in Trauma (**FAST**) scan in to determine whether there was any large amount of fluid in Sandra's abdomen in order to rule out a bleed. He said that he found a small amount of fluid and that this was physiologically unremarkable. He described the fluid as a finding and not diagnostic. Dr Jones explained that when using the FAST scan he attempted to visualise the aorta, but could not do so. He put this inability down to his own inexperience and because Sandra had a large abdomen. He was asked whether any special training had been provided by the RFDS. He said that he applied for training in March 2016 but it was not approved. Dr Jones said that at the time he did not think that has aware that a ruptured AAA could result in a retroperitoneal bleed meaning that any fluid would be located behind the peritoneal cavity, rather than in it.

(b) Secondly, Dr Jones agreed that the drop in Sandra's haemoglobin levels – to 71g/L and then 65g/L – was significant and said that blood loss was the "*primary candidate*" to explain this drop. When asked if, in his opinion, there was anything else which could have explained such a drop, he referred to the possibility of haemodilution. Dr Jones sought to explain that this was a real possibility because of the amount of saline that Sandra had been given. It appears that Dr Jones discussed this issue with RN Cook. In evidence RN Cook said that the drop in Sandra's haemoglobin levels did not make him think of the possibility of blood loss. Instead, it made him question the accuracy of the haemoglobin measurement. RN Cook said that he discussed this as a possibility with Dr Jones, together with the possibility of haemodilution. RN Cook said in evidence that the possibility that Sandra had actually sustained blood loss was not discussed. RN Cook could not offer any reason why there was no such discussion.

(c) Thirdly, Dr Jones had an expectation that Sandra would have been able to convey to him that she was suffering from a life-threatening condition; that is, that she had been diagnosed with a AAA and had received corrective surgery for it. Dr Jones was asked whether he expected that a patient would be able to articulate the difference between an aortic aneurysm, as opposed to a renal aneurysm. Dr Jones said that that he had no such expectation. However, he expressed his opinion that the vast majority of patients who have a life-threatening condition would be

able to convey the seriousness of it, even though they may not be able to convey the specifics of it.

19.4 In evidence Professor Brown explained that Sandra's presentation at Lightning Ridge, when assessed by both Dr Kumar and Dr Jones, was classic presentation for a ruptured AAA. He referred to the three most common symptoms being sudden abdominal pain, shock, and abdominal tenderness. Professor Brown said that the presence of any two of these symptoms was enough for a ruptured AAA to be considered. Further, Professor Brown said that the need for such consideration is routinely taught to medical students. Professor Brown agreed that the presence of abdominal pain and shock in a patient is also consistent with sepsis. However, Professor Brown drew the distinction that the onset of urinary sepsis or septic shock is gradual, whereas the onset of a ruptured AAA is almost instantaneous (such as in Sandra's case) and "*cataclysmic*".

19.5 Professor Brown was asked whether the only way to exclude a ruptured AAA was by CT scan. He said that a CT scan would be the gold standard, but explained that bedside ultrasound is commonly used (particularly in small hospitals) to diagnose the presence of an aneurysm. Professor Brown explained that visualisation of an aneurysm on ultrasound, together with the presence of shock, were sufficient symptoms justifying the diagnosis of a ruptured AAA.

19.6 However, Professor Brown made the important point that an ultrasound would not identify whether an aneurysm had ruptured, and if the rupture was retroperitoneal. By this, Professor Brown explained that the rupture of an AAA can result in bleeding in two locations: behind the retroperitoneal cavity, resulting in retroperitoneal haemorrhage; or within the peritoneal cavity, resulting in intraperitoneal haemorrhage. Professor Brown explained that in the case of retroperitoneal haemorrhage, the bleeding is in a more contained space and so the organs and tissue there (kidneys, aorta, vena cava) will tamponade the bleeding. This results in a patient often surviving a rupture for a number of hours, although the bleeding (if not stopped) will ultimately prove to be fatal.

19.7 Professor Brown explained that the FAST scan correctly read negative. But this was because, unfortunately, all the blood was behind the peritoneal cavity, and not within it. In this case, Professor Brown opined that:

> "*Dr Jones should have looked at the aorta with the ultrasound machine as well, separately from the FAST scan, to see if the aorta was dilated and aneurysmal*".[90]

19.8 Prior to April 2016, Dr Jones had completed an "Emergency Ultrasound Course" and a "Rural Ultrasound in Emergency and Critical Care Course". It emerged during the evidence that Dr Jones completed both courses over the course of a day. Professor Brown accepted the suggestion made by counsel for Dr Jones that the use of ultrasound equipment is 100 percent operator-dependent and that clinical skills decay when not used regularly. In this regard, the evidence established that, prior to April 2016, Dr Jones had worked at a facility with a dedicated sonography service, and therefore would not have been required to use ultrasound equipment with any regularity. Nevertheless, Professor Brown expressed the view in evidence that a novice could be trained within an hour to find the aorta and this was almost always the first skill learnt in ultrasound use, with the second skill learnt being the FAST scan. Professor Brown described these skills as the "*training wheels of*

[90] Exhibit 1, Tab 90 at [1b)7].

ultrasound". Ultimately, Professor Brown observed that if Dr Jones had been unable to visualise the aorta on the ultrasound then he ought to have reverted back to the assumption that he was most likely dealing with a ruptured AAA.

19.9 Professor Brown was asked in evidence whether the drop in Sandra's haemoglobin levels could be explained by the administration of fluids to her. He said that Sandra could have been given two to three litres of fluid without there being any appreciable drop in haemoglobin level, or only a minimal drop of, for example 115m/L to 100m/L. In this regard, Professor Brown clarified that a marked drop down to 65g/L was indicative of bleeding, not haemodilution. Put another way, Professor Brown considered such a drop in haemoglobin levels to be a "*red flag*" for a ruptured AAA and amounted to a very good reason why Dr Jones should not have preferred a diagnosis of sepsis.

19.10 Aspects of training provided to Dr Jones by the RFDS was raised in evidence with Associate Professor Randall Greenburg, the RFDS Chief Medical Officer. Associate Professor Greenburg explained that induction and orientation was provided to Dr Jones at the time of his employment by the RFDS, but acknowledged that it was less intensive than what is currently provided by the RFDS to its medical officers currently. Associate Professor Greenburg explained that since April 2016, the following improvements have been made by the RFDS:

(a) Two weeks of formal induction provided to retrieval doctors, consisting of one week at the Greater Sydney Helicopter Emergency Service, and a second week (at a RFDS base such as Dubbo) to provide training on specific RFDS, and local, issues;[91]

(b) The introduction of a new Onboarding Policy to introduce new employees to the RFD workplace, and includes an organisational overview and explanation of employment policies and standard operating procedures, remedying the RFDS's prior lack of a whole of organisation standardised policy to orientate its new employees;[92]

(c) The introduction of a new *Clinical Supervision and Handover Standard Operating Procedure*[93] providing, amongst other things, for new retrieval doctors in their first 30 days of practice to call a senior RFDS medical practitioner (either directly or via a 1800 number) to discuss every retrieval before that retrieval occurs;[94] and

(d) Preparation of a credentialing policy to ensure that "*a robust process is in place so that practitioners are safe to practice in rural and remote areas*", and which will provide for regular reviews of roles and responsibilities of the RFDS workforce.[95]

[91] Exhibit 6 at [5].
[92] Exhibit 6, at [6]-[7].
[93] Exhibit 6, Annexure A.
[94] Exhibit 1, Tab 45 at [15].
[95] Exhibit 6 at [12].

19.11 **Conclusion:** In evidence Dr Jones acknowledged that he had demonstrated poor clinical reasoning and decision-making. The totality of the available evidence only serves to reinforce this fact. At the time of his assessment of Sandra upon his arrival at LRMPS Dr Jones had enough clinical information to correctly diagnose that Sandra had suffered a ruptured AAA. Dr Jones' shortcoming was regarding this as a differential diagnosis, with primary diagnosis preference instead given to sepsis. This should not have occurred in circumstances where Dr Jones was unable to exclude the possibility of a ruptured AAA.

19.12 It appears that Dr Jones placed too much reliance on the negative FAST scan which, whilst correct, was incapable of excluding the possibility of a ruptured AAA. Further, Dr Jones' previous training suggested that he should have been able to visualise the aorta on ultrasound. However, it appears likely that his own inexperience meant that he could not. This meant that the diagnosis of a ruptured AAA should have remained as the primary diagnosis.

19.13 Since 2016 the RFDS has introduced, and made improvements to, a number of workplace procedures and practices. This appears to be the product of appropriate and careful consideration given to clinical concerns associated with the events of 17 April 2016. These measures adequately address the concerns identified and are likely to lead to improved clinical outcomes in the provision of care to members of remote and rural communities. The RFDS is to be commended for the positive steps taken to improve clinical practice in this regard.

20. Handover between State Retrieval Consultants

20.1 Dr Novy's shift as SRC ended at 8:00am. In evidence Dr Novy said that about 10 minutes after his call with RN Gardiner, which ended at about 7:00am, he fell asleep and did not wake up until about 10:30am. At this time Dr Novy said that he was surprised that he had not received a call from any ACC staff seeking a handover of Sandra's case. As a result, Dr Novy at 10:47am called the ACC Clinical Coordinator, Mr Chris Gobbe, to find out what was occurring in Lightning Ridge. The transcript records the following exchange[96]:

> ***Dr Novy:*** *…so they think its sepsis in [sic] more than anything else?*
>
> ***Mr Gobbe:*** *Yeah [RN Cook] didn't say but he said when the doctor up there finishes putting the central line in up he was gonna give us a ring.*
>
> ***Dr Novy:*** *OK, alright. And, you've and you've handed it over to whoever is on today?*
>
> ***Mr Gobbe:*** *Um, I haven't. Peter Clarke's on but I haven't, I haven't had any need to talk to him.*
>
> ***Dr Novy:*** *Right, OK, he may just want to make sure Dubbo is the right place for that patient's that [sic] all.*
>
> *…*
>
> ***Dr Novy:*** *It might be worthwhile touching base with him before he leaves to make sure Dubbo's the right place for them.*

20.2 In evidence Mr Gobbe agreed that from the above conversation he understood that Dr Novy wanted him to hand over to Dr Peter Clark. However, Mr Gobbe said that he provided Dr Clark with no such handover because he was waiting for Dr Jones to call back, after the central line was in, so that he could give a handover to Dr Clark himself. However, Mr Gobbe sought to explain that he had provided Dr Clark with certain information. When asked if he would characterise this provision of information as a handover, Mr Gobbe conceded that it was not as optimal as it should have been. Further, Mr Gobbe was asked whether he accepted that he had made an error by not giving a comprehensive handover to Dr Clark and conceded that he had made an error in not having Dr Novy speak to Dr Clark.

20.3 In April 2016, a SRC worked a 24-hour shift. There was no fixed period during which a SRC was required to attend the ACC headquarters. Dr Novy explained in evidence that it was his usual practice to call in at the start of his shift to ascertain whether there were any active cases that required his attention. This would determine when he would make his way into the ACC headquarters. This meant that there was an absence of any requirement for a formal handover between an outgoing SRC and an incoming SRC during each shift changeover.

20.4 Dr Novy explained further that if he was on duty as the outgoing SRC it was his practice to wait for a call from the incoming SRC seeking a handover. Dr Novy said that he would not initiate such a call himself. Dr Novy followed his usual practice on 17 April 2016. In contrast, Dr Clark said in evidence that he expected Dr Novy to provide him with a handover if there as an ongoing case such as

[96] Exhibit 1, Tab 61, page 27.

Sandra's and expected that Mr Gobbe would coordinate such handover. Dr Clark was asked specifically whether he understood if he had any obligation to solicit a handover from the outgoing SRC. He said that the usual practice as at April 2016 was to rely on the ACC coordinator and the outgoing SRC.

20.5 Dr Novy agreed that it would be beneficial for there to be clarity about the responsibilities of the outgoing and incoming SRC regarding handover. He further expressed the view that, in his opinion, it would better for the incoming SRC to initiate a handover since they would be fresh and the one required to take over care. In such circumstances, it is acknowledged that it would have been challenging for any person to demonstrate clarity of thought and sound judgment near the end of a 24-hour shift.

20.6 **Conclusion:** In April 2016 there was no formal requirement for a handover to take place between an outgoing SRC and an incoming SRC at the end of each shift. Instead, the possibility of any handover occurring appears to have been dependent on the individual practices of the SRCs involved at the time.

20.7 On 17 April 2016 these individual practices were inconsistent with one another: Dr Novy expected Dr Clark to seek a handover from him, whilst Dr Clark expected Dr Novy to provide him with a handover. By the time of the 8:00am SRC shift changeover, Sandra's care was at a critical point. A decision was soon to be made by the SRC as to correct destination to transfer Sandra too. The absence of any handover between Dr Novy and Dr Clark compromised this decision-making process.

21. The decision to transfer Sandra to Dubbo Base Hospital

21.1 Following on from his earlier call with Dr Novy at 10:47am, Mr Gobbe later called Dr Jones at 10:59am, where the following exchange occurred[97]:

> ***Mr Gobbe:*** *…Michael Novy was wondering whether you think Dubbo is the appropriate place.*
>
> ***Dr Jones:*** *Um, yeah, that's the discussion we are just having…Um, it looks more like sepsis than anything else.*
>
> ***Mr Gobbe:*** *If you want to talk to Peter Clarke [sic], he is the actual consultant on now. Might be better if you have…*
>
> ***Dr Jones:*** *Yeah, I was, I was leaning more to Dubbo. It think it is more a sepsis issue then [sic] a post-surgical issue but, yep.*

21.2 Mr Gobbe then called Dr Clark and relayed what Dr Jones had told him. There is no transcript of the call but according to Dr Clark, Mr Gobbe told him that a retrieval was occurring in Dubbo and then told him the following:

> "*The patient's fairly stable now. Michael Novy earlier on was wondering whether Dubbo was the appropriate destination but the doctor up there, the RFDS doctor, seems to think it is*".[98]

21.3 In evidence Mr Gobbe agreed that he had been listening in to the call between Dr Novy and Dr Jones at 6:20am[99] and that from this he was aware of the possibility that Sandra had ruptured an aneurysm. He also agreed that LRMPS could not exclude the possibility of a ruptured aneurysm. Mr Gobbe also agreed that from listening to Dr Novy's call with RN Gardiner, which started at 6:44am[100], that he was aware of Dr Novy's view that the clinicians were "*probably dealing with a bleed more than anything else*". Despite this, Mr Gobbe did not convey Dr Novy's opinion to Dr Jones, Dr Clark, or to RN Cook, who he had spoken with at 10:39am. In evidence Mr Gobbe sought to explain that he believed that this would be discussed between Dr Kumar and Dr Jones once the latter arrived at LRMPS. However, he agreed that it would have been a good idea for him to convey Dr Novy's opinion.

21.4 At 11:01am Dr Jones called Dr Clark and the following conversation took place[101]:

> ***Dr Jones:*** *…I'm just sorry about the delay in getting back to you about this lady up here at um Lightning Ridge. Um, so we now have central line access, arterial line. She looks more [pure sepsis] than post-surgical rupture of the aneurysm. I couldn't see any major fluid but there is a small amount in the um (inaudible)…*
>
> *…*
>
> ***Dr Jones:*** *I think Dubbo would be a reasonable place. Um, it looks more sepsis to me than anything else but obviously a CT scan or something of her abdomen might prove otherwise.*

[97] Exhibit 1, Tab 61, page 29.
[98] Exhibit 1, Tab 23, page 2.
[99] Exhibit 1, Tab 61, page 16.
[100] Exhibit 1, Tab 61, page 23.
[101] Exhibit 1, Tab 61, page 30.

Dr Clark: *Yeah, let's take her to Dubbo and see.*

Dr Jones: *Yeah, no problem.*

21.5 Dr Jones said that at the time he was aware that DBH was not a tertiary level hospital but said that he had no idea of its surgical capability and, specifically, whether vascular surgery could be performed there. He explained that at the time he was a junior doctor and would be guided by the SRC. Dr Jones was asked specifically why he thought it was appropriate to transfer Sandra to Dubbo if he could not exclude the possibility of a ruptured aneurysm. He said that a patient is taken where investigation can be performed to guide treatment and in Sandra's case he had nothing to refute or confirm what was going on. He agreed that the prospect of a ruptured AAA should not be excluded from the thought process when making a decision about where a patient should be transferred to.

21.6 It was suggested to Dr Jones that if he had no understanding of the surgical capability of Dubbo then his conversation with the SRC was effectively meaningless. He said that he assumed that Dr Clark was aware of all the information available to Dr Novy, and that he therefore relied on Dr Clark's opinion. Dr Jones went on to explain that during his call with Dr Clark, no concern was expressed that transferring Sandra to Dubbo might be incorrect. Dr Jones said that as a very inexperienced retrieval doctor he placed great emphasis on what he had been told by Dr Novy. He agreed that it was important to know that Dr Novy thought it was a bleed more than anything else. Dr Jones explained that he absolutely would have changed his practice had he known this.

21.7 Dr Clark explained that at the time of this conversation, because there had been no handover with Dr Novy, he was unaware that Dr Novy's view was that Sandra was more likely suffering from a bleed than from sepsis. Dr Clark said that if he had been given this information he may have considered transferring Sandra to a Sydney hospital. Dr Clark was asked whether it occurred to him to contact Dr Novy given that he was told that there was the prospect of a post-surgical rupture. He said that he was unaware what surgery had been performed on Sandra and the diagnosis was therefore uncertain. On this basis he explained that the appropriate place for further investigation was Dubbo in order to establish the diagnosis. Dr Clark said that he did not understand Dr Jones to be soliciting his view about the most appropriate destination to transfer Sandra to. Rather, Dr Clark said that his understanding was that Dr Jones was informing him of the destination and that this seemed reasonable to Dr Clark based on Dr Jones' assessment.

21.8 Like Dr Novy, Dr Clark also had difficulty confronting the simple proposition that the buck stopped with him as the SRC. He did not directly answer the question of whether he understood that, as the SRC on duty, he was the ultimate decision-maker as to where a patient should be transferred. Instead Dr Clark referred to care pathways and default referral hospitals. It was squarely put to Dr Clark by Counsel Assisting that the SRC bears ultimate responsibility for leading the correct clinical management, for leading the urgency of the transfer, and for leading the clinical discussion to satisfy themselves that the patient is going to the correct destination. Dr Clark was unable to accept such propositions without qualification. Instead, he sought to characterise his involvement as being to provide input into the decision-making process.

21.9 Dr Novy, Dr Clark, Mr Gobbe and Dr Coombes in evidence all referred to a change in workplace practices within the ACC since April 2016. Specifically, reference was made to the replacement of the

previous 24-hour shift for a SRC with a new 12-hour shift. Further, this new shift structure provided for a SRC to be present at the ACC headquarters between the hours of 7:00am and 7:00pm, thereby facilitating the coordination of active clinical cases.

21.10 In 2017 the ACC also introduced a new suite of work instructions, most of which were relevant to the conduct of ACC staff on 17 April 2016.[102] These were attached to a statement prepared by Dr Coombes and referred to by her during the course of her oral evidence. She explained that training regarding these new work instructions has been provided by way of monthly clinical governance meetings, and also via monthly meetings involving ACC staff members, including SRCs. Dr Coombes also referred to annual competencies, triaging exercises, multiple choice questionnaires, and induction programs for ACC staff to familiarise themselves with the series of work instructions.

21.11 The issue of training regarding the new suite of work instructions was explored with Dr Novy, Dr Clark and Mr Gobbe. Whilst Dr Novy indicated that he had been provided with training in relation to the new work instructions, both Dr Clark and Mr Gobbe indicated that they had not.

21.12 **Conclusion:** There was an absence of clinical leadership on the part of Dr Clark at the time of Sandra's transfer to Dubbo. Dr Clark was required to satisfy himself that Sandra was being transferred to the correct destination. Instead he simply agreed with the assessment made by Dr Jones, a junior and less experienced doctor, without making an independent enquiry as to the nature of Sandra's clinical condition.

21.13 Like Dr Novy, Dr Clark did not, as the SRC on duty, provide active input in accordance with the requirements of the Consultant Involvement policy document. The evidence establishes that was the result of a lack of clarity as to the role and responsibilities of the outgoing and incoming State Retrieval Consultants, and the Clinical Coordinator. Whilst NSW Ambulance have taken steps to introduce a new suite of work instructions relevant to the operation of the ACC, they do not appear to provide the clarity required in an emergency situation, especially during the time of a shift changeover, such as occurred on 17 April 2016.

21.14 In written submissions counsel for NSW Ambulance referred to the fact that new work instruction ACC.OPS.503 clearly sets out the responsibilities of the SRC. However, this work instruction does no more than repeat the content of the Consultant Involvement policy document that was in operation in April 2016. Similarly, the requirement that the SRC provide active input in all actual or potential medial retrievals is repeated in ACC.OPS.503.

21.15 The evidence establishes that, despite the existence of the Consultant Involvement policy document, neither Dr Novy nor Dr Clark demonstrated the active input required in Sandra's retrieval. The evidence also establishes that neither SRC led the clinical discussion with Dr Kumar, Dr Jones, or Mr Gobbe to ensure that the correct clinical management was being instituted for Sandra, that the urgency of her transfer had been assessed, and that she was being transported to the correct destination. This was despite Dr Novy, Dr Clark and Mr Gobbe all being familiar with the contents of the Consultant Involvement policy document.

[102] Exhibit 5.

21.16 In circumstances where ACC.OPS.503 reproduces the terms of the Consultant Involvement policy document, without further guidance or instruction, the risk of a repetition of aspects of the events of 17 April 2016 leading to a poor clinical outcome remains. Further, the evidence established that notwithstanding the matters identified above, neither Dr Clark nor Mr Gobbe had received adequate training regarding the new work instructions.

21.17 **Recommendation 6:** I recommend to the Chief Executive, Ambulance Service of New South Wales that consideration be given to revision of current Aeromedical Control Centre policy documentation, including work instructions, to clearly identify which officers bear the ultimate responsibility in relation to: (a) the clinical management of patients to be retrieved; and (b) and in the decision as to where to transfer patients to.

21.18 **Recommendation 7:** I recommend to the Chief Executive, Ambulance Service of New South Wales that consideration be given to providing an express definition in any relevant Aeromedical Control Centre policy documentation, including work instructions, as to what is meant by requiring State Retrieval Consultants to provide active input in all actual or potential medical retrievals.

21.19 **Recommendation 8:** I recommend to the Chief Executive, Ambulance Service of New South Wales that comprehensive training be provided to all relevant Aeromedical Control Centre staff in relation to any current policy documentation, including the revision of any such documentation that might be made in accordance with Recommendations 6 and 7.

21.20 **Recommendation 9:** I recommend to the Chief Executive, Ambulance Service of New South Wales that consideration be given to the introduction of an express written policy requiring a Consultant to Consultant handover at the change of each shift, and that comprehensive training be provided to all State Retrieval Consultants and Clinical Coordinators in relation to such a requirement.

22. Would transfer to a different destination have altered the outcome for Sandra?

22.1 In his report, Associate Professor Grabs noted the following:

> "*Based on autopsy studies it is estimated that 50% of patients that have a ruptured aortic aneurysm do not reach hospital and of the 50% that do reach hospital, approximately 50% also die with or without an operation*".[103]

22.2 In his evidence Dr Cartmill referred to identical statistical data. However he was asked more specifically about the prospect of Sandra's survival if she had been transferred to a tertiary hospital in Brisbane, such as St Andrews. Dr Cartmill estimated that broad survival would be approximately 70% but explained but that it was difficult to sub-categorise in Sandra's case because he was unaware of her haemodynamic changes at relevant times. Further, Dr Cartmill explained that if a patient was unstable, or was being retrieved from a wider geographic area, this would adversely impact upon their prospects of survival.

22.3 In his report, Associate Professor Grabs noted expressed the following view:

> "*If the correct diagnosis of a ruptured aneurysm with limitations on fluid resuscitation was made in Lightning Ridge and a tertiary hospital (Brisbane or Sydney) was pre-notified, [Sandra] could have been taken to theatre immediately with an improved chance of survival if the hospital was equipped to undertake immediate surgical procedures. Very advanced endo-vascular surgery would be required or an open procedure. The chance of survival would be about 10% or less. She would need to arrive prior to the cardiac arrest*".[104]

22.4 In his report Professor Brown said that he did not consider that Sandra "*could or would have survived her ruptured AAA irrespective of which hospital she was taken to*".[105] In coming to this view, Professor Brown took into account a number of factors[106]:

(a) Even if Sandra had departed Lightning Ridge at the same time (11:27am) she would not have arrived in Sydney and been ready for surgery much before the time of her eventual cardiac arrest at 4:23pm;
(b) Any surgery would have been high-risk and particularly complex;
(c) Sandra was at risk of a peri-operative heart attack due to her pre-existing coronary artery disease;
(d) It was highly probably that, even if she had survived the operation, Sandra would suffered from multi-organ failure as a consequence of her prolonged hypotension.

22.5 Having regard to the above factors, Professor Brown said in evidence that he would put Sandra's chance of recovery at less than 1%. Counsel for Mr Cree referred Professor Brown to the opinion expressed by Associate Professor Grabs in his report. Professor Brown said that whilst he would defer to Associate Professor Grabs on this issue, he still believed that Sandra had a very poor chance of survival.

[103] Exhibit 1, Tab 92, page 2.
[104] Exhibit 1, Tab 92, page 7.
[105] Exhibit 1, Tab 89 at [8f)].
[106] Exhibit 1, Tab 89, pages 10-11.

22.6 Professor Brown was asked whether his opinion would change if Sandra had been transferred to St Andrews with a graft already prepared. He said that having a graft available would make the technical aspects of any operation more straightforward and that, in these circumstances, he was prepared to consider that Sandra might have a 5% chance of survival. However, Professor Brown stressed that he still believed that the insult (injury) suffered by Sandra would have been overwhelming before, during, and after surgery.

22.7 It should be noted that in his evidence, Associate Professor Grabs explained that many patients who suffer from an AAA also, like Sandra, have coronary artery disease. In this regard, Associate Professor Grabs explained that creates the risk of post-operative ischaemia leading to heart failure. As Sandra suffered from significant coronary artery disease, Associate Professor Grabs said that this would have reduced her chances of survival to below 10%.

22.8 Counsel for Mr Cree also posed to Associate Professor Grabs whether Sandra's chances of survival would have increased if she had been transferred to a Brisbane hospital where a graft was available. Associate Professor Grabs began the qualification that there was no science behind his answer. He went on to say that if a correct diagnosis had been made in Lightning Ridge at about 4:00am, and Sandra had arrived in Brisbane at about 9:00am, and did not require fluids or resuscitation, then the chances of her survival would increase above 10% and might be close to 20-25%. However, Associate Professor Grabs explained that any other disease process (such as coronary artery disease) would still adversely affect Sandra's chances of survival.

22.9 **Conclusion:** Tragically, it is more likely than not that Sandra would not have survived even if her condition had been correctly diagnosed and she had been transferred to a tertiary hospital and not DBH. Whilst Sandra's prospects of survival increased commensurate to the timeliness of her transfer, her unstable condition, period of prolonged hypotension, and pre-existing coronary artery disease all weighed against the chances of a successful recovery.

22.10 It is noted that the opinion expressed by Associate Professor Grabs regarding the prospects of survival was contingent upon whether Sandra had been correctly diagnosed at about 4:00am and transferred to Brisbane by 9:00am in a stable condition. However, the evidence established that the RFDS retrieval team did not in fact arrive in Lightning Ridge until about 8:30am. Therefore, the immediacy of transfer and condition of Sandra that was factored into the scenario presented to Associate Professor Grabs had no factual foundation. This means that the chances of Sandra's survival were more accurately stated by Professor Brown.

22.11 In providing his answers to some of the above questions, Associate Professor Grabs referred to a condition called permissive hypotension which is used in severe trauma patients, or patients experiencing significant blood loss, such as from a ruptured AAA. He explained that reducing the amount of fluids provided to a patient, and not administering medication to address hypotension caused by blood loss, would prevent rapid blood loss from increasing blood pressure. In other words, by permitting a patient to remain hypotensive would the rate of bleeding would be slowed.

22.12 **Conclusion:** Dr Jones administered noradrenaline and fluids to Sandra to increase blood pressure in order to address her prolonged hypotension. There is no suggestion that this was not clinically indicated given her condition. However, it would appear that providing clinical guidance as to the potential use of permissive hypotension would be of benefit in a medical retrieval setting. This is particularly so given the evidence of Professor Brown regarding the common presentation of a patient with a ruptured AAA in such a setting.

22.13 Senior Counsel for the RFDS submitted that the need for a recommendation in this regard was not made out on the available evidence. This is because, it was submitted, the evidence did not demonstrate that a RFDS retrieval doctor, employed in accordance with the improvements made by the RFDS, would not know of available therapeutic measures to manage a ruptured aneurysm. Counsel for NSW Ambulance also submitted that such a recommendation was unnecessary because an internal NSW Ambulance document (HELI.CLIN.19 Traumatic Haemorrhage Control) already provides that suggested practice is to utilise permissive hypotension in transfer settings for cases of haemorrhage prior to definitive haemorrhage control. However, it was acknowledged that NSW Ambulance would have no difficulty in sharing the contents of this internal document with the RFDS.

22.14 In view of the above, it could not be said that a recommendation in this regard is necessary. However, the common incidence of a ruptured AAA in a retrieval setting and the willingness of NSW Ambulance to ensure that all retrieval clinicians are aware of its internal protocols, reinforces the desirability of a recommendation being made.

22.15 **Recommendation 10:** I recommend to the Chief Executive, Ambulance Service of New South Wales that consideration be given to informing the Royal Flying Doctor Service (South Eastern Section) of any applicable protocols, contained in internal NSW Ambulance documentation, relevant to the potential use of permissive hypertension in a medical retrieval setting where a patient has ruptured an aneurysm.

22.16 **Recommendation 11:** I recommend to the Chief Executive, Royal Flying Doctor Service (South Eastern Section) that consideration be given to the need to provide explicit written guidance to clinicians regarding the potential use of permissive hypertension in a medical retrieval setting where a patient has ruptured an aneurysm.

23. Information provided to Dubbo Base Hospital

23.1 Dr Clark and Mr Gobbe did not alert Dubbo Hospital to the fact that Sandra would be arriving or her history and symptoms. In evidence Dr Clark was asked whether he had any responsibility to do so. He said that it was the usual responsibility of the ACC medical officer to confirm that the patient was expected there, or the referral hospital would contact the receiving hospital, and that "*we*" would follow up to confirm. Dr Clark was asked whether it was the responsibility of the SRC to follow up. He said not in every case and that sometimes it would be the ACC medical officer who would follow up.

23.2 **Conclusion:** There was a failure by ACC staff to provide information relating to Sandra's clinical condition to DBH prior to her arrival there. Provision of such information would have allowed for appropriation preparation to be made for her arrival. It also evidence that such information was also not communicated to DBH by the RFDS retrieval team. However, it is noted that the terms of the RFDS Clinical Supervision and Handover Standard Operating Procedures provides that "*prior to departing the referral hospital…the receiving hospital should be contacted to: verify that they are expecting the patient, determine that it is an appropriate destination, provide an estimated time of arrival (ETA); provide a clinical update; and determine the location within the hospital to which the patient is to be transferred to*".[107] On the available evidence no such standard operating procedure exists within the ACC.

23.3 Instead, it was submitted by counsel for NSW Ambulance that work instruction ACC.OPS.109 provides that the ACC Clinical Coordinator "*will take ongoing responsibility for following the patient's clinical condition (re-triage/bed confirmation, etc.) from receiving a call to the delivery of medical care as required*".[108] However, it would appear that the terms of this work instruction are not explicitly clear so as to provide for the type of steps referred to in the RFDS standard operating procedure, and which is warranted in all retrievals.

23.4 **Recommendation 12:** I recommend to the Chief Executive, Ambulance Service of New South Wales that consideration be given to the introduction of an express written policy requiring that, in all medical retrievals, a handover be provided by the Aeromedical Control Centre to the hospital to which a patient is being transferred to.

[107] Exhibit 6, Annexure A, page 6.
[108] Exhibit 5.

24. Handover at Dubbo Base Hospital

24.1 Sandra was conveyed from Dubbo airport and arrived in the DBH Emergency Department (**ED**) at 1:09pm. RN Trudy Somerfield was the triage nurse working in the ED at the time. She said that it was usual practice for the RFDS to provide their notes upon transfer but this was not always the case. RN Somerfield went on to explain that that she did not recall seeing any notes but surmised that they could have been left on the trolley. She said that ordinarily she would receive a Patient Transfer Form but concluded that she did not see one for Sandra. She said that if she had been given the Patient Transfer Form and RFDS notes they would accompany the patient to the resus bay on the trolley.

24.2 RN Lydia Newton was the accepting nurse in the ED resus bay. Similarly, she said that she did not recall seeing the Patient Transfer Form. She later made a progress note entry which recorded: "*Very minimal history obtained from Ambulance and Patient*".[109]

24.3 Dr Naveed Aziez was the Senior Registrar Advanced Trainee in the ED at the time. He had no specific recollection of Dr Jones either but said that he had no doubt that he received a handover from the RFDS doctor who was wearing a RFDS uniform. However, he said in evidence that he took no notes during the handover and explained that his usual practice was to take a verbal handover, allocate the care of patient, and then notes would subsequently be taken by the clinician providing care.

24.4 Dr Aziez said that he had no recollection of the contents of Dr Jones being conveyed to him. In particular Dr Aziez said that he could not recall being told of Dr Jones' provisional diagnosis of "*Sepsis +/- post operative bleed*"[110], or of his impression of a "*possible renal artery aneurysm rupture*".[111] Dr Aziez said that he had no recollection of Dr Jones mentioning an aneurysm at any stage and said that he would have remembered this had it been mentioned.

24.5 Dr Jones said that he did not recall who was present within the ED but said that he recalled speaking to a nurse. He said that he had no recollection of Dr Aziez, what was said, and whether anyone was made aware of a possible ruptured aneurysm. Despite this recollection Dr Jones said that he disagreed with RN Newton's progress note. However Dr Jones agreed that the only way this could be refuted, in the absence of a clear recollection on his part, was by accepting that he followed his usual practice regarding the handover of a patient.

24.6 Dr Aziez agreed in evidence that abdominal pain, hypotension, and a drop in haemoglobin levels were all classic symptoms for a ruptured AAA. He said that if there was suspicion of a ruptured AAA he would have tried to expedite the tests to be performed, including a CT scan, but because Sandra was hypotensive she needed to be stabilised before the CT could be performed. This CT scan was requested at 2:08pm and later booked for 2:39pm. Dr Aziez indicated that if he had been made aware of a differential diagnosis of a ruptured AAA he would have attempted to expedite the CT scan. He agreed that a patient who was suspected to have a ruptured AAA should not have to wait 90 minutes (from about 1:09am to 2:39pm in Sandra's case) for a CT scan. Dr Aziez confirmed that the possibility of any aneurysm near the kidney needed to be ruled out, if possible, as a priority as it was a life threatening condition.

[109] Exhibit 1, Tab 53, page 22.
[110] Exhibit 1, Tab 53, page 16.
[111] Exhibit 1, Tab 53, page 17.

24.7 In evidence, Associate Professor Greenburg, who was the on-duty Intensive Care Consultant at DBH (in addition to being the RFDS Chief Medical Officer) said he expected that it would be ordinary practice for a receiving doctor, in the position of Dr Aziez, to:

(a) Access the a patient's electronic records from the referring hospital;

(b) Read the Patient Transfer Form; and

(c) Read any clinical notes made by a retrieving doctor.

24.8 **Conclusion:** The handover conducted at DBH was less than optimal. The evidence indicates that no reference was made, either orally or in documentary form, to information that was highly relevant to Sandra's care. It appears that Dr Aziez did not avail himself of an opportunity to review the Patient Transfer Form or the RFDS notes made by Dr Jones. Had he done it is most likely that he would have seen the references to a possible aneurysm rupture and possible post-operative bleed. This in turn would have likely resulted in the expedition of the CT scan that had been booked for Sandra.

24.9 **Recommendation 13:** I recommend to the Chief Executive, Western NSW Local Health District that consideration be given to the issuing of a policy directive requiring receiving WNSWLHD clinicians to review a Patient Transfer Form where a critically ill patient has been received from another hospital. Where the patient has been received from the Lightning Ridge Multi-Purpose Service (**LRMPS**) the receiving clinician should also review the electronic notes of LRMPS.

25. ICU Involvement

25.1 Dr Philip Plunkett was a Senior Resident Medical Officer on duty in the DBH Intensive Care unit (**ICU**) at DBH. He was called by the ED to review Sandra and did so sometime after the CT scan was requested at 2:08pm. Dr Plunkett said that at all times prior to Sandra's arrest he believed that he was dealing with a case of sepsis. He said that he did not at all consider the prospect that Sandra had a ruptured AAA. If he had, Dr Plunkett explained that he would have sought to expedite Sandra's CT scan.

25.2 The Patient Transfer Form recorded the following: "*Presented after calling ambos for abdo pain and later back pain. Confirmed ? aortic aneurysm in renal area. Waiting for surgery 9th May. Hypotensive at scene, diaphoretic, pale, hypothermic…*".[112] In comparison, Dr Plunkett's electronic note records the following: "*As per transfer note; - Abdo and back pain; found by paramedics hypotensive, diaphoretic, pale, hypothermic*".[113]

25.3 Dr Plunkett agreed that it would "*ring immediate alarm bells*" if he had known that Sandra may have had an aortic aneurysm. Dr Plunkett explained that it was his usual practice to read a Patient Transfer Form if provided with it. Dr Plunkett initially said in evidence that this did not occur. However, later in evidence Dr Plunkett agreed that it was most likely he did have regard to the Patient Transfer Form when he wrote his notes given (a) the similarity of words that he used; and (b) the structure of such words. On this basis Dr Plunkett conceded that it was most likely that he had missed the information in the Patient Transfer Form querying the aortic aneurysm.

25.4 It should be noted that, in response to questions posed by counsel for Mr Cree, Associate Professor Greenburg in evidence referred to a perception that there had been some miscommunication between in clinical handover between the ED and ICU. When asked to explain what he meant by this, Associate Professor Greenburg said that when he received a call from Dr Aziez it was only in relation to seeking an ICU consult. To this end, Associate Professor Greenburg tasked Dr Plunkett to attend on Sandra in the ED. Associate Professor Greenburg explained that he believed that Sandra would be worked up in the ICU before her eventual transfer to the ICU. However, Associate Professor Greenburg later learned that Dr Aziez believed that Sandra's care had been handed over to, and accepted by, the ICU.

25.5 **Conclusion:** Given the similarity in the content of the Patient Transfer Form and Dr Plunkett's electronic notes, it is most likely that he had regard to the former. However, it appears that Dr Plunkett did not see the reference in the Patient Transfer Form made by RN Gardiner which queried an aortic aneurysm. If he had done so, then it is expected that an attempt would have been made to expedite Sandra's CT scan.

[112] Exhibit 1, Tab 53, page 12.
[113] Exhibit 1, Tab 53, page 24.

25.6 There was no opportunity to explore the issue raised by Associate Professor Greenburg regarding suggested handover of care between the ED and ICU with Dr Aziez. This is because Dr Aziez gave his evidence prior to Associate Professor Greenburg. Notwithstanding, even though there may have been some confusion over which clinician was responsible for Sandra's care whilst she remained in the ED, the evidence established that Sandra continued to be managed in an appropriate manner, as attempts were made to stabilise her prior to the CT scan and transfer to the ICU.

27. Acknowledgements

27.1 The inquest into Sandra's death took place more than two years after her death. Much of the time in the lead up to the inquest was spent ensuring that a comprehensive coronial investigation was conducted to examine all relevant issues. Such an investigation would not have been possible without the dedication, skill and tireless efforts of Counsel Assisting, Ms Naomi Sharp SC, and her instructing solicitor, Mr Valentino Musico. Their tremendous assistance both prior to, and during, the inquest must be acknowledged with great appreciation on behalf of the NSW community.

27.2 Thanks and appreciation must also be expressed to the police officer-in-charge, Senior Constable Kelli Hall, for compiling the initial brief of evidence. Finally, the assistance provided the various legal representatives who participated in the inquest was both welcomed and encouraging, and in keeping with the fundamental, non-adversarial principles of the coronial jurisdiction.

28. Findings

28.1 The findings I make under section 81(1) of the Act are:

Identity
The person who died was Sandra Kathleen Cree.

Date of death
Sandra died on 17 April 2016.

Place of death
Sandra died at Dubbo Base Hospital, Dubbo NSW 2830.

Cause of death
Sandra died from a ruptured abdominal aortic aneurysm, with coronary artery atherosclerosis being a significant condition contributing to her death, but not relating to the condition which caused it.

Manner of death
Sandra died from natural causes.

29. Epilogue

30.1 At the conclusion of the evidence in the inquest, Lawrie spoke of how he would tell his daughter that this inquest would save lives. Such an outcome is one that is always envisaged and hoped for by the coronial process. Lawrie also spoke of how he learned that one person can make a difference. For those that knew Sandra best, it is unsurprising that she could make such a difference. And there is no doubt that such a difference would be a most fitting tribute to the special person that Sandra was.

30.2 On behalf of the NSW State Coroners Court and the coronial team, I offer my deepest sympathies, and most sincere and respectful condolences, to Lawrie, Teresa, Jason, and Maddy; to the other members of Sandra's family; and to her many friends in her local community, for their devastating and tragic loss.

30.3 I close this inquest.

Magistrate Derek Lee
Deputy State Coroner
22 October 2018
NSW State Coroner's Court, Glebe