Coroners Act, 1996
[Section 26(1)]

Western  ***Australia***

RECORD OF INVESTIGATION INTO DEATH

Ref No: 6/16

*I, Evelyn Felicia Vicker, Deputy State Coroner, having investigated the death of **Janice May SAULYS** with an Inquest held at Northam Coroners Court, 18 Wellington Street, Northam, on 17-18 February 2016 find the identity of the deceased was **Janice May SAULYS** and that death occurred on 5 July 2012 at Hollywood Private Hospital, as a result of **multiple organ failure due to sepsis of unknown origin** in the following circumstances:*

Counsel Appearing:

Sergeant L Housiaux assisted the Deputy State Coroner
Mr D Harwood and with him Ms A Salapak (instructed by State Solicitors Office) appeared on behalf of Western Australia Country Health Service (WACHS)
Mr D Bourke and with him Ms A de Villiers (instructed by MDA National) on behalf of Drs S Spencer and O Jinadu
Ms B Burke (instructed by Australian Nursing Federation) on behalf of Nurse K Ekkelbloom

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INTRODUCTION

Janice May Saulys (the deceased) died in Hollywood Private Hospital (HH) on 5 July 2012. She had been transferred on 28 June 2012 from Northam Regional Hospital (NRH) as the result of abnormal blood results reflecting developing acute renal failure secondary to dehydration arising out of continuing vomiting and diarrhoea.

She was 69 years of age.

The deceased's death was not reported to the Coroner by HH because it was not considered to be a reportable death. HH issued a death certificate without an autopsy being performed.

The family of the deceased were very distressed by her death and became vocal about issues related to NRH Emergency Department (ED) which was under review due to difficulties Western Australia Country Health Service (WACHS) was experiencing in resourcing the hospital with respect to its specific circumstances. The family of the deceased were unhappy with the outcome of the various reviews and the Regional Director of WACHS requested an inquest be held as an independent review of the cause of the death of the deceased and the circumstances surrounding her death.

BACKGROUND

The Deceased

The deceased was born on 3 February 1943 in Northam where she remained resident for most of her life. She started working at the Northam telephone exchange when she was 15 years of age and remained there until she was 35 years of age. She met her husband, Edmund Romaldus Saulys, and they married in March 1967 when she was 23 years of age. They had two children, daughters, Leanne and Rachael, and the family still live in the Northam area.

The deceased had a significant medical history which Mr Saulys recalled as heart palpitations, even in her twenties. This was later in life corrected by ablation surgery. Following that procedure the deceased remained on half an aspirin per day to thin her blood until she was commenced on the anticoagulation medication, warfarin.[1]

The deceased had originally commenced with the Grey Street Surgery, Northam, as her general practice in 1968. It remained her family practice until June 2012. She was cared for by the general practitioners (GPs) of that practice in conjunction with specialists to whom she was referred for particular medical difficulties.[2]

[1] Ex 1, tab 5
[2] t 17.02.16, p54

In September 2011 the deceased had an adverse reaction to her anticoagulation therapy and suffered renal failure. She presented to NRH and was transferred to St John of God Hospital Subiaco (SJGHS) where she responded well to rehydration and her kidney function returned to normal.[3] Her treating physician, Dr David McComish, considered the return to normal function signified the decease did not have underlying renal disease (chronic kidney failure).

The deceased's anticoagulation medication was changed to Pradaxa (dabigatran) but the deceased had an adverse reaction to this medication as well and required rehydration at a tertiary institution in January 2012. Again the deceased responded well to rehydration. Dr McComish noted that although the deceased's kidney function returned to normal there was a concern she had a vulnerable kidney and was susceptible to dehydration which would require rehydration as a matter of urgency.[4]

The deceased also suffered type 2 diabetes, hypertension, peripheral arterial disease which had warranted amputation of her right second toe, ischaemic heart disease with probable myocardial infarction in 1994, paroxysmal supraventricular tachycardia which had required catheter ablation in 1994 and arterial fibrillation.[5]

[3] Ex 2, tab 2
[4] Ex 2, tab 2
[5] Ex 2, tab 1

As part of preparation for the inquest the deceased's recorded pathology results from 2011 until the time of her death, from the various facilities at which she had presented and her general practitioner in Northam, were reviewed.[6] This chart confirms that following periods of acute renal failure or acute kidney injury the deceased's kidney function consistently returned to normal with hydration. This supported Dr McComish's opinion the deceased did not suffer chronic renal failure, even at the time of her death, but rather had vulnerable kidneys which, if appropriately rehydrated, restored kidney function.

Northam Regional Hospital in 2012

NRH is just under 100km north east of metropolitan Perth in the Avon Valley. Aside from the Shire of Northam with an estimated population of approximately 11,500, covering over 1400sq km, it also supports the smaller district hospitals within the Western Wheatbelt comprising Wyalkatchem, York, Toodyay, Goomalling, Cunderdin, Wongan Hills and Beverley Town sites.[7]

It is a difficult hospital for WACHS to staff successfully with medical practitioners due to its proximity to Perth, in a rural setting. It does not have the working facilities of the metropolitan region, and the lifestyle offered to practitioners in the Wheatbelt does not compensate for the difficulties of

[6] Ex 4
[7] Ex 2, tab 21

doctoring in a remote or rural setting in the same way as some other regional centres.

Traditionally NRH was staffed in the same way as many other smaller district hospitals, by nursing staff alone, with the rostered attendance on call of GPs resident in the locality. Due to its prominence amongst the smaller hospitals and NRH's regional status efforts were made by WACHS to assist the local GP population in their endeavours to service NRH.

In 2008 WACHS partially funded a GP practice adjacent to the NRH Emergency Department (ED) to provide more immediate care to patients presenting in an emergency capacity as determined by the triage nurses in the emergency department. It became increasingly difficult to provide adequate medical cover to service the many requirements for the increasingly complex medical issues which need to be addressed by a modern ED.

From January 2012 NRH introduced a new medical roster with cover on site provided by local GPs for its ED. There were still no resident hospital medical officers in NRH ED, but one of the local GPs was rostered on site for a 12 hour duty presentation from 8am to 8pm every day, and to remain on call (available within 10 minutes) over night until the arrival of the next rostered duty doctor at 8am the following morning. This provided a GP present within the

ED at NRH from 8am to 8pm each day, but there was only one GP available in the ED to provide medical input for all the patients arriving within that 12 hour roster.[8]

Obviously, as in any ED, the priority of patient access to the single GP was determined by the ED nurses using the Australasian Triage Scale (ATS). This meant patients with a triage score of 1 or 2 were always seen in preference to a patient with a score of a 3 or more. Consequently, on a busy day the duty doctor could be unavailable for considerable periods of time when dealing with ATS 1 or 2 patients within the ED.

While most local GPs prior to 2012 had been on call to NRH ED for their own patients, not all GPs in the area chose to be part of the onsite ED duty roster established from January 2012 onwards.[9] Participation in the duty roster was voluntary.

NRH ED also provided telephone support to the small district hospitals after hours, with a facility for transfer to Northam if it was warranted clinically. These occurred in collaboration with the Royal Flying Doctors Service (RFDS) and St John of God Ambulance Service. There was also provision for a district wide ED nurse practitioner role which was unfilled in 2012, and remained unfilled into 2013.

[8] Ex 1, tab 21
[9] t 17.02.16, p55

This reflects the difficulty for WACHS in adequately staffing medical facilities in the Wheatbelt, despite the provision of funding. In addition, some of the GPs servicing the smaller hospitals withdrew their availability for emergency services within those smaller hospitals and NRH was left to cover the additional demands placed on their services by the lack of services from local GPs in the smaller hospitals. Some of those GPs agreed to participate in the Northam roster, but it was a matter of choice. This placed considerable pressure on medical practitioners, not necessarily trained in ED medicine.[10]

NRH ED was effectively controlled by nurses during the night, and patients who were admitted were either admitted under the duty doctor who had been present during the day, or their local GP if that GP had visiting rights to the hospital. It was not unusual for a patient to be admitted and their care later transferred to their local GP, if they had one and that GP had visiting rights to NRH.[11] There was in 2012 no formal *"handover"* between doctors in the way in which it is currently recognised in metropolitan tertiary hospitals.

Since 2008 there had been improvements in documentation at NRH which allowed nurses to handover from nurse to nurse at the change of shift, and in this way keep the

[10] Ex 1, tab 21
[11] t 17.02.16, p55

doctors rostered into the ED appraised of the treatment in progress for any patient they may need to review.

EVENTS OF JUNE 2012 WITH RESPECT TO THE DECEASED

18 June 2012

On 18 June 2012 the deceased tripped and fell while she was dusting in the lounge.[12] Her husband took her to the ED at NRH where, according to the ED notes, she was triaged at 11:15am and given an ATS of 3.

The deceased was unable to move her arm and on palpitation the nurse noted it was in an awkward position. The deceased had not taken any pain relief, had not fainted and believed she had caught her foot on the carpet runner. She had attended the ED ambulating, but stated she also had a painful rib. The deceased was given pain relief and referred for X-rays.

The deceased had a spiral fracture of her left humerus and Panadeine forte was not effective in controlling her pain so she was given IV morphine.

The deceased was provided with a back slab with collar and cuff and assessed by the occupational therapist who gave her some advice as how to manage at home with her arm in

[12] t 17.02.16, p26

a cast. She was discharged later that afternoon and returned home with her husband.[13]

Mr Saulys advised the court that when he brought his wife home she was still in pain and felt nauseous. She was still unwell the following morning and on 19 June 2012 Mr Saulys returned the deceased to the NRH ED.

19 June 2012

The NRH ED notes for 19 June 2012 indicate the deceased was triaged at 12:15pm and this time given ATS 4. She was recorded as presenting with nausea and vomiting since the medication provided for pain control the previous day for her fractured humerus. A note was made of the fact the deceased was susceptible to renal failure and that she was taking Panadeine forte. There was concern she may have reacted to the morphine. She arrived in a wheelchair with her left arm in a cast with back slab. On assessment her airway was intact, her breathing was spontaneous and she appeared pink and warm. Her mucus membranes were moist with no apparent dehydration. Her presentation was discussed with Dr Jinadu the sole doctor on duty in the ED.

Dr Jinadu reviewed the deceased at 2:40pm and recorded concerns with her vomiting as possibly due to a reaction to the morphine provided the previous day. The deceased reported she had not been able to retain oral fluids since the

[13] Ex 3, tab 1

previous day and that her left arm was still in pain. Dr Jinadu noted that on examination the deceased was not in obvious distress and her vital signs were all normal. He checked her chest which was clear and instructed she be placed in the ED and monitored while blood was taken for investigation. He specifically asked for a full blood count and that she be provided with tramadol.

Dr Jinadu advised the deceased and her husband it was not possible to admit her to a ward for a broken arm. However, there was concern about her propensity to suffer renal failure as the result of dehydration and, due to her vomiting, Dr Jinadu agreed she remain in the ED under observation with rehydration, while he awaited the results of the blood tests he ordered.

Only doctors can sign the form for blood investigations and Dr Jinadu ordered the tests while the deceased remained in the ED. The deceased's observations were in her expected range, her pain was controlled and she was given intravenous fluids. She did not vomit during her time in the ED.

On viewing the blood results[14] at 5:45pm Dr Jinadu observed the deceased had stopped vomiting but was still looking unwell. The results indicated both her renal function was mildly impaired and her haemoglobin slightly

[14] Ex 4

lowered. Due to the deceased's susceptibility to dehydration Dr Jinadu's plan was she be admitted to a ward under her normal GP overnight with IV fluids and there be repeat bloods taken in the morning to assess her renal function. Dr Jinadu did not write a request for repeat bloods on the grounds it was a decision for the deceased's GP to make the following day, following overnight fluid resuscitation.[15]

Mr Saulys had wanted his wife to be admitted to St John of God Hospital but Dr Jinadu did not consider it was warranted. Referring doctors have to give a reason for transfer and in the case of the deceased, following receipt of her blood results, Dr Jinadu believed she could be adequately dealt with at NRH by an overnight admission for rehydration.[16] Dr Jinadu outlined the rehydration intended for the deceased overnight to ensure she was adequately hydrated, but not over hydrated in view of her potential for cardiac failure.

The deceased was admitted to the ward and rehydrated overnight according to the fluid balance charts to a total of 1.5L fluid from presentation until discharge.

A statement obtained from a patient in the bed adjacent to the deceased over night from 19-20 June 2012, Gloria Lawrence, was that she had been in the bed next to the deceased and they had both been talking until 10pm that

[15] Ex 3, Ex 1 tab 14, Ex 4, t 17.02.16 p138
[16] t 17.02.16, p137

night. It is recorded in the progress notes the deceased did not vomit and Mrs Lawrence confirmed she did not hear the deceased vomiting.[17]

20 June 2012

Dr Spencer's normal practice was to conduct a ward round each morning to review her patients on the ward, and to review any additional patients admitted overnight who were patients of the Grey Street Surgery. During Dr Spencer's ward round she observed the deceased and was curious as to her reason for having been admitted over night, when her initial presentation appeared to relate to concerns with her pain medication and broken arm.

While Dr Spencer had been one of the GPs servicing NRH ED prior to 2012 and remained a GP with admission rights to the hospital, she was not part of the on call duty roster for the ED in 2012. Dr Spencer was never "*on duty*" in the ED post 2011 but did take care of her own inpatients when they were in hospital.[18] In evidence Dr Spencer advised the purpose of her round was to see her inpatients and to review any new patients who had been admitted in the previous 24hrs.[19] On her ward round she assessed each one of her patients and made a plan for their continued treatment.

[17] Ex 1, tab 20
[18] t 17.02.16, p55
[19] t 17.02.16, p63

Dr Spencer said after she had seen the nursing notes relevant to the deceased's admission, she then reviewed her with a plan in mind. Dr Spencer was satisfied from her observations of the deceased and her conversation with her that she did not need to physically examine the deceased because she could make a reasonable clinical assessment on the notes and the deceased's presentation on the morning of 20 June 2012. Dr Spencer pointed out it was not necessary to further investigate the deceased for dehydration. She could see from the fluid balance charts the deceased had been rehydrated with 1.5L of fluid IV, there was no record of the deceased vomiting since admission,[20] and the nursing observations were all within the normal range for the deceased. Dr Spencer was satisfied the deceased had been adequately rehydrated overnight.

It was Dr Spencer's opinion the most appropriate, and therapeutic course of action for the deceased was for her to be discharged home into her usual environment. The deceased was not happy at the prospect of going home and on every suggestion Dr Spencer put to her she avoided the prospect of going home.[21] It is not appropriate for a patient to be maintained in a hospital ward where there are clear indicators a patient is well enough for discharge and beds are usually in demand. Dr Spencer was quite clear about the fact the deceased would be better served by going home.

[20] Ex 1, tab 20
[21] t 17.02.16, p69

Dr Spencer wrote in the notes she had reviewed the deceased and that the deceased was stable, had been provided with a different pain killer and was due to see the fracture clinic at RPH at a future date.

The deceased was assessed by the physiotherapist to ensure she was given instructions as to how to manage her broken arm in her home setting and Dr Spencer referred to the deceased's reluctance to return home by making the comment *"making heavy weather of the broken humerus"* which reflected Dr Spencer's perception the deceased was resistant to the idea of returning home and managing with her broken arm. Dr Spencer was satisfied the deceased was drinking and eating appropriately and had not vomited while in hospital.

Mr Saulys was contacted and told he could take his wife home. Mr Saulys confirmed his wife did not want to return home and that Dr Spencer had pointed out it was not hospital protocol to maintain people in a hospital bed with a broken arm. The deceased had not been admitted because of her broken arm, but rather her vomiting which on all accounts was not continuing on the morning of 20 June 2012. There was therefore no longer a reason to keep the deceased hospitalised.

Unfortunately, the cannula providing the deceased's IV hydration was not removed before she left the hospital and

she still had it inserted when she returned home. This was a mistake and the hospital and Dr Spencer acknowledged as much.[22] The deceased was returned to NRH and the cannula removed. Both the presence of the cannula on discharge and the fluid balance chart indicate the deceased received hydration overnight between 19 & 20 June 2012.

Evidence (laboratory results) from the deceased's prior kidney insults indicate she responded well to rehydration and returned to normal kidney function as soon as her hydration had been addressed.[23]

Apparently once she was home the deceased refused to eat or drink,[24] although in evidence Mr Saulys did not explain that reference, and was adamant his wife always took fluids to keep herself hydrated.

In his correspondence Mr Saulys stated the deceased continued to be unwell on return from hospital on 20 June 2012. A statement was provided by a real-estate agent, who described the deceased as being quite unwell on 22 June 2012 when she went to visit the family.[25] The real estate consultant stated the deceased was so unwell that she asked Mr Saulys to return his wife to hospital and not bring her home until they had a diagnosis. She was concerned

[22] t 17.02.16, p83
[23] Ex 4, t 17.02.16, p108
[24] Ex 1, tab 6
[25] Ex 1, tab 19

the deceased would become dehydrated with all her vomiting.

23 June 2012

Mr Saulys did take his wife back to the hospital on 23 June 2012. She was seen by the duty doctor who recorded the deceased's presentation as being a problem with pain in her broken arm. In the ED attendance there is no mention of a complaint from the deceased about vomiting and diarrhoea.

The deceased arrived at 11:15am and was triaged at 11:28am as an ATS (fracture) 3. It was noted the deceased was in a back slab and sling and that she was due to attend the RPH fracture clinic on 25 June 2012. Her observations were in the normal range and the neurovascular observations for her broken arm were normal but with a pain score of 8/10. There was no swelling and her pulses were present. She attended in a wheelchair due to pain when walking and had been sleeping in the chair prior to her review at 11:40am. She advised the nurse she had last taken pain medication at 7am that morning and was now alert although still complaining of pain.

The deceased was reviewed by the duty doctor at 12:15pm and complained of tramadol not helping her pain. There is no mention in the notes of Mr Saulys saying he believed the deceased needed to be admitted and his asking that she be taken to St John of God. Mr Saulys said in evidence he was

told she could not go to St John of God and that would be consistent with the need for a referral from the doctor, but it is not recorded in the notes. The doctor gave the deceased analgesics and a prescription which Mr Saulys filled on the way home following, according to Mr Saulys, a refusal to admit her on that date.[26] There is no mention of the deceased vomiting while in NRH ED on 23 June 2012.

The deceased returned home in the care of her husband.

28 June 2012

Mr Saulys advised the inquest that on 28 June 2012 he had been looking after his wife at home when she informed him she was too sick for him to manage and she wished to go to hospital.[27] Mr Saulys took his wife to NRH and they arrived, according to the ED triage notes, at 12:25pm and were triaged at that time. The history recorded by the nurse was that the deceased had been vomiting for two days and now had a sore throat. She was asking to be transferred to St John of God, Subiaco, as her husband was unable to help her any further because he also had *"gastro"*.

The nurse noted the deceased was alert, warm, pink with moist mucous membranes. The triage nurse gave the deceased an ATS of 4 and at 12:45pm her observations were recorded and revealed a slightly low blood pressure, a

[26] t 17.02.16, p30, Ex 3 – Emergency Department 23 6 12
[27] t 17.02.16, p30

normal temperature with all other observations within her normal range.

The ED was very busy and Dr Jinadu was the only doctor dealing with patients with higher priorities. A number of patients were waiting to be seen by the doctor in the waiting area.

The deceased's observations were repeated at 1:30pm and her blood pressure had improved into her normal range. Her mucous membranes were now described as 'dry'.[28] The triage nurse discussed the deceased's presentation with Dr Jinadu while he was dealing with other patients. The normal practice was for Dr Jinadu to assess his own patients between 1 and 2pm while on duty in the ED. The ED was so busy Dr Jinadu was not able to see his own patients, but remained attempting to assess the patients in the ED who had a triage score of 1 or 2.

Based on the information provided to Dr Jinadu, which is reflected in the ED notes, NRH was not in a position to admit the deceased nor were there any beds available.[29]

Dr Jinadu cannot specifically recall the detail of that discussion with the triage nurse but it was consistent with

[28] Ex 4, tab 2 & Ex 2, tab 4
[29] Ex 3, tab 1

the practices and protocols in a busy NRH ED at that time.[30]

Mr Saulys was very unhappy. He felt he could not take care of his wife because he was sick himself. He asked that she be transferred to St John of God, Subiaco. On the deceased's presentation at that point in time it would not have been possible to transfer the deceased without further information.

Mr Saulys was dissatisfied and the triage nurse contacted Dr Spencer, the deceased's GP, who was attending a meeting in the hospital. Dr Spencer was not on duty and no longer did duty in the ED due to a difficulty with the times of the rosters and her own practice.

Dr Spencer came out of her meeting at approximately 2pm and was contacted about the presence of the Saulys in the ED and that they were unhappy and wanting attention.[31] Dr Spencer went to the ED and firstly spoke to nurse Ekkelboom about what was happening with the Saulys. It was explained to Dr Spencer that the deceased's observations were normal and that she had not vomited since she had been in the ED. The nurse advised Dr Spencer the deceased had something to drink, there were no beds on the ward and it was impossible to admit her, but Mr Saulys was refusing to take her home. The ED was

[30] t 17.02.16, p139
[31] t 17.02.16, p73

packed and Dr Jinadu was doing his best to manage the priority patients.

Dr Spencer then went to find the deceased and her husband and took them into the distressed relatives' room to get them away from the packed waiting room.

Dr Spencer agreed Mr Saulys was angry which was one of the reasons she had been called. He was very adamant he did not wish to take his wife home. He advised Dr Spencer the deceased had been vomiting, that she had been hallucinating and she needed to be admitted. He had brought a sample of the deceased's vomit with him to emphasise his point she was extremely unwell.

Dr Spencer discussed with the deceased and her husband that there were no beds available, and it was not possible to transfer patients to another hospital without a clinical reason to do so. Dr Spencer stated the deceased ate and drank in front of her[32] and this was consistent with the information Dr Spencer had been given that the deceased was rehydrating orally by drinking and had not vomited since she entered the hospital at 12:25pm.

With knowledge of the deceased's propensity to suffer renal injury as the result of dehydration, and in view of her prior vomiting, Dr Spencer decided it would be necessary to

[32] t 17.02.16, p75

institute some investigations to determine whether there were clinical reasons to seek a transfer of the deceased to another facility. Dr Spencer discussed with the deceased and her husband it would be necessary for the deceased to remain in the ED because there were no beds available, while those investigations were undertaken. Dr Spencer ordered urgent urea and electrolyte blood tests to see whether the deceased was suffering renal impairment. If the results came back with impaired kidney function there would be a clinical reason to transfer her to Perth.[33]

The deceased advised Dr Spencer she was unable to walk and when Dr Spencer asked for clarification she agreed that, in addition to the blood tests, she would also ask a physiotherapist to come and assess the deceased's mobility. Usually physiotherapists only assessed patients once they had been admitted, but in this case, due to the lack of beds and the difficulty with admitting the deceased, it was decided to request a physiotherapist come down and assess her in the ED.

Dr Spencer then arranged for the collection of bloods and the attendance of the physiotherapist. Dr Spencer went out to the nurses station and spoke to both nurse Ekkelboom and the ward clerk. She advised them of the investigations she had ordered for the deceased and also asked the ward clerk, because the nurses were so busy, to try and ensure

[33] t 17.02.16, p75 & 85

the deceased was kept supplied with fluids to take orally.[34] Mr Saulys' evidence is Dr Spencer did not examine his wife but rather berated her for taking hospital time.

Dr Spencer knew the deceased well and as an experienced GP believed she was in a position to conclude the deceased was well enough to remain in the ED while undergoing investigations to determine whether her renal function was deteriorating, despite her being coherent and alert. All the necessary investigations to determine whether the deceased was experiencing renal failure were ordered and Dr Spencer signed the forms for urgent blood tests and a request for physiotherapy to attend in the ED. She made a note of her actions in the hospital notes along with Mr Saulys reasons for nor wishing to take his wife home.

Dr Spencer then returned to the distressed relatives' room to advise the Saulys of what was occurring but Mr Saulys had already left. Dr Spencer returned Mrs Saulys to the ED. In evidence Dr Spencer said she asked for the bloods to be done urgently because she "*wanted the results back that day, not tomorrow*".[35]

Dr Spencer then returned to her own practice, for which she was late.

[34] t 17.02.16, p95
[35] t 17.02.16, p77

The pathology records indicate bloods were collected from the deceased at 2:40pm and delivered to the lab at 2:47pm for analysis. Blood can only be taken with the authorisation of a doctor.

Following having her bloods taken the deceased was assessed by a physiotherapist who made a note at 3:05pm that the deceased had poor balance, was complaining of dizziness and was unsteady on her feet with blurry vision. The physiotherapist advised that in her opinion the deceased was not to transfer or ambulate without assistance.

The ED progress notes indicate that at 3:30pm the deceased was assessed and noted to need rehydration, rest and restoration. There is a repeat note there were no beds available and it is evident staff had commenced ringing other hospitals which may have bed availability in view of the physiotherapist's concerns. The notes reflect Swan District Hospital was approached without success as the appropriate overspill for NRH ED. St John of God Subiaco, for the attention of Dr McComish, advised they would have no bed availability for the deceased until the following afternoon. There is a record the deceased was drinking and had consumed more than 300mls of water, but not passed any urine.

The deceased's blood results were emailed to the ED and Dr Spencer at 3:40pm. Those results indicated the deceased had the onset of acute renal failure. There is also a note her white blood cells showed a toxic response. Dr McComish advised the inquest that 'toxic' in the context of a blood test was a haematological term. It indicated that although there may not be a significant rise in the white cell neutrophil count, under the microscope there were premature cells in the peripheral circulation, called toxic granulation, and it is a sign of sepsis. Dr McComish clarified this was an abnormality but not a toxic substance as such, and referred to the appearance of white cells in the peripheral blood (peripheral blood being from where the blood was taken).[36] It is an indication there may be an infection occurring which is prompting a response but is not a sign of *"toxins"* in the blood.

Due to the fact both Dr Jinadu in the ED and Dr Spencer at her surgery were dealing with other patients they did not review the blood results immediately, however, it is clear the nursing staff recognised the results as showing a decline in the deceased's kidney function and continued to ensure the deceased drank as much oral fluids as she could. There is a note at 4pm that the deceased drank fluid offered to her and there were still no beds available for transfer.

[36] t 17.02.16, p110

The staff continued attempting to arrange other accommodation for the deceased while she remained in the ED. They telephoned Royal Perth Hospital, Swan District Hospital and St John of God, Murdoch, but the only indication which may have served the deceased was that Hollywood Private Hospital was trying to assess their patients to see if there was someone who could be discharged, so the deceased could be admitted. Any finalisation for transfer had to be done by a referring doctor to the receiving consultant.[37]

The ED treatment record indicates the deceased was provided with the following management between 12:50pm until her transfer later that night:-

12:50pm –500mls of hydralite
2:00pm – 200mls of tea and Panadeine
4:00pm – 200mls of water
5:00pm – 50mls of hydralite
5:30pm – laxis and maxalon ordered by Dr Jinadu
6:00pm – 200mls of water
7:00pm – 150mls of tea at which time she passed 75mls of urine.[38]

Due to the activity in the ED during that time attempts were also made to have another doctor who regularly worked in

[37] t 17.02.16, p142
[38] Ex 1, tab 14

the ED to attend however no one was available to assist and Dr Jinadu continued alone.

The deceased was in view of the ED staff at all times so they could observe how she was. While Dr Jinadu had been in the ED treating other patients and aware of the deceased he had not directly assessed her. He observed her blood results sitting on the nurses' station counter shortly before 4:55pm and immediately noted that her renal function had deteriorated when compared to her results on the 19th. He reprioritised her score and attended to her immediately. He asked her whether she had been able to pass any urine and advised her fluids needed to be maintained while the staff continued with their efforts to find a hospital which Dr Jinadu could persuade to take the deceased.

Dr Jinadu noted the fluids the deceased had taken orally up to that time and attempted to cannulate the deceased following some discussion with the deceased as to the difficulty in inserting a cannula. Dr Jinadu had successfully cannulated the deceased on 19 June for her rehydration but was not able to do so on 28 June. There was no other doctor or specialist available to the ED to assist Dr Jinadu with any other type of intravenous or central access at that time.[39]

[39] t 17.02.16, p141

Therefore the only option was to maintain the deceased's rehydration by way of oral hydration.[40]

Dr Jinadu also rang Dr Spencer to discuss, as a matter of courtesy, his intended treatment of the deceased in view of the fact Dr Spencer had been intending to return to the ED after her surgery to assess the deceased's condition with the investigations she had instigated.[41] Due to the deceased's clinical information being more concerning than earlier anticipated Dr Spencer agreed Dr Jinadu should continue with the measures he had instigated towards her transfer to a tertiary institution.

Dr Jinadu was eventually able to talk to a consultant at HH who agreed he would take over care of the deceased once she had been transferred.[42]

In Dr Jinadu's view at the time the deceased was placed into the ambulance she was not critically ill.[43] She was ill but not clinically critical otherwise it would not have been possible to transfer her without additional measures. She was ill and required care which could not be provided by NRH, regardless of the fact there were no beds available. In Dr Jinadu's view she had the potential to get much sicker if she did not get to a tertiary hospital, which was the plan.

[40] t 17.02.16, p124
[41] t 17.02.16, p150
[42] t 17.02.16, p142
[43] t 17.02.16, p143 & t 18.02.16, p37

AMBULANCE TRANSFER

Records indicate that on 28 June 2012 all tertiary hospitals were on code yellow and St John Ambulance Service was declining to transport patients whose transfer was not approved and accepted by a receiving hospital. Dr Cardachi had agreed to take over care of the deceased and had the advantage of having treated her at HH before. HH advised NRH when they had a bed available and advised they would be able to discharge a patient to make a bed available for the deceased at 7pm that evening.

NRH ED booked an ambulance at 5:20pm which arrived at Northam at 8pm. It was not an urgent transfer because the deceased was stable and being orally rehydrated.

The deceased's patient care record for the transfer from NRH to HH indicated the deceased was delivered to HH shortly after 9pm on 28 June 2012 and the reason for transfer was given as acute renal failure. The notes indicate she was in NRH ED with her left arm in a cast due to a prior injury. She is recorded as travelling comfortably with some feelings of nausea. The deceased was stable with no concern expressed by the paramedics during her transfer.[44]

[44] Ex 1, tab 25

HOLLYWOOD PRIVATE HOSPITAL (HH)

The deceased was admitted to HH on the evening of 28 June 2012 under the care of Dr Cardachi. Blood results taken that night at 10:35pm indicate the deceased's sodium level had decreased slightly, her potassium remained the same, her bicarbonate reading was within range, while her urea, creatinine and eGFR were still abnormal, but with no significant change from those taken at 2:40pm in Northam.[45] She was admitted to a ward and not a high dependency unit.

A review of investigations of the deceased whilst she was at HH indicate that, while her kidney impairment improved into the normal range by 3 July 2012, some of her full blood count results deteriorated. Her haemoglobin remained low, while her white blood count and neutrophils elevated considerably reflecting an ongoing septic process. Her increasing lactic acidosis from 1 July 2012 also indicated a concern with septicaemic shock.[46]

The deceased remained on the ward at HH until 2 July 2012. She was placed in ICU on 2 July 2012 due to her deteriorating condition and reviewed by Mr Stefan Ponosh. He stated the deceased had been *"admitted to intensive care at Hollywood Private Hospital in septic shock and kidney*

[45] Ex 4
[46] t 17.02.16, p125

failure".[47] In reality the deceased's creatinine had considerably improved from her admission on 28 June 2012, but her white blood cells indicated she was now in septic shock.

Mr Ponosh indicated that thorough investigation had failed to find any cause for sepsis beyond the deceased's swollen, grossly infected left toe as a source of sepsis. He went on to say *"although rarely causing such a severe illness, (the deceased) has had several episodes of significant systemic upset from infections in the past."* As a part of attempting to identify a source of sepsis and remove it, Mr Ponosh removed the deceased's big toe in the hope it may change her clinical course, although he was doubtful that her prognosis would improve.

The deceased continued to deteriorate and on 5 July 2012 the deceased died, the investigative results[48] indicating it was likely to be as a result of septicaemia causing multi-organ failure, rather than a primary issue with her kidneys. The source of the sepsis was never definitely identified with the potential candidates being her infected toe, her fractured arm and her apparent "*gastro*".

[47] Ex 1, tab 22
[48] Ex 4

EXPERT REVIEW

There were three separate reviews conducted which touched upon the death of the deceased.

Initially, Dr McComish as a physician who had prior contact with the deceased was asked to comment upon the deceased's stay in NRH only, without being provided with documentation relevant to HH, other than the death certificate. That review was asked for by the Coroners Court due to the family's concern with the deceased's treatment at NRH.[49]

Also, on behalf of the WACHS a review of NRH, including the death of the deceased, was conducted by Professor Gary Geelhoed, Chief Medical Officer, WA Department of Health.[50]

A review of practices in the ED only, was undertaken by Dr Helga Weaving, to consider improvements which could be introduced into NRH ED with a view to improving clinical outcomes with restructuring and different resourcing.[51] Dr Weaving pointed out in evidence her's was an external clinical review only and was not based on any interviews or discussions. It was a review looking for systems improvements to see whether improvements could be made in future systems for procedures in NRH ED. Dr Weaving

[49] Ex 1, tab 3
[50] Ex 1, tab 21
[51] Ex 1, tab 20

indicated she specifically preferred to do her review without understanding what happened subsequent to the management under review, so it did not prejudice her view of the evidence at the time.[52]

Dr McComish

Dr McComish was originally asked to provide an opinion on limited information from NRH alone. Later, for the purposes of the inquest, Dr McComish was provided with all the pathology results available for the deceased, from August 2011 through to her death in HH on 5 July 2012.[53] The results provided supported Dr McComish's ongoing view from prior to the deceased's death she did not have chronic kidney failure, but rather vulnerable kidneys. With appropriate rehydration the deceased's kidney function returned to normal.

Provided with the results from prior episodes of acute kidney injury, and knowledge of the recorded amount of fluids provided to the deceased overnight 19-20 June 2012 in NRH ED Dr McComish was comfortable in stating he no longer considered there was a necessity for retaking the deceased's bloods on the morning of 20 June 2012 following admission due to her vomiting and diarrhoea the previous day. Dr McComish agreed that in the circumstances with which Dr Spencer was confronted on the morning of

[52] t 18.02.16, p4
[53] Ex 4

20 June 2012 it was reasonable to discharge the deceased knowing she had been rehydrated with 1.5L of fluid. She had not vomited during her time in hospital and on review in the morning she appeared alert, hydrated and was obviously no longer clinically dehydrated[54].

With respect to the events of 28 June 2012 Dr McComish believed the deceased was again experiencing renal impairment which warranted investigation. This was undertaken and on receipt of those results the appropriate course of action was to seek tertiary admission at an appropriate facility in a position to rehydrate the deceased. Dr McComish was of the opinion IV hydration was essential but agreed that, in the circumstances of NRH ED where an attempt was made to cannulate the deceased which was unsuccessful, and without the availability of specialist doctors able to ensure IV access, it was appropriate to attempt to *"push oral fluids"*[55] pending transfer. This was precisely what was done when Dr Jinadu became aware of the deceased's results, and had been done prior to the results being available.

Dr McComish thought the deceased was critically ill by the time the results became available but she was not in that condition as a result of her acute kidney injury alone which

[54] t 17.02.16, p123
[55] t 17.02.16, p124

was being addressed, but rather because *"something else was going on"*.[56]

Review of the deceased's pathology results for her neutrophils indicate it was likely there was the beginning of an infective process. This is the *"toxic"* reference in the results which Dr McComish referred to as requiring intervention which could not be provided at NRH.[57]

Thus it was correct the deceased required admission and transfer to a tertiary facility which could provide her appropriate care, but that was not apparent and could not be justified on the deceased's presentation without the relevant investigation instituted by Dr Spencer to convince a tertiary facility she required transfer.

Once that was achieved there was still the difficulty of obtaining a suitable bed for the deceased which was only done after persistent efforts by the staff and doctor in the ED requesting assistance from a number of tertiary facilities without success, other than St John of God Subiaco, the following day, or HH later that night. The deceased, at that time, was not critical in the sense she was in danger of dying, but it was critical she be cared for in a facility with a capacity to do more than provide IV fluids for improved

[56] t 17.02.16, p122, 125
[57] t 17.02.16, p126

kidney function in a patient such as the deceased, who had a number of other serious co-morbidities.[58]

Dr McComish outlined for the court the effect of the deceased's comorbidities, including diabetes and heart disease on the development of septicaemia. Dr McComish described how people with diabetes often experience peripheral vascular disease and lack of sensation in their extremities. Consequently, when one was confronted with a septic reaction in a person with diabetes it was essential to look at their extremities, such as their feet, to see whether there was a wound or infection of concern which could be addressed by antibiotics. Often a person with diabetes was incapable of feeling the extent of the pain from such an infection and did not realise how bad the infection was. In the deceased's case she had been provided with antibiotics following her admission to HH but her developing sepsis continued.

Dr McComish was quite clear that reversing the deceased's renal impairment on 28 June 2012 would not have changed her outcome with respect to her developing sepsis.[59]

[58] t 17.02.16, p38/9
[59] t 17.02.16, p118

Professor Geelhoed

Professor Geelhoed's review was aimed at NRH generally and the ability of the ED as it was structured in 2012 to deal with increasingly unwell patients.[60]

In his review of the deceased's death with all the clinical results available, apart from those from HH who had declined to cooperate, Professor Geelhoed stated that the deceased's death did not relate to her management in NRH ED. While the deceased presented to NRH ED at 12:25pm on 28 June 2012 it was not possible to transfer her to a tertiary facility when there were no beds available, without some investigations to indicate transfer was essential. Due to the pressures on the NRH ED the one doctor on duty was not in a position to review the deceased on her original presentation in preference to other more critically ill patients.

The involvement of Dr Spencer, who was nothing to do with the ED, allowed investigations to be undertaken which would allow for the deceased's transfer should it prove necessary. Those results did support transfer, both from the pathology and physiotherapy perspectives. As soon as that was appreciated by the doctor on duty in the ED he intervened with the deceased's care as a priority patient, appropriately attempted IV access, which could not be achieved and ensured the deceased was encouraged to take

[60] Ex 2, tab 21

as much oral fluid as possible pending ED staff attempts to find the deceased a suitable bed at a tertiary facility.

Professor Geelhoed did not consider the deceased's pathology results on 28 June 2012 from NRH ED to be critical, but rather "*concerning*",[61] and in a person with the deceased's co-morbidities of diabetes and heart disease[62] needed to be addressed, which they were. Prior to receipt of the pathology results the deceased did not present as seriously unwell, but the pathology results supported the proposition she was becoming unwell for some unexplained reason. Her progress once at HH indicated it was unlikely that was due to renal failure, and it became obvious it was as the result of septic shock.

The deceased was successfully transferred that night, as reflected by the ambulance patient care records, and on presenting to HH was not ill enough to warrant ICU care. It was later, as the deceased's condition deteriorated, she was transferred to the ICU on 2 July 2012. Her state of septic shock was reviewed and amputation of her toe undertaken in an attempt to improve her prognosis. Unfortunately that was unsuccessful and the deceased died.

Professor Geelhoed considered the deceased's death to be more likely as a result of septic shock, rather than renal failure, and considered her cause of death on the

[61] t 18.02.16, p37
[62] t 18.02.16, p38

pathology/clinical results would more realistically be multi-organ failure as a result of septic shock of unknown etiology.

In discussion, Professor Geelhoed agreed with Dr McComish it was likely the deceased's sepsis arose from her infected toe, but was not prepared to say that was the most likely source of sepsis in view of the deceased's *"acknowledged gastro"* on presentation to the ED on 28 June 2012 and the apparent view she and her husband were suffering 'gastro' and had been in contact with others with 'gastro'.[63] Professor Geelhoed said it was quite possible the source of the sepsis was her 'gastro', as well as the infected toe. The whole process of septicaemia resulting in multiple organ failure which could not be reversed and so her death.

Dr Weaving

Dr Weaving stated her review of four cases from NRH ED indicated there were systemic difficulties which could be addressed by adopting different procedures which would require additional resources be provided to NRH ED. The purpose of Dr Weaving's review, from a tertiary ED perspective, was to determine which aspects of the system needed updating to allow more comprehensive care of patients in the ED. Some of the differences in practice could be accounted for by the difference between Dr Weaving's practice in a tertiary institution, without

[63] t 18.02.16, p43

intimate knowledge of her patients, and those in NRH ED which had to rely on GPs' general knowledge of patients in lieu of the facilities and resources available in a tertiary institution. As NRH ED becomes busier so it is less able to rely on prior knowledge of patients, and more important there be standard procedures and protocols for the care of patients.[64]

Ultimately, all three experts were of the view the care provided to the deceased at NRH ED was reasonable in the circumstances existing in NRH ED in 2012. There was only ever a single GP on duty for one 12 hour shift. There were no specialist positions to provide assistance.

In the event there were a number of priority 1 & 2 ATS patients warranting immediate attention the care provided to the deceased, who was not in that category until the blood results became available, was appropriate. Even on receipt of those blood results the deceased was not in such a state of immediate unwellness as to warrant any more care than that which was provided with the resources available until transfer could be achieved. An attempt was made for intravenous access which was unsuccessful and in its absence oral fluids pushed, while attempts were made to admit her to a tertiary facility as soon as possible.

[64] t 18.02.16, p15 & 16

MANNER AND CAUSE OF DEATH

The doctors at HH considered the deceased's death to be as a result of natural causes and provided a death certificate, without post mortem examination, identifying the deceased's death as being due to acute on chronic renal failure (2 weeks) cardiac failure (2 years) diabetes (5 years) with a contribution from the fractured humerus.[65]

The death was not reported to the Coroner.

Review of HH notes and pathology results indicate the death certificate is unlikely to be accurate. There is no evidence the deceased ever suffered chronic renal failure, although it is likely that at the time of her death the deceased's multi-organ failure (including renal failure) did reflect cardiac failure in view of her ischaemic heart disease.

Study of the results tabulated in Exhibit 4 indicate that each time the deceased experienced acute renal failure or acute kidney injury she recovered her normal renal function as soon as she was rehydrated. The experts are unanimous in agreeing the deceased's pathology results indicate the deceased did not have chronic renal failure, although she did suffer acute kidney injury when dehydrated, which returned to normal with hydration.

[65] Ex 1, tab 2

Review of the deceased's collective pathology results[66] indicate that at the time the deceased's bloods were investigated on 28 June 2012 she was suffering the onset of acute kidney failure, probably as a result of her reported repeated vomiting. This may have been due to the beginnings of a septic process as reflected by the toxic granulation observable on the blood screen. Some other process was taking place with the deceased, different from her prior episodes of dehydration leading to acute kidney failure. Rehydration alone was not going to be sufficient and the correct course of action was rehydration with admission to a tertiary facility able to cope with whatever was developing. The deceased could not have been transferred without clinical evidence warranting transfer.

Once transferred to HH the deceased was successfully cannulated and rehydration continued IV, as well as the institution of haemodialysis. The deceased's kidney failure was corrected but the developing sepsis was not, even with the introduction of antibiotics and surgery to amputate her infected toe.

The deceased's condition continued to deteriorate and she died on 5 July at HH. I appreciate the deceased's family believe someone must be responsible for the deceased's death but there is no evidence to suggest a different course of action at any point would have changed the outcome for

[66] Ex 4

the deceased, who was essentially suffering a range of complicated co-morbidities. The deceased's husband was correct to insist the deceased needed investigation on 28 June 2012. Once that investigation commenced appropriate management was instituted and the delays perceived by the deceased's husband would not have affected the outcome for the deceased in the time frame over which they occurred.

I am satisfied on the whole of the evidence the deceased was a 69 year old woman with a significant medical history, including a susceptibility to acute kidney failure with dehydration. Effective rehydration was a major concern but needed to be done carefully due to her known cardiac issues.

The medical evidence supports the proposition the deceased was experiencing an infective process of some kind towards the end of June 2012 which, with her complicated medical history, certainly warranted investigation. Those investigations were instituted on 28 June 2012 by Dr Spencer despite the deceased not appearing clinically unwell. The results of those investigations ensured the deceased was appropriately transferred to a tertiary facility capable of dealing with a complex medical scenario.

Despite transfer, effective rehydration, and eventually admission to HH ICU the deceased tragically died as a result

of multi-organ failure due to sepsis of an unknown origin, but possibly arising out of *"gastro"*, an infected toe, even the fractured humerus, or all three in combination.

I find death occurred as a result of Natural Causes.

IMPROVEMENTS MADE TO NRH ED SINCE 2012

Following the reviews instigated by WACHS of the circumstances facing NRH ED in 2012 a different model of practice was resourced allowing for more extensive medical and clinical coverage for NRH ED.

The inquest heard evidence from Dr Peter Stewart Barrat, Regional Medical Director for the Wheatbelt region of WACHS,[67] outlining the impact the additional resourcing has had on the operation of the NRH ED.

Essentially, the most significant effect has been the appointment of resident doctors dedicated to staff NRH. This allows for two doctors on duty in the ED each day, a doctor in the ED overnight and more access to specialist assistance. There is now a dedicated ED specialist to oversee the NRH ED and she has had the opportunity to overview and improve ED procedures and practices, medical officer assessment and orientation to ensure the care provided is more in line with that of a modern ED facility.

[67] Ex 2, tab 5 & t.18.02.16, p45-49

She is also in a position to provide regular training in emergency medicine assessment and management for all clinical staff throughout the Wheatbelt and has developed an ED medical officer orientation manual which was introduced in September 2013.

The ED now has a senior emergency doctor, either a fellow of the Australasian College of Emergency Medicine (FACEM) or Senior Medical Officer, every day, who is responsible for overseeing the ED and available for critical resuscitation or assisting in the medical management of complex patients.

In addition since 2012 there have been a number of clinical aids developed across the Health Department which are being piloted through WACHS for more remote and rural settings to assist practitioners in EDs with clinical management of patients generally. Observation charts and handover aids have been implemented which it is hoped will assist in the comprehensive management of patients in rural EDs.

There is no indication any of those measures in NRH ED in June 2012 would have altered the outcome for the deceased. While it is possible that with two doctors on duty in the ED she may have been seen by a doctor before 2pm on 28 June 2012, the same investigations would have been necessary. Pending those results there was still the difficulty of accessing an appropriate hospital bed in an

appropriate facility, although it may have expedited her IV fluid resuscitation. In view of the fact the deceased's kidney function returned to normal days before her demise, it is not clear this would have changed the outcome for the deceased. It may have made the deceased's family feel more reassured their well-loved wife and mother was being appropriately cared for.

E F Vicker
Deputy State Coroner
18 May 2016