CORONERS ACT, 2003

SOUTH *AUSTRALIA*

FINDING OF INQUEST

An Inquest taken on behalf of our Sovereign Lady the Queen at Adelaide in the State of South Australia, on the 22nd, 23rd, 24th and 27th days of March 2017 and the 15th day of November 2017, by the Coroner's Court of the said State, constituted of Mark Frederick Johns, State Coroner, into the death of Rita Ann Broadway.

The said Court finds that Rita Ann Broadway aged 66 years, late of 28 Cadell Street, Windsor Gardens, South Australia died at Windsor Gardens, South Australia on the 2nd day of January 2015 as a result of urinary tract infection with contributing hypertensive heart disease, diabetes mellitus and bladder catheterisation. The said Court finds that the circumstances of her death were as follows:

1. Introduction and cause of death

1.1. Rita Ann Broadway died on 2 January 2015. At the time of her death she was 66 years of age. An autopsy was carried out by Dr Stephen Wills of Forensic Science South Australia and his report of that examination found the cause of death to be urinary tract infection with contributing hypertensive heart disease, diabetes mellitus and bladder catheterisation[1], and I so find.

2. Medical history and background

2.1. Ms Broadway had a number of comorbidities. These included diabetes, chronic obstructive pulmonary disease, depression and bipolar disorder, lymphoedema, hypothyroidism, hyperlipidaemia, asthma, chronic pain, and borderline personality traits. She lived independently with the assistance of community supports and was on

[1] Exhibit C1a

a community treatment order for bipolar affective disorder. The community treatment order had been in place since the beginning of 2014. At autopsy she was also found to have a heart mass that was heavy in comparison with her body mass. Her left ventricular wall thickness was increased above what would be considered the upper limit of normal and suggested a degree of left ventricular hypertrophy. From this, Dr Wills was of the opinion that in life she suffered from hypertension, although that was not a part of her clinical records[2].

2.2. Ms Broadway's general practitioner had referred her to the Royal District Nursing Service (RDNS). The purpose of the referral was to request RDNS assistance with diabetes management, pressure sore care and a continence assessment. The RDNS visits commenced on 6 November 2013, that is just over a year before her death.

2.3. On 11 November 2013 Ms Broadway was admitted to the Royal Adelaide Hospital for bilateral lower leg cellulitis. During that admission her treatment included the placement of a long-term indwelling catheter for urinary incontinence. Following her discharge from the Royal Adelaide Hospital in November 2013 the RDNS assisted her with the management of her indwelling catheter as well as the other aspects of her care mentioned above.

2.4. Between November 2013 and 31 December 2014 her indwelling catheter was replaced by the RDNS on 13 occasions because it was bypassing or 'flooding'. There were also four further occasions when the indwelling catheter was changed by paramedics from the South Australian Ambulance Service (SAAS).

2.5. The last occasion on which Ms Broadway's indwelling catheter was changed was on 19 December 2014 when the RDNS attended her for that purpose.

3. The attendance at Modbury Hospital on 31 December 2014

3.1. Ms Broadway attended Modbury Hospital by way of ambulance on 31 December 2014. The SAAS patient report form[3] records that Ms Broadway told the officers that for a week she had suffered from a minor trauma to her vaginal area caused by the wheelchair

[2] Exhibit C1b
[3] Exhibit C9, page 126

and for two weeks she had suffered intermittent voiding patterns (increased production in IDC, worse odour and flooding of IDC), 'pain increased ++ today to the area' and was worse on movement. On examination she had a strong tachycardic radial pulse with respiration rates of 30. Her skin was warm, pink and sweaty and she complained of pain to the vaginal region. The area was red in colour and the pain was described by her as $^{8}/_{10}$ on movement. She was able to stand for the transfer. Penthrane was used to good effect. There were three blood pressure readings at approximately 15 minute intervals between 7:30pm and just after 8pm. They were high at $^{220}/_{110}$ then 220 systolic and 210 systolic with no recorded diastolic readings.

3.2. Ms Broadway arrived at Modbury Hospital at 8:05pm. She was seen by a member of the nursing staff who recorded a history of two weeks of increased urine output and smell. Increased pain in vaginal area. Nil trauma but area red. Abdominal soft and tender with IDC in situ for four weeks. The nurse's assessment was of a possible urinary tract infection. Pain was reported at $^{9}/_{10}$ and the initial vital signs were pulse of 83, blood pressure very high at $^{194}/_{108}$ and temperature of 35.5ºC. Professor Kelly who provided an expert opinion for the Court in this matter[4] noted that this abnormally low temperature was consistent with the presence of infection.

3.3. Ms Broadway was examined by Dr Quigley who was at that time a resident medical officer in the Modbury Hospital Emergency Department and in the final six months of his general practice training. Dr Quigley examined Ms Broadway on two occasions, the first of which was at 2020 hours and the second around 2100 hours. He also called on Dr Davidson the consultant in charge of the Department that night to ask her to conduct her own examination. Dr Quigley's first examination of Ms Broadway was noted by him as follows:

> '66 year old woman brought in by ambulance. Acute onset sever perineal/vaginal pain 2pm. Background of bladder prolapse, on long-term IDC per locum medical officer. Never seen gynaecology. Type 2 diabetic on insulin. Morbid obesity, COAD/current smoker, history of presenting complaint, very difficult historian. 4 week old IDC, has changes with RDNS. Blames no cushion on wheelchair today leading to subacute onset perineal and deep vaginal pain, denies fever, dysuria, gastrointestinal upset, never had anything like this before. On examination afebrile, severely hypertensive, other obs no abnormality detected. Clearly uncomfortable. Abdominal examination, obese but soft, non-tender without organomegaly. Vaginal exam with registered nurse chaperone.

[4] Exhibit C9

> Generally red introitus without frank cellulitis. Moderate periurethral swelling with the IDC draining clear urine. Urinalysis positive for leucocytes, red blood cells, nitrites and protein. Assessment, query IDC accident, query other. Management: analgese and review.' [5]

3.4. Dr Quigley's second interaction with Ms Broadway was at 2120 hours and his note reads as follows:

> 'Asleep on approach. Tried to get more history from Rita then starts screaming re pain again. If pain behaviour very incongruent. Wants IDC changed but can't tell me where to if I can't reinsert. From OACIS 1NB.' [6]

He made a note recording the outcome of her admission at the Royal Adelaide Hospital which I have described above. He continued:

> 'Seems quite fixated on 'my labia' plus long-term need to put antifungal there despite no recent candidial symptom. Query element dermatitis of multi resistant candida. Kindly reviewed by ED consultant J Davidson. Agrees no overt finding. Internal PV equals NAD except query slightest graze at 1 o'clock.'

3.5. Dr Davidson gave evidence. She did not have a recollection of the events of the evening, but her interpretation of this note was that she did a vaginal examination and that she did not find anything of significant concern other than a graze at 1 o'clock on the perineum which is the external area near the vagina[7]. Dr Davidson added that the perineum is a very vascular area and grazes in that region can be extremely painful. The upshot was that Ms Broadway was discharged at 2225 hours.

3.6. I should add that between the first and second reviews of Dr Quigley, and in accordance with his directions following the first review, Ms Broadway was administered Panadeine Forte and oxycodone at 2050 hours.

3.7. Dr Quigley prepared a discharge summary[8]. The discharge letter records the final medical diagnosis as 'vaginal/uterine prolapse - partial'. Dr Quigley explained in his evidence that this aspect of the discharge letter was automatically populated by the computer system and that he was unable to insert free text. His evidence was that had

[5] Exhibit C9, page 124
[6] Exhibit C9, page 133
[7] Transcript, page 151
[8] Exhibit C9, page 136

he been able to insert free text he would have said ‘resolved vaginal/labial pain, query IDC cause’. The free text part of the discharge summary reads as follows:

> 'Dear LMO Sanders
> Thanks for your r/vehicle of Rita; 66 yo F, presented to ED this evening distressed with vaginal/perineal pain. B/o Long term IDC (last 13/12) for? neurogenic bladder secondary to poorly controlled DM, Known urocoele – never seen by gynae, last IDC change 4/52 ago, BPAD, Denied recent tampon or other FB PV.
>
> Lives alone with supports. Systemically well. No fevers. No loss appetite. SAAS noted suprapubic pain but denied here. No GI Sx. No new vaginal d/c. Reported religious application of antifungals to labia long term to prevent chaffing.
>
> OE Afeb, hypertensive, other obs stable. Well looking. Quite abnormal illness behaviour-snoring on approach, gave some of HX, then began screaming re pain, all pain settled with barrier cream. Abdo SNT. PV with ED Cons J Davidson- generally reddened introitus, but not hot or tender like cellulitis. No clear vaginal atrophy. No Cx excitation, no FB. No overt d/c or malodour. IDC draining clear urine, some periurethral swelling from IDC, but no surrounding redness. Not frankly elevated in mood or psychotic.
>
> Urine- Leucs, nitries, protein and RBC all +ve, I can't put much weight on however
>
> Pain stayed settled for simple nurse-initiated barrier cream and then Rita became quite keen for d/c with further f/u by LMO.
>
> Ax
> ?Local irritation from wheelchair
> ??Pain from IDC
> ???Element of dermatitis medicamentosa from all creams placing ot area
> ????Lichen sclerosus/planus
> Mx
> Rita was happy with
> -Home
> -Simple local measures- no creams, no douching
> -To LMO for general r/v and view to gynae OPD referral
> -Reinforced old urology opinion that could have suprapubic catheter if needed
> -R/v earlier PRN'

3.8. In summary, it appears from that letter that Dr Quigley’s conclusion was that Ms Broadway had a local irritation from the wheelchair, she had pain from the indwelling catheter, element of dermatitis medicamentosa applied to the area and Lichen sclerosus/planus.

3.9. Professor Kelly provided an expert opinion as I have said and also gave evidence in this case. It was her opinion that urinary tract infection should have been the most important diagnosis on the table for Dr Quigley at the time of Ms Broadway’s presentation, or sepsis of a catheter associated urinary tract infection.

3.10. Professor Kelly said in her report[9] that catheter related urinary tract infections are among the most common healthcare acquired infections. Bacterial colonisation can result in a symptomatic bacteriuria (bacteria in the urine), symptomatic urinary tract infection or bacterial bloodstream infection (bacteraemia). Risk factors for the development of a urinary tract infection include duration the catheter has been insitu, female gender and diabetes. She said that patients with catheters do not have the same symptoms of urinary tract infection as those without. They do not report pain on urination, more frequent urination and the urge to urinate because the catheter is draining the bladder. The more common symptoms of a urinary tract infection are fever without another source, new flank tenderness, altered conscious state (delirium), catheter obstruction, acute haematuria or pelvic/suprapubic pain. She added:

> 'That said, all of these features are not very sensitive for identification of urinary tract infection.'

She said that the appropriate investigation for catheter association urinary tract infection is a urine culture and that urinalysis is unhelpful. Professor Kelly said treatment involves changing the catheter and treating with appropriate antibiotics. She noted that while catheter associated urinary tract infections are relatively uncommon, they carry considerable morbidity and mortality. In hospitalised patients with catheters mortality from catheter associated urinary tract infection has been reported to be about 4%.

3.11. Professor Kelly was asked to comment on the appropriateness of the medical management of Ms Broadway at the Modbury Hospital. She said in her report that the history and physical examination of Ms Broadway appears to have been reasonable. She said there are some potential deficits in the integration of the data. For example, the abnormally low temperature combined with acute onset of lower abdominal/genital pain made a urinary tract infection a significant possibility. She said this appears not to have been appreciated and that no specific investigations for this were performed other than a urinalysis which is unreliable in patients with catheters. Professor Kelly's opinion was that, at a minimum, urine should have been sent for culture and that given Ms Broadway's comorbidities, particularly diabetes, it would probably also have been prudent to take blood for a full blood count and CRP (looking for evidence of infection and renal functions tests). In summary, Professor Kelly was of the opinion that Ms Broadway should have received antibiotics for a suspected urinary tract infection

[9] Exhibit C12

and her catheter should have been changed. It was Professor Kelly's opinion that the decision not to change the catheter when requested by Ms Broadway[10] and in the presence of lower abdominal pain and an abnormally low temperature was unjustified. She said there was no evidence to suggest that catheter replacement was difficult and that even if it had not been possible to reinsert the catheter, assistance could have been sought from specialist units as would occur in any similar situation. It was therefore Professor Kelly's opinion that the medical management fell below what would be accepted by peers as reasonable practice. I accept Professor Kelly's opinion and so find.

3.12. It was also Professor Kelly's opinion that on the balance of probabilities Ms Broadway did in fact have a urinary tract infection present at the time of her presentation to the Emergency Department. Her reasons for that opinion are the abnormally low temperature, the sudden onset of pelvic pain and her report that urine was bypassing the catheter[11]. Professor Kelly notes that not all patients with urinary tract infection have fever and that some do in fact have low body temperature.

3.13. Furthermore, it was Professor Kelly's opinion that Ms Broadway's death could have been prevented if a catheter associated urinary tract infection had seriously been considered, investigated for and treated (with catheter change and antibiotics)[12]. She said that it is hard to quantify the likelihood of survival accurately, but that there is good evidence in patients with established severe sepsis that early treatment improves mortality and it would not be unreasonable to conclude that if infection is treated before it becomes severe, mortality is likely to be even lower. It was Professor Kelly's overall opinion that Ms Broadway's death was potentially preventable[13].

3.14. One of the signs that Professor Kelly said was suggestive of a catheter associated urinary tract infection was Ms Broadway's report that her catheter was 'flooding', or bypassing urine. There is no record of that history having been taken from Ms Broadway in the Modbury Hospital records themselves. The only record that can be found is within the SAAS patient record form. So it is quite clear that Ms Broadway told the paramedics about the symptom of flooding or bypassing. The clear evidence of Dr Quigley was that he was not aware of this and nor was Nurse Aganze who also

[10] The evidence very clearly shows that Ms Broadway wished to have her catheter changed while at Modbury Hospital
[11] The fact that urine was bypassing the catheter was not appreciated by Dr Quigley at Modbury Hospital
[12] At the Modbury Hospital Emergency Department visit
[13] Exhibit C12

gave evidence. They both said that if they had been told this they would have made a note about it, and there are no such notes. It would be surprising for Ms Broadway not to mention this subject for three reasons. Firstly, she wanted to have her catheter changed and one would think that would prompt her to mention the issue of flooding. Secondly, she had clearly told the SAAS paramedics and, thirdly, in a phone call the following day to the RDNS, of which more will be said later, she made reference to the issue of flooding and indeed stated that as she was getting dressed to leave the hospital the bed got soaked with urine[14]. The SAAS patient report form should have been available to Dr Quigley at some point during the course of the evening. However, it is possible that the form did not find its way onto Ms Broadway's notes until later in the evening, and maybe not at all that night. It would have been good practice for Dr Quigley to have sought out the SAAS patient report form to ensure that he had not missed anything, particularly given his own note recording that Ms Broadway was a difficult historian. It was certainly a missed opportunity, but I must proceed on the basis that Dr Quigley was not aware of this issue on the evening, and as it was one of the signs said by Professor Kelly to be suggestive of a catheter associated urinary tract infection it provides some explanation about why that diagnosis was not reached by Dr Quigley. That left the matter of the low temperature which Dr Quigley acknowledged he did not appreciate as significant in diagnosing sepsis at that time. He later came to understand its significance after attending a surviving sepsis update in the first half of 2016 which highlighted its importance to him.

3.15. Additionally, there was of course the pain being complained of by Ms Broadway and her insistence that the catheter be changed. These were important factors and I do agree with Professor Kelly that Dr Quigley ought to have changed the catheter on the night.

3.16. In summary, I did not take Professor Kelly to be strong in her criticism of Dr Quigley. Certainly the objective evidence is clear that Ms Broadway was most likely suffering from a urinary tract infection on the night.

3.17. I also find that had Ms Broadway's catheter been changed on the night of 31 December 2014 and had she been placed on antibiotic cover, her chances of survival would have been in the order of above 80% or 90%[15].

[14] Exhibit C11a
[15] Transcript, page 214

3.18. There is no need for me to comment on the role that Dr Davidson played on the night given her lack of memory and the fact that the only entry in the casenotes of her involvement was not her own, a fact of which I make no criticism as it was merely indicative of a busy Emergency Department in which more senior medical officers are asked to review matters with notes being written by the more junior medical officers.

4. Ms Broadway's telephone call to the Royal District Nursing Service on 1 January 2015

4.1. On the morning of 1 January 2015, that is the morning following her visit to the Modbury Hospital Emergency Department, Ms Broadway made a telephone call to the RDNS and spoke to Ms Beverley Collette Bailey who is a registered nurse. Ms Bailey was on duty in the call centre at RDNS that morning and it was she who took the call from Ms Broadway. She did not have an independent memory of the telephone call, but had an opportunity to refresh her memory from the audio recording of the call which was also played in Court. A transcript of the call was also made[16]. I set out hereunder the contents of that transcription:

'Colette:	good morning Rita, it's Colette, I'm one of the nurses. How can I help you?
Rita:	Hi Connie. Look I wonder if I.... Look, um, I've been flooding
Colette:	uh hmm
Rita:	for quite a few days now and I've got a really bad vaginal pain yesterday. It got worse and worse and I really couldn't move. Anyway, I asked a friend to come and see me about 6 O'clock to keep me company. The pain got worse and worse so we phoned up the ambulance and I went to Modbury hospital. I was only in there for a few hours and (indistinct words) asked would they please change the catheter. And that registrar said he wouldn't or couldn't, said he, I don't know why but he wouldn't. As I was getting dressed
Colette:	sorry?
Rita:	As I was getting dressed to leave hospital, about 9 or 10, 10 o'clock last night, the bed got soaked with urine
Colette:	with urine?
Rita:	Yes
Colette:	Yes, uh huh
Rita:	is it possible to have my, have it changed today please?

[16] Exhibit C11a

Colette: No, I don't think so, um, not today um, because I'm sure if they needed to change it last night when you were at the hospital,

Rita: They wouldn't do it. It's causing me a lot of pain still.

Colette: Yeah. Are you taking any pain tablets? Any Panadol or anything?

Rita: Yeah, I'm doing it regularly, 4 hours

Colette: Have you got a hot pack or anything like that?

Rita: I'm on my own at the moment and it's very difficult to stand up, around

Rita: I'm disabled

Colette: Yeah, I know. Um, yeah well no unfortunately we wouldn't be able to change that for you, umm, err, so

Rita: Why wouldn't you be able to change it for me?

Colette: Because it's not due to be changed yet.

Rita: Yes, but well the pad was soaked this morning darling

Colette: sorry?

Rita: my pad was absolutely soaked this morning

Colette: Yeah, umm

Rita: and I'm really distressed still

Colette: Yes, I can understand that. Um, um, (sighs and typing sounds and long pause). But did you talk to them at the hospital about that last night?

Rita: I told you. They didn't have the equipment, they didn't really understand what I needed. All I know is that the pack, the. I've got all the equipment here.

Colette: Yeah, but they would have had that at the hospital. Did you talk to them about it?

Rita: He wouldn't do it. He said he wouldn't be able to get it back in

Colette: (sighs then small laugh) OK

Rita: that's exactly what he said.

Colette: um (typing sounds)

Rita: You can't help me?

Colette: No, unfortunately not today. Let me just have a look and see when you had... When did you have your catheter changed last?

Rita: George (unclear on name) changed it about 4 or 5 weeks ago.

Colette: Yeah, well, you know, unfortunately not today and I think probably if you're having the abdominal pain and everything, you probably should go back to Modbury.

Rita: No. They won't help me there. (indistinct words). If I flood very badly, I'll phone you up again.

Colette: All right, yeah, that's probably the best thing to do.

Rita: Are your nurses very busy today?

Colette: They are very, very busy today, yeah.

Rita: You know when that happens, I always feel that I'm not important.

Colette: Oh no, you know that's not true Rita.

Rita: Because the lady I spoke to yesterday, I think her name was Kate,

Colette: Yeah, no, it was, oh yeah Kate, yeah, uh hmm

Rita: She said I should put ice on my front passage and I did that for an hour or two but it just.. the pain just got worse and worse

Colette: Yeah, OK, um, well, you know I just think, you know it sounds like you might have either, I don't know. Have you had trouble with your periods before?

Rita: I'm 66, my periods stopped when I was 58.

Colette: Oh! When you say you're flooding, it was your catheter that was flooding, not um, not, not

Rita: Blood? No.

Colette: Well unfortunately, you've been reviewed by Modbury at the hospital last night and the ambulance and they haven't changed it. So unfortunately we won't be able to do. The best I can do is probably get someone to put a visit in to come and see you, um, maybe tomorrow.

Rita: That'll be good.

Colette: OK. All right then.

Rita: Do you know who that might be?

Colette: I have no idea.

Rita: OK.

Colette: OK.

Rita: Thank you.

Colette: OK, bye bye. '

4.2. It should be noted that the transcript[17] was prepared by the RDNS and not the Court. The words in parenthesis on page 2 of the transcription were made by the person who created the transcript and do not necessarily reflect my own interpretation of the audiotape to which I have also listened. That said, the transcription is otherwise an

[17] Exhibit C11a

objective record of the telephone call. The transcription standing alone without the aid of the audio recording is in itself concerning. To my mind it reflects a lack of empathy on Ms Bailey's part in her attitude to Ms Broadway and I would go so far as to say that in some respects her approach was somewhat dismissive. I was urged by her counsel to bear in mind that Ms Bailey gave evidence that she proceeded on the assumption that if there had been a significant medical issue and a clinically indicated need for the catheter to be changed, Ms Bailey would have expected that to have taken place at the Modbury Hospital. As her counsel said, Ms Bailey made her assessment of Ms Broadway's situation in a context in which she was aware that only some 10 or 11 hours earlier Ms Broadway had been seen by a doctor at the Modbury Hospital and that the signs and symptoms being described by Ms Broadway in the telephone call appeared to be the same as those she said she had presented with to the Modbury Hospital the previous night. Of course, Ms Bailey did not know and could not be expected to know that the history of flooding had not been appreciated by the staff of the Emergency Department and in particular the doctor who assessed her. I accept and find that Ms Bailey was influenced, and quite reasonably influenced, by her knowledge from what Ms Broadway told her that Ms Broadway had been at the hospital the night before with these symptoms which were the same as those she was reporting in the telephone call and there was nothing to indicate a development or change in the signs or symptoms. Although as Professor Kelly said, it was for Ms Bailey to reach her own opinion on the matter and not merely to accept that of another health professional. The reality is that the RDNS does not provide a diagnostic service and it is consistent with traditional medical hierarchy that a nurse would be deferential towards the opinion of a doctor in an Emergency Department in respect of a patient seen by the doctor only 10 or 11 hours previously.

4.3. That said, the transcription of the telephone call does speak for itself and my remarks about the somewhat dismissive nature of Ms Bailey's contribution to the conversation stand. In particular it is concerning that Ms Bailey was told by Ms Broadway at the beginning of the conversation that she had asked for the catheter to be changed while at the Modbury Hospital, the request was refused, and as she was getting dressed to leave the hospital the bed got soaked with urine. Indeed, Ms Bailey then repeated the reference to urine and it was confirmed by Ms Broadway. Against that background it is very surprising that just before the end of the conversation Ms Bailey demonstrated, by asking whether Ms Broadway had had trouble with her periods before, that she did

not appreciate that the reference to flooding was a reference to urine and not menstrual blood. Bearing in mind that Ms Broadway is 66, a fact that she ought to have been aware of from a glance at Ms Broadway's computer records, which on her evidence she routinely looked at when a regular patient made a call[18], Ms Bailey should have realised that menstruation was an unlikely explanation for Ms Broadway's complaint. The impression I have is that Ms Bailey was not paying close attention to the concerns being expressed in the telephone conversation by Ms Broadway. If she had been paying close attention it is difficult if not impossible to conceive of how she would have managed to gain the impression that an older lady with all of the comorbidities that Ms Broadway had, which are typically associated with older persons, and who in any event had mentioned that she had flooding and that her bed was soaked with urine, was in fact talking about a menstrual problem.

5. Recommendations

5.1. Pursuant to Section 25(2) of the Coroners Act 2003 I am empowered to make recommendations that in the opinion of the Court might prevent, or reduce the likelihood of, a recurrence of an event similar to the event that was the subject of the Inquest.

5.2. Professor Kelly cited a number of papers relating to the subject of catheter associated urinary tract infections[19]:

> 'Nicolle LE. Catheter associated urinary tract infections. Antimicrobial Resistance and Infection Control 2014, 3:23.
>
> Lee JH. Factors That Affect Nosocomial Catheter-Associated Urinary Tract Infection in Intensive Care Units: 2-Year Experience at a Single Center. Korean J Urol. 2013; 54(1): 59-65.
>
> Hooten TM et al. Diagnosis, Prevention, and Treatment of Catheter-Associated Urinary Tract Infection in Adults: 2009 International Clinical Practice Guidelines from the Infectious Diseases Society of America. Clinical Infectious Diseases 2010; 50:625-663.
>
> Daniels KR. Trends in catheter-associated urinary tract infections among a national cohort of hospitalized adults, 2001-2010 Am J Infect Control 2014;42(1):17-22.
>
> CAUTI Insertion Checklist, Health Protection Scotland, Version 3.0, September 2008'

[18] Transcript, pages 262-263
[19] Exhibit C12b

5.3. Professor Kelly produced a document entitled Diagnostic criteria for Catheter-Associated Urinary Tract Infection (CAUTI) in adults[20] which might service as the basis for adoption as a protocol within the South Australian health system. Accordingly, I recommend that the Minister for Health investigate the development of a protocol for diagnostic criteria for catheter associated urinary tract infection in adults within the South Australian health system and suggest that Exhibit C12c may provide a starting point for the development of such a protocol.

Key Words: Medical Treatment; RDNS; Urinary tract infection

In witness whereof the said Coroner has hereunto set and subscribed his hand and Seal the 15th day of November, 2017.

State Coroner

Inquest Number 3/2017 (0013/2015)

[20] Exhibit C12c