QUEENSLAND COURTS

OFFICE OF THE STATE CORONER

FINDINGS OF INQUEST

CITATION:	**Inquest into the death of Verris Dawn Wright and Jasmyn Louise Carter (Carter-Maher)**
TITLE OF COURT:	Coroners Court
JURISDICTION:	Toowoomba
FILE NO(s):	2013/4617 & 2014/2777
DELIVERED ON:	28 August 2015
DELIVERED AT:	Brisbane
HEARING DATE(s):	12 May 2015, 4-7 August 2015
FINDINGS OF:	John Lock, Deputy State Coroner
CATCHWORDS:	Coroners: inquest, health care related death, recognising and responding to deteriorating patients, sepsis awareness, Queensland Adult Deterioration Detection System tools

REPRESENTATION:

Counsel Assisting:	Ms M Jarvis Office of the State Coroner
Mr Peter Wright:	Mr S Hamlyn-Harris I/B Charles Lumsden
Mrs Jeanella Carter:	Mr A Anderson of Boe Williams Anderson
Darling Downs Hospital and Health Service and Staff:	Mr C Fitzpatrick I/B Corrs Chambers Westgarth
Various Nursing Staff:	Ms S Robb I/B Roberts & Kane

Contents

Introduction

1. Mrs Verris Dawn Wright was 86 years old when she died at Oakey Hospital on 26 December 2013.

2. Mrs Wright had been brought to the hospital by her family two days earlier, on Christmas Eve, with a complaint of abdominal pain and a burning feeling when urinating. She was seen by a doctor, who considered she had a urinary tract infection or kidney stones. Mrs Wright was given pain relief and antibiotics. After several hours, she reported feeling better and was discharged into the care of her family.

3. On the morning of Boxing Day, 26 December, Mrs Wright's family again brought Mrs Wright to the hospital. Hospital staff were told that Mrs Wright had started vomiting on the morning of Christmas Day and was experiencing severe abdominal pain as well as urinary incontinence. Being Boxing Day, the staffing of the hospital that day was less than usual, with no office staff, and the Doctor and Director of Nursing on call but not present at the hospital at the time Mrs Wright came in.

4. Mrs Wright was assessed in the Emergency Department (ED) by a registered nurse, who took a set of observations of her vital signs at about 8:45am. She was triaged to see a doctor within a 30 minute period. She remained in the ED for the rest of the morning under the care of nursing staff. Attempts were made to have Mrs Wright assessed by the on-call Doctor.

5. By late morning and towards midday, Mrs Wright's condition had significantly deteriorated. Blood samples taken around this time showed changes consistent with an infectious illness. Mrs Wright's family were consulted and nursing staff began to treat Mrs Wright palliatively. Mrs Wright passed away a short time later, at 12:30pm.

6. From the time that she arrived at the hospital until the time of her death, Mrs Wright had not been seen by a doctor nor had any active treatment been instituted by nursing staff.

7. Autopsy confirmed the immediate cause of Mrs Wright's death as septic shock (effectively very low blood pressure due to a severe infection). Signs of sepsis,

which Mrs Wright exhibited at the hospital, included low temperature, fast heart rate, fast respiratory rate and a high white blood cell count. There was no evidence at autopsy of a urinary tract infection.

8. As a result of Mrs Wright's death the Darling Downs Hospital and Health Service (DDHHS) conducted a Root Cause Analysis. A recommendation was made that the DDHHS mandate, as a matter of urgency, implementation of a tool to help clinical staff recognise and respond to deteriorating patients. This tool is called the Queensland Adult Deterioration Detection System, or "QADDS".

9. In August 2014, some seven months after Mrs Wright's death, a patient died in similar circumstances at the Warwick Hospital, another DDHHS facility. By the time of this admission the QADDS tool (a key recommendation following Mrs Wright's death) was in place.

10. Jasmyn Louise Carter (Carter-Maher) was 17 years old when she presented to the Warwick Hospital Emergency Department in the afternoon of Sunday, 3 August 2014. She had played a game of Australian Rules football the day before and was complaining of a headache, dizziness, and aches in her arms and legs. Jasmyn was initially assessed by a doctor and admitted to a ward overnight, where she was given intravenous fluids and pain relief.

11. Jasmyn remained in the care of nursing staff that evening, with a doctor not present but available on call. Jasmyn's vital signs were observed and recorded using the QADDS tool. If the recommendations for action noted on the QADDS tool had been followed an emergency call should have been made soon after her attendance at the ED or any time after her admission to the ward, due to Jasmyn's very low blood pressure readings.

12. In the early hours of Monday morning, 4 August, Jasmyn began experiencing breathing difficulties. Nursing staff who came to assist observed that a purple rash had developed on Jasmyn's face, abdomen, chest and neck. They were unable to obtain a blood pressure reading from Jasmyn at this time.

13. The treating doctor was contacted and advised of Jasmyn's deteriorating condition. A short time after the doctor arrived at the hospital to attend to Jasmyn, she stopped breathing and went into cardiac arrest. CPR and other resuscitation

efforts were performed, however these were unsuccessful and Jasmyn passed away at around 3:30am.

14. Autopsy found the cause of death was due to meningococcal septicaemia, a serious and deadly condition that occurs when meningococcal bacteria enters the bloodstream and multiplies, damaging the walls of blood vessels and causing internal bleeding and organ failure.

15. As with Mrs Wright, during Jasmyn's admission her abnormal physiological observations were consistent with her suffering from a severe infection. The underlying cause of Mrs Wright's infection was an obstruction in her small bowel. The source of Jasmyn's infection was meningococcal bacteria. Unfortunately, in both cases, clinical staff appeared to have failed to recognise or explore sepsis as a possibility.

Issues for joint inquest

16. A decision was made to conduct a joint inquest pursuant to s 33 of the *Coroners Act 2003* in relation to these deaths. Although the deaths occurred at different times and places and different causes of death were also apparent, they:
    - Involve the same District Hospital and Health Service;
    - Involve the overarching systemic issue of the clinical detection of a deteriorating patient; and
    - Involve the adequacy (or not) of the Hospital and Health Service's implementation of the Queensland Adult Deterioration Detection System – in Ms Wright's case the tool had not yet been implemented, in Ms Carter-Maher's case the tool had been implemented but arguably was not utilised properly.

17. The issues for the joint inquest were settled at a Pre-Inquest hearing as follows:
    i. The findings required by section 45(2) of the *Coroners Act 2003*; namely the identity of the deceased persons, when, where and how they died and what caused their deaths;
    ii. The circumstances leading up to each of the deaths;
    iii. The adequacy and appropriateness of the care provided to Mrs Verris Wright by Oakey Hospital in the lead up to her death;
    iv. The adequacy and appropriateness of the care provided to Jasmyn Carter-Maher by Warwick Hospital in the lead up to her death; and

v. The adequacy of the Darling Downs Hospital and Health Service's implementation and use of the Adult Deterioration Detection System.

Adult Deterioration Detection Systems and Sepsis Awareness

18. The failure to recognise and respond to clinical deterioration in a patient has been consistently noted to be a significant factor in many hospital related adverse events. Sepsis is one of the leading causes of death in hospital patients worldwide. Sepsis is a life-threatening condition that arises when the body's response to infection injures its own tissues and organs. Sepsis can present in any patient, in any clinical setting and is a medical emergency. Despite this, awareness of sepsis and the need for prompt and targeted treatment is limited. Patients in the Queensland public health system can deteriorate rapidly if their deterioration is unrecognised and is not managed appropriately.

19. The Queensland Patient Safety Unit Nursing Director Ms Elizabeth Robertson provided evidence in the form of a statement and oral evidence at the inquest. The Adult Deterioration Detection System (ADDS) is an early warning and response system. It was developed as part of a research project carried out by the University of Queensland for Queensland Health and the Australian Commission on Safety and Quality in Health Care. The aim of the project was to investigate the design and use of observation charts in recognising and managing clinical deterioration, including the design and evaluation of a new adult observation chart that incorporated human factors principles.

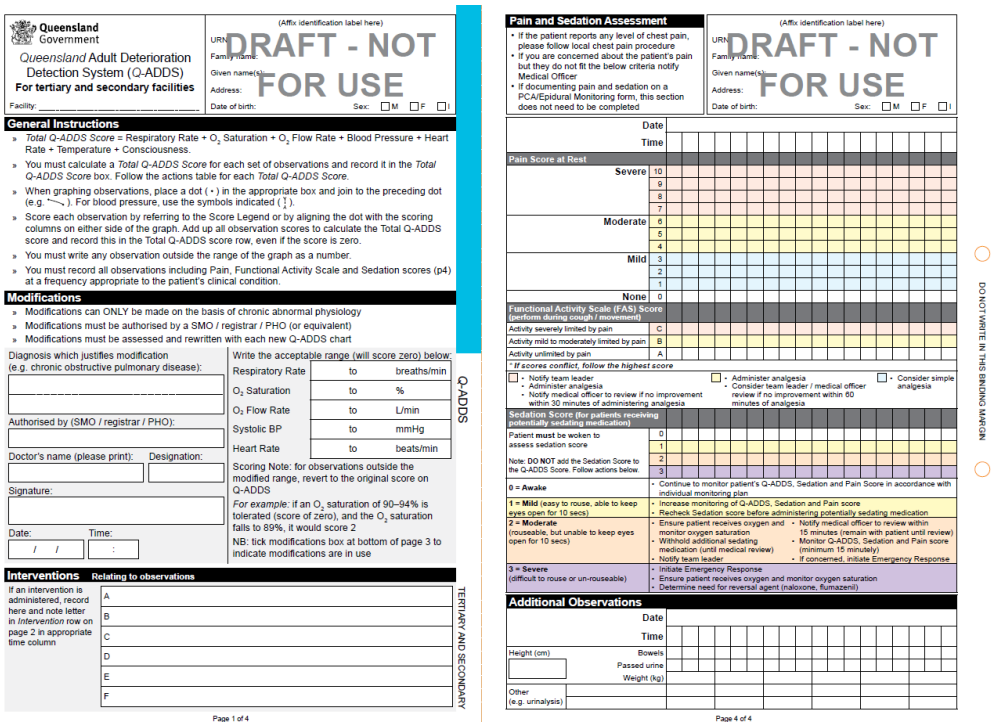
20. It was found during the course of the research project that chart design was found to have a statistically significant effect on the number of errors committed whilst recording patient signs, indicating that chart design influenced performance. The chart has been designed with the very specific aim of being a tool to detect patient deterioration, rather than being an all-encompassing general observation chart. The focus of the chart has been on presenting the most important vital signs for detecting deterioration in most patients in a user-friendly manner. The chart that was subsequently developed has been the subject of user testing and various changes have been made as a result of such feedback.

21. The Q-ADDS tool charts seven vital signs being respiratory rate, O2, flow rate, O2 saturation, blood pressure, heart rate, temperature, and consciousness. The charts are set out such that they include a system for tracking changes in vital

signs over time and integrate both a single parameter emergency call and a multi parameter colour-coded track and trigger system to facilitate the detection of deterioration.

22. To date 36 early warning systems have been developed but since the devolution of public sector health services to various hospital and health service districts, there are no statewide policies to mandate the use of early warning and response tools. However, the National Safety and Quality Health Service Standards does require health services to establish and maintain systems recognising and responding to clinical deterioration. Q-ADDS, if used as intended, meets the requirements of the standard.

Q-ADDS chart



Queensland Government

Queensland Adult Deterioration Detection System (Q-ADDS)

For tertiary and secondary facilities

Facility: _____

(Affix identification label here)

URN:

Family name(s):

Given name(s):

Address:

Date of birth: Sex: ☐M ☐F ☐I

DRAFT - NOT FOR USE

General Instructions

- *Total Q-ADDS Score* = Respiratory Rate + O_2 Saturation + O_2 Flow Rate + Blood Pressure + Heart Rate + Temperature + Consciousness.
- You must calculate a *Total Q-ADDS Score* for each set of observations and record it in the *Total Q-ADDS Score* box. Follow the actions table for each *Total Q-ADDS Score*.
- When graphing observations, place a dot (•) in the appropriate box and join to the preceding dot (e.g. ⁻╲₋). For blood pressure, use the symbols indicated (⁾).
- Score each observation by referring to the Score Legend or by aligning the dot with the scoring columns on either side of the graph. Add up all observation scores to calculate the Total Q-ADDS score and record this in the Total Q-ADDS score row, even if the score is zero.
- You must write any observation outside the range of the graph as a number.
- You must record all observations including Pain, Functional Activity Scale and Sedation scores (p4) at a frequency appropriate to the patient's clinical condition.

Modifications

- Modifications can ONLY be made on the basis of chronic abnormal physiology
- Modifications must be authorised by a SMO / registrar / PHO (or equivalent)
- Modifications must be assessed and rewritten with each new Q-ADDS chart

Diagnosis which justifies modification (e.g. chronic obstructive pulmonary disease):

Authorised by (SMO / registrar / PHO):

Doctor's name (please print): Designation:

Signature:

Date: / / Time: :

Write the acceptable range (will score zero) below:

Respiratory Rate	to	breaths/min
O_2 Saturation	to	%
O_2 Flow Rate	to	L/min
Systolic BP	to	mmHg
Heart Rate	to	beats/min

Scoring Note: for observations outside the modified range, revert to the original score on Q-ADDS

For example: if an O_2 saturation of 90–94% is tolerated (score of zero), and the O_2 saturation falls to 89%, it would score 2

NB: tick modifications box at bottom of page 3 to indicate modifications are in use

Interventions Relating to observations

If an intervention is administered, record here and note letter in *Intervention* row on page 2 in appropriate time column

A B C D E F

Q-ADDS

TERTIARY AND SECONDARY

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Pain and Sedation Assessment

- If the patient reports any level of chest pain, please follow local chest pain procedure
- If you are concerned about the patient's pain but they do not fit the below criteria notify Medical Officer
- If documenting pain and sedation on a PCA/Epidural Monitoring form, this section does not need to be completed

(Affix identification label here)

URN:

Family name(s):

Given name(s):

Address:

Date of birth: Sex: ☐M ☐F ☐I

DRAFT - NOT FOR USE

Date

Time

Pain Score at Rest

Severe 10 9 8 7

Moderate 6 5 4

Mild 3 2 1

None 0

Functional Activity Scale (FAS) Score (perform during cough / movement)

Activity severely limited by pain C

Activity mild to moderately limited by pain B

Activity unlimited by pain A

** If scores conflict, follow the highest score*

☐ • Notify team leader • Administer analgesia • Notify medical officer to review if no improvement within 30 minutes of administering analgesia

☐ • Administer analgesia • Consider team leader / medical officer review if no improvement within 60 minutes of analgesia

☐ • Consider simple analgesia

Sedation Score (for patients receiving potentially sedating medication)

Patient **must** be woken to assess sedation score: 0 1 2 3

Note: **DO NOT** add the Sedation Score to the Q-ADDS Score. Follow actions below

0 = Awake	• Continue to monitor patient's Q-ADDS, Sedation and Pain Score in accordance with individual monitoring plan
1 = Mild (easy to rouse, able to keep eyes open for 10 secs)	• Increase monitoring of Q-ADDS, Sedation and Pain score • Recheck Sedation score before administering potentially sedating medication
2 = Moderate (rouseable, but unable to keep eyes open for 10 secs)	• Ensure patient receives oxygen and monitor oxygen saturation • Withhold additional sedating medication (until medical review) • Notify team leader • Notify medical officer to review within 15 minutes (remain with patient until review) • Monitor Q-ADDS, Sedation and Pain score (minimum 15 minutely) • If concerned, initiate Emergency Response
3 = Severe (difficult to rouse or un-rouseable)	• Initiate Emergency Response • Ensure patient receives oxygen and monitor oxygen saturation • Determine need for reversal agent (naloxone, flumazenil)

Additional Observations

Date

Time

Height (cm) Bowels

Passed urine

Weight (kg)

Other (e.g. urinalysis)

DO NOT WRITE IN THIS BINDING MARGIN

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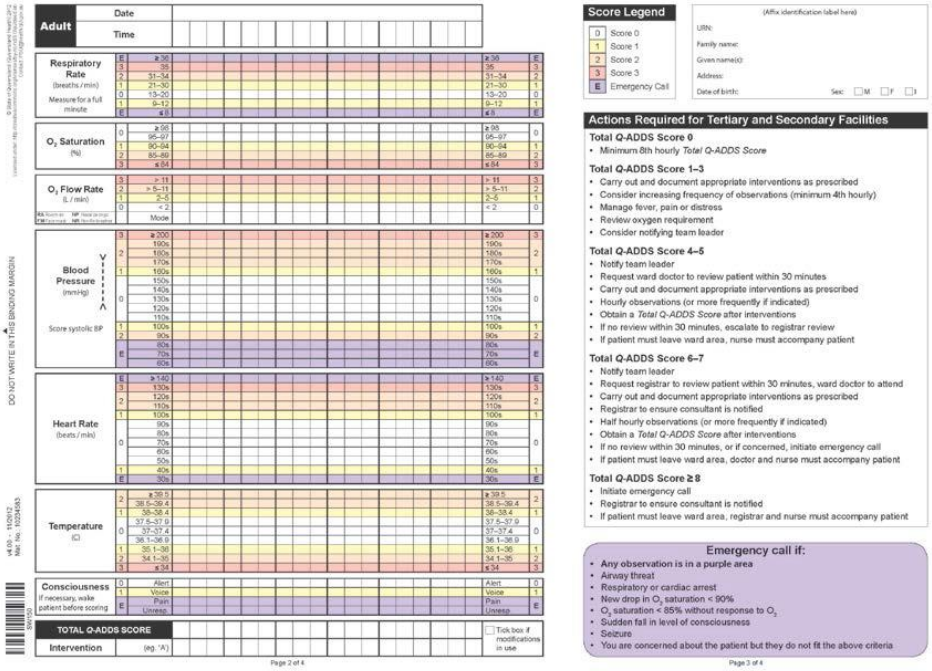

Circumstances of the Death of Mrs Verris Dawn Wright

Presentation on 24 December 2013

23. Mrs Wright was an 86 year old woman who presented to the Oakey Hospital late in the afternoon of 24 December 2013. She had experienced sudden onset abdominal pain earlier that afternoon, which had started at her back and radiated around both sides to her front. She denied nausea and vomiting and had a normal bowel habit and appetite. On physical examination her abdomen was soft and there was tenderness on deep palpation in the suprapubic region.

24. Mrs Wright was considered to have a urinary tract infection or stones – she was treated with analgesia, intravenous fluids and an intravenous antibiotic. She remained stable and wanted to go home. She was discharged into the care of her family at 8:50pm with an oral antibiotic and a laxative.

25. Dr Elizabeth Hayem was the GP registrar on call who attended to Mrs Wright that day. As part of her GP practice Dr Hayem worked some weekends and weeknights at the Oakey Hospital. She was initially contacted on the telephone by nursing staff and gave a telephone order for morphine (2.5mg) to be administered to alleviate Mrs Wright's pain and medication for any nausea that may be caused by the analgesia.

26. When Mrs Wright was examined by Dr Hayem approximately 40 minutes after presentation she was still experiencing pain and Dr Hayem ordered a further low dose of morphine and medication for nausea. Mrs Wright's vital observations were not concerningly abnormal but she was experiencing burning and stinging when urinating.

27. Dr Hayem was told that the abdominal pain had started that afternoon a few hours earlier and had come on very suddenly. She examined the abdomen and noted it was soft, but Mrs Wright did have some tenderness in the suprapubic area. A urine dipstick examination was completed. Her impression was Mrs Wright was suffering from a urinary tract infection or possible kidney stones. She gave orders for her to be given an antibiotic in case she was suffering an infection. Although there was nothing to indicate sepsis she considered it was the case that elderly people do not always mount a normal response to sepsis.

28. During the course of the admission of about three hours Dr Hayem prescribed a total of 10mg of morphine to alleviate and settle the pain. She considered this to be a normal to small dose and would not mask any severe condition that may have been present. As well Mrs Wright's vital signs were within range with a normal pulse and no tachycardia or fever. She also ordered an x-ray to look for any signs of kidney stones. The x-ray was not completed.

29. Dr Hayem recalls chatting to Mrs Wright's son and his wife at a local cafe whilst she was taking a dinner break. She had noted Mrs Wright appeared to be a fit lady for her age and high functioning and this was confirmed in this discussion.

30. Dr Hayem reviewed Mrs Wright on her return and noted she had improved and seemed keen to go home. Urine was sent to pathology for examination. On re-examination she found Mrs Wright had improved and was feeling better. She was no longer experiencing any pain. Dr Hayem provided Mrs Wright with a prescription for antibiotics and a laxative in case she suffered constipation from the analgesia. She was satisfied Mrs Wright had improved sufficiently to be discharged home and recalls she walked out normally with her family.

31. Dr Hayem was unsure as to why the x-ray was not completed but believes this was on the basis Mrs Wright's pain had alleviated. She agreed an x-ray can pick up a bowel obstruction, but not always and not in the early stages. She had not considered a bowel obstruction as Mrs Wright had been eating normally, her

bowel had been moving and on examination there were bowel sounds. Dr Hayem was clear that notwithstanding the proximity of the Christmas festivities she would not have discharged Mrs Wright if she considered she remained unwell.

32. In hindsight, Dr Hayem considers the pain may have been related to an early bowel obstruction but it was not obvious to her given the bowel habits were normal and she was not vomiting. She gave advice Mrs Wright should return if there was a change and was aware Mrs Wright was seeing another GP in town on 27 December and made a note to contact the GP to handover the current presentation.

33. When asked what she might now do differently Dr Hayem said she would have proceeded with the x-ray (this may have shown if there was any gas in the abdominal cavity) and would have monitored her for perhaps an extra hour.

But for the sake of charged telephones-presentation on 26 December 2013

34. The following are the main players in the drama of errors that followed:

- Registered Nurse Jacqueline Delaney. She was the most senior rostered nurse at the hospital that day and was looking after the acute ward and provided cover for the Emergency Department. She had been an Assistant in Nursing since 2001 mainly involved in the nursing home. She completed her Bachelor of Nursing in 2011 and had almost completed her 12 month term and studies to take her to the next level in nursing.
- RN Deborah Honan. She also had been an AIN for many years and had completed her nursing qualifications in the 12 months prior. Her experience was mainly associated with the nursing home. She was rostered for the nursing home and providing assistance as required to RN Delaney.
- Director of Nursing Matthew Boyd had 28 years as a RN and very experienced. Was rostered on call that day and in fact physically present at the hospital for most of the morning.
- Dr John Hall. Had taken the admirable pathway of specialising in rural and remote medicine and very well qualified to do so. Was the Medical Superintendent and rostered as on call for 24 hours commencing at 8 am on 26 December. He had a right of private practice, which seems to be mainly associated with the nursing home as his patients.

35. The following describes some of the infrastructure that formed the basis for the drama that followed:

- Oakey is a small rural hospital. There was an acute ward with 8 beds and an ED with two beds and a waiting room. There was an x-ray room from which qualified/trained staff including some wardsmen could take x-rays. If not on duty there was someone on call. There was only skeleton staff at the hospital that day. RN Delaney described the shift as busy, a position confirmed by observations of RN Honan and DON Boyd
- There was a doctor's house on the grounds utilised by doctors on call. Dr Hall had a house in Toowoomba but used this hospital house when on duty or on call.
- There was a handheld telephone with a line going into the hospital and found in the nurse's station attached to the acute ward. Usually this was utilised by the nurse in charge to the acute ward and carried with him or her during their duties. On this day it had been left out of the charging cradle and was uncharged and had to be left charging during the first few hours of the shift.
- Dr Hall had a Queensland Health mobile telephone as well as his own private mobile. Although the Director of Nursing and other doctors knew the private number it is less clear that nursing staff were aware of the private number and RN Delaney certainly did not. Although Dr Hall was sure both of his mobile numbers were usually listed on the on call roster placed on the wall in the nurse's station it is clear that the roster for the current period omitted that private number.
- The QH mobile of Dr Hall was flat and in his motor vehicle. He had taken it with him over Christmas but did not have a charger. He did not locate a charger until after these events. He admits it was remiss of him to be faced in this position and that he did not telephone the hospital to tell them.
- Dr Hall did not like receiving long messages from nurses and he utilised a voice to text 10 second message service. His expectation was that if nurses could not initially get him they would keep on trying.

Events of 26 December 2013

36. On the morning of Christmas Day, Mrs Wright started vomiting. She presented to Oakey Hospital at some time before 8:45am on Boxing Day.

37. RN Honan was approached by the cleaner who told her there was someone in the Emergency Department who was quite upset as their mother was sick. She went straight to the ED and made some initial enquiries of the family to find out what was wrong. She walked Mrs Wright to the ED resuscitation room where she took a set of observations. The temperature was low and she took it again to check as sometimes the equipment did not work. RN Honan stated she was then going to get the clinical nurse to review her. RN Delaney was the most senior registered nurse and RN Honan spoke to her and mentioned the low temperature and they both then went back and performed a set of observations.

38. RN Delaney noted the symptoms included vomiting, severe abdominal pain and urinary incontinence. The observations recorded in the Rural Emergency Flow sheet at 8.45 am were:

- temperature 33.5 degrees
- pulse 99bpm
- blood oxygen saturation 92% but noted to drop to 87% at one point
- blood pressure 111/73
- GCS 14/15. (Scored as 15 in the record but error in addition and should have been 14. Not significant)

39. They applied blankets and heat packs to try and warm her and gave Mrs Wright oxygen through nasal prongs. Observations were again conducted at 8:55am with similar results but Mrs Wright was by this time receiving supplemental oxygen.

- temperature 33.5 degrees
- pulse 99bpm
- blood oxygen saturation 97%
- blood pressure 97/70
- Respiration 32

40. RN Delaney applied a triage category of 3 which meant a doctor should see the patient within 30 minutes. She then telephoned Dr Martin Byrne as she thought he was the rostered on-call doctor but he told her he had just finished. It is apparent Dr Byrne and Dr Hall conducted an earlier handover of patients although Mrs Wright would not have been one of them. He informed her that Dr Hall was the on-call doctor although Dr Byrne indicated he would assist if

necessary. RN Delaney then telephoned Dr Hall on the mobile number provided on the on-call list but did not receive an answer and left a telephone message *"Hi John it is Jacqui at the hospital. Can you ring me. Bye".*

41. At about 9:30 am Dr Hall telephoned the hospital. This was not in response to the message left above. The call was received by RN Honan on the telephone that was charging, which in usual circumstances would have been taken by RN Delaney. Dr Hall told RN Honan he was on his way and was about half an hour way. Dr Hall then asked me if there was anything else he should know about. RN Honan was aware that RN Delaney had left a message for him earlier so assumed he had been in contact with her. Based on this, and as there was nothing for him to attend to in the nursing home she said no. She then yelled down the corridor to the acute ward and said that Dr Hall was going to be there within half an hour.

42. Endorsed Enrolled Nurse (EEN) Snow was rostered on the day shift in the acute ward. She was aware of a patient in the ED who had an unusually low temperature. RN Delaney told her that she had telephoned Dr Hall and left a message for him. She recalls RN Honan telling everyone that Dr Hall was on the telephone and would be here in the half hour, which would bring the time to about 10 am.

43. At 9:35 am RN Delaney performed another set of observations. There were improved results as far as oxygen saturation and blood pressure but the temperature was still very low:
    - temperature 33.6 degrees
    - pulse 97bpm
    - blood oxygen saturation 100%
    - blood pressure 116/75
    - Respiration 32

44. RN Delaney then attended to other patients and triaged them. She recalls speaking to DON Boyd but did not provide him with any clinical information or observations about Mrs Wright as she believed the on-call doctor was on his way. Sometime after 10:30 am she again telephoned Dr Hall and when the call went straight to message bank she decided not to leave another message.

45. At approximately 10:40 am RN Honan checked again on Mrs Wright. She performed another set of observations which were unchanged. She recorded the observations on a piece of paper as she did not have access to the chart at the time. It was her intention to record them on the Rural Emergency Flow Sheet when she had a chance and she says it was an oversight that she did not do this. Although RN Honan says she may have done some further observations during the morning these are not recorded anywhere but she says they were unchanged.

46. Some-time around 11:20 am Mrs Wright's family requested a bed pan and RN Delaney attended to her. She noted a slight increase in confusion. At around 11:25 to 11:30 am she returned to remove the pan and noted Mrs Wright was confused and was unable to focus or respond to questions asked of her. She immediately telephoned the ward for assistance and RN Honan came immediately.

47. RN Honan recalls that at about 11:40am RN Delaney asked for assistance as she was having difficulty getting Mrs Wright off the bed pan. When she arrived she noticed that Mrs Wright had deteriorated. RN Delaney again telephoned Dr Hall and left a message saying he was needed. This message denoted more urgency and said "*Hi John its Jacqui at the hospital again. We need you in here. Just give me a call back".* Of course he did not receive this call as it was sent to the mobile which was not charged.

48. RN Honan then informed DON Boyd about the rapid deterioration. She then heard DON Boyd talking to the on-call doctor on a private number, saying that the nurses were expecting him hours ago and there was a patient in the ED and she was deteriorating. She can say that Mrs Wright had visibly deteriorated at around 11:40 am.

49. DON Boyd had attended at the hospital during the morning although he was not rostered to work but was on call. He recalled that it was not until about 11:30am that he was informed by RN Delaney and RN Honan that Mrs Wright was deteriorating quickly and that three messages had been left on Dr Hall's work mobile and Dr Hall had not responded to the messages.

50. DON Boyd then used his own mobile to telephone Dr Hall on his private mobile at about 11:58 am. DON Boyd had not at this stage seen Mrs Wright and only knew she was deteriorating. DON Boyd in fact started the conversation with Dr Hall as an enquiry as to Dr Hall's well-being and whereabouts as he had not presented at the hospital, and this was unusual. Dr Hall said he was not aware that he was to see Mrs Wright in the ED. DON Boyd did not discuss Mrs Wright's specific observations with Dr Hall at the time as he was only aware Mrs Wright was deteriorating and was not aware of the seriousness of her clinical condition. He expected Dr Hall to arrive soon. Dr Hall did not attend until between 45 minutes to an hour later.

51. When DON Boyd walked into the resuscitation room he immediately concluded Mrs Wright was in pre-arrest and was dying.

52. A further set of observations were not taken again until midday. These showed a significant deterioration with the following results:

- Temperature 34
- Pulse 35bpm
- Blood oxygen saturation 74%
- Blood pressure 60/42

53. DON Boyd then discussed with Mrs Wright's son and family her condition and the options available to her. The family were concerned and anxious about the rapid deterioration and wanted someone to do something. DON Boyd says the decision was made for Mrs Wright to be kept comfortable and he started intravenous fluids at 12:15 pm. Mrs Wright died at 12:30 pm. DON Boyd had not documented an Acute Resuscitation Plan given there was very little time. The family have expressed concerns that this discussion was unsatisfactory on the basis it was not clear to them what was being asked of them. Having heard DON Boyd give evidence I can fully understand why that might be as DON Boyd does express himself in a rapid manner.

54. Blood samples taken at 12:15pm showed changes consistent with an infectious illness.

55. RN Delaney states that when Dr Hall arrived at between 12:45pm and 1pm he said words to the effect that he was annoyed this had happened without him being phoned. She informed him that she had telephoned him three times and left two messages. He asked which telephone had been called and said that it was no good ringing that telephone as it was flat. He enquired as to why the matter was not escalated sooner and she informed him that she had received a message that he would arrive within 30 minutes after he had telephoned the hospital. He denied that he had said this. He said he had telephoned the hospital as a courtesy to see if there was anything he should know about. She told him she had tried to telephone him again when Mrs Wright's condition had deteriorated. He said he was at the doctor's residence, which is located on the hospital property for the past hour and asked why someone did not come over to get him. He was told they were not aware he was in the house.

56. RN Delaney was extremely distressed about the death of Mrs Wright and the impact on the family. The following day she and DON Boyd reviewed the documentation and retrospectively completed an intravenous fluid order sheet, which she initialled as nurse two.

57. Dr Hall arrived between 12:45 and 1 pm. During a conversation with him DON Boyd realised Dr Hall was unaware of Mrs Wright's presentation to the ED and of the seriousness of her condition. RN Delaney stated that she had left three messages for him on his work mobile, Dr Hall stated that his phone was flat. DON Boyd did not document his involvement in the care of Mrs Wright until the following day and he stated he was mostly distressed by the unexpected outcome.

58. Dr John Hall recalls discussing with Mrs Wright's family after her death that they were concerned that medical staff were not notified about their mother's deteriorating condition and a doctor did not attend prior to the death. He told them he had not come to the hospital earlier as he was never informed of the seriousness of her condition, the premorbid state she had developed, her imminent death or the fact that she was being treated with palliative care. He apologised for the lack of communication to the family and assured them he would be reporting the case and that it would be thoroughly investigated. They declined his offer of a non-coronial autopsy.

59. Dr Hall states that Mrs Wright should have been triaged as a category one (requiring emergency attention) and not a category three. He considers that given Mrs Wright's high level of premorbid function; her minimal medical history; and the history of her recent presenting complaint. He stated that if emergency investigations and treatment had been delivered on presentation, including pain relief, appropriate intravenous antibiotics and intravenous resuscitation, Mrs Wright may have had a better chance of survival.

60. Dr Hall stated that Mrs Wright's arrival should have been communicated to the medical practitioner. The observations at 8:55 am worsened without a medical practitioner being informed. By 12 midday Mrs Wright was in a premorbid state.

61. Dr Hall stated he telephoned the hospital at about 9:51am to see if anything needed to be attended to urgently. He was notified by the registered nurse that there was a case in the ED but was not given clinical or triage details nor was he told that the patient was critical or urgent and he was not requested to attend urgently. He did inform the registered nurse that he would be heading in soon.

62. Dr Hall states that 11:48 am when he was telephoned by DON Boyd, he should have been informed of Mrs Wright's condition and requested to urgently attend at the hospital. DON Boyd should have discussed the palliative care proposal with him and sought orders for such care.

63. Dr Hall agrees it was remiss of him to not have his QH mobile charged or to inform staff when it was not.

64. Dr Hall was of the view that looking at the recorded vital signs observations the level of acuity was such Mrs Wright should have been observed regularly at every 15 minutes. He considers the Q-ADDS tool is a good step in the right direction and is aware it is now available and is used. It is particularly useful for the recognition of sepsis as a low temperature is not often recognised as serious. Dr Hall retrospectively utilised the Q-ADDS chart and considered that it would have clearly indicated a need for immediate action at the 8:55 am set of observations. He said it was clear the level of urgency was not recognised and therefore there was no escalation.

Autopsy results for Mrs Wright

65. Autopsy confirmed the immediate cause of death as septic shock, which is effectively very low blood pressure due to a severe infection. Signs of sepsis, which were exhibited at the hospital were low temperature, fast heart rate, fast respiratory rate and a high white blood cell count. There was no evidence at autopsy of a urinary tract infection. The underlying cause of Mrs Wright's infection was found at autopsy to be an obstruction in her small bowel, which led to a part of her bowel dying, which triggered an infection. The bowel obstruction was thought to have resulted from scarring present as a result of a previous operation to remove Mrs Wright's appendix. That procedure was apparently some time ago. At the time of her death, Mrs Wright was otherwise well and highly functioning both physically and cognitively for someone of her age, apart from taking some medication for high blood pressure.

Root Cause Analysis for Mrs Wright

66. A Root Cause Analysis was conducted and completed on 24 March 2014. It concluded that Mrs Wright's condition worsened and she died prior to any treatment being commenced or a treatment plan being established. The RCA team found:

    a) When Ms Wright presented to the hospital, her abnormal physiological observations and presenting symptoms were not recognised as a medical emergency;
    b) A structured process was not used to communicate important clinical information. The gravity of the situation was not conveyed to a more experienced nurse clinician. This led to a delay in the review of a critically unwell patient and medical assistance was not urgently sought;
    c) There was no response to calls made to the nominated contact phone number for medical assistance. There was only a single phone number on the published and available Contact List;
    d) Importantly, the following recommendation was made (among others) with a completion date set at 30 September 2014:

    "DDHHS mandates the implementation of the Emergency Department (ED) Queensland Adult Deterioration Detection System (Q ADDS) tool as a matter of urgency at the completion of the Statewide trial (finalised on 31 March 2014). In the interim, consideration be given to using the Q ADDS tool as an adjunct

to the Rural Emergency Flowchart when recording observations for patients presenting to the Emergency room at this facility."

Circumstances of the death of Jasmyn Carter-Maher

Summary of events

67. Jasmyn was 17 years old when, on the morning of 3 August 2014, she was more groggy then usual and was complaining of a headache and aches in her arms and legs. She had played a game of Australian Rules Football the previous day. Jasmyn asked her mother to take her to the hospital. They presented to the Warwick Hospital Emergency Department at 2:30pm.

68. About one hour after Jasmyn presented to the ED there was a significant and unexplained drop in her blood pressure. This was in addition to the other symptoms she was experiencing. This drop in BP was recorded on the ED Q-ADDS tool and scored 'E' for emergency. The medical officer was notified of a 'low bp'. An emergency response was not activated but she was attended to by a doctor at 3:30pm. Jasmyn complained of soreness, dizziness and feeling unwell. She was given intravenous fluid and as there was no improvement, she was admitted so that further tests could be conducted and more fluids administered.

69. Despite the intervention of intravenous fluid administration, her recorded blood pressure actually worsened over the next four hours. This, combined with persistent tachycardia, profound lethargy, increasing fever, headache and absence of any urine output were symptoms clearly suggestive of an emerging septic shock.

70. At about 2:30am, the treating doctor was contacted by hospital staff about Jasmyn's deteriorating condition – her blood pressure had dropped and she had developed a rash. At approximately 3:10am Jasmyn went into cardiac arrest. CPR was commenced but ceased at 3:30am. The treating doctor at the time advised the likely cause of death to be meningococcal disease. This was confirmed at autopsy.

Evidence of Nursing and Medical Staff who attended

71. RN Benkendorff was involved in the triage of Jasmyn at approximately 2:30 pm on 3 August 2014. She noted the history of Jasmyn having played football previous day and had felt dehydrated and had vomited once.

72. RN Benkendorff completed her vital observations and recorded these on the ED Q-ADDS. The score at that time would have been a 1, requiring no specific action. Jasmyn's BP was 120/80. RN Benkendorff took no further part in the care. In evidence RN Benknedorff was shown the Q-ADDS chart showing the rapid change in BP an hour later. She stated this was recorded as an emergency situation and she would now institute a Code Blue and have the doctor called and attend. The tool was for her a guide but agreed it was mandated and empowered staff to escalate. In this situation she would have done more frequent observations if she was concerned.

73. The initial triage score completed by RN Benkendorff was 3 (she had written 4 but said she crossed it out immediately) but she stated to other staff members she was working with that she was bumping her up because she felt Jasmyn needed to be seen sooner rather than later. Jasmyn was seen by Dr Andrew Hughes within 10 minutes of triage which was well within the National Emergency Access Target (NEAT).

74. Dr Andrew Hughes is a Senior medical officer. Jasmyn presented at 2:30 pm and he saw her in the emergency department at 3:10 pm. He took a history from her. He saw no rash on her lower limbs and she made no complaint of a rash. She was febrile at 38.9°. He noted the description of playing football the night before and that she had developed a sore right head, right wrist, left forearm and left thigh. He arranged for plain x-rays to be taken the following day to exclude the possibility of injury given the history of playing football.

75. RN Victoria Moulder received a hand over at 2:30 pm. At 3:40 pm she came into the bay to assist and attended to Jasmyn. Jasmyn was tachycardic and hypotensive and febrile. Jasmyn was conversing and stated she still felt miserable after being given Stemetil and paracetamol. She was also texting on her telephone and talking to mother at the time.

76. RN Moulder took a set of observations and recorded these in the Q-ADDS chart. She noted she was febrile at 38.9. Her BP was 87/48 and on this basis she noted the Q-ADDS chart with an "E" for emergency. She did not complete an addition. After taking these observations she walked over and reported them to Dr Hughes who then joined her at the bedside. She says she showed Dr Hughes the Q-ADDS sheet and the change in BP. She stated she did not call a MET (medical

emergency) as Dr Hughes was nearby and it was quicker to just get him to come to the bay. Dr Hughes ordered a further bolus of normal saline. At 4:55pm she administered IV fluids as ordered by Dr Hughes. Sometime after 5:00 pm a further bolus of intravenous saline was administered. The cannula was accidentally dislodged at this time.

77. Dr Hughes stated that in hindsight, and with the benefit of his knowledge now, this was a critical point as the low BP was not given as much credence as it should have been. He thought it was low but not outside into a critical range. He said with the benefit of further sepsis awareness training that a BP below 90 is not normal and he is aware further actions should have been contemplated.

78. RN Moulder agrees that the staff understood how to complete the Q-ADDS tool as it would visualise a trend and a cause of action but at the time it was not well understood what they should do next in the context of the practical difficulties in a rural hospital. She stated that since the RCA there has been a significant increase in nursing support, the Clinical Nurse or nurse manager has no patient load and this provides much safer options.

79. RN Jade Harmer was rostered on the shift commencing at 2 pm. The ED was full with all bays occupied and the waiting room had numerous patients waiting. She was aware that Jasmyn was given a triage category three and original observations were taken at 2:30 pm. At 3:00 pm she gave medication as prescribed by Dr Hughes including oral Stemetil and paracetamol. At approximately 6.00 pm Dr Hughes decided to admit her and he stated she would require another IV cannula to be inserted. Jasmyn was still stating she was feeling miserable.

80. RN Harmer took further observations at 6:45 pm. She recalls asking Jasmyn how she felt and she stated that she felt the same as before. She mentioned to Dr Hughes that her blood pressure was slightly lower than previously observed, however it was only a minor drop.

81. After the completion of the first examination by Dr Hughes, Jasmyn was complaining of being dizzy and nauseous and her blood pressure was reported as low. Dr Hughes agrees he was shown the Q-ADDS sheet. He prescribed intravenous IV fluids and ordered oral Stemetil and Panadol. After the IV fluids were completed her temperature decreased to 38°C. The IV line was removed

in anticipation of her being discharged home. However, as she was still not feeling a lot better he asked for the cannulla to be reinstated and for her to be admitted to the ward with the intent of further IV fluids and observations.

82. Based on her history and symptoms Dr Hughes considered the cause of her non-specific symptoms were likely to be a viral infection, possibly complicated by soft tissue trauma from her football game the night before. He ordered a full blood count and kidney and liver function tests, which were reported as being normal. He then attended to other patients. He did not observe her to vomit during the time she was in the ED. Of major significance he did not record an order for further fluids or specific observations in the chart at that time. Dr Hughes admitted this was a failing on his part as he had become distracted with other patients.

83. RN Julie Allridge was the Acting Clinical Nurse and in charge of the hospital at the time. She had her own patient load as well as management and administration duties. The hospital was busy that day. She was in the ED area at one point and she spoke to Jasmyn and her family at approximately 4:30 pm. She was not involved in Jasmyn's care and says she simply said hello to the family as she knew them from a previous presentation involving Jasmyn's brother who attended with concussion from a football game. At this stage Jasmyn appeared to be laughing and said she had been playing football.

84. She was not aware the patient had deteriorated during the shift but was aware she had been admitted to the ward with flulike symptoms after playing football. At that time she was stable.

85. When shown the QADDS chart for Jasmyn she agrees there should have been an escalation and a MET call based on the BP alone. She states that her practice would have been previously to have got the doctor to see to Jasmyn if such a set of circumstances occurred. Since the death she would now press the emergency buzzer.

86. She also explained that since the incident the CN in charge no longer has a patient load and is now available to assist other nurses and escalate where necessary. She agreed the issue identified in the RCA with respect to the Q-ADDS tool not being well understood was correct.

87. RN Hamilton was rostered on the evening shift of 3 August. She received a handover about Jasmyn from the ED staff. RN Harmer says she gave a verbal handover at approximately 8 pm and mentioned to RN Hamilton that she had advised Dr Hughes there was a slight change in blood pressure. RN Hamilton commenced taking a set of observations, which she recorded on the Q-ADDS chart at 8:15 pm as follows:

- temperature 36.7
- pulse 99
- respirations 18
- oxygen saturation 98%,
- blood pressure 77/41 and she was alert.

88. RN Hamilton asked if she felt dizzy and she replied that she was not dizzy but had a headache. RN Hamilton did not complete the score on the Q-ADDS form. It was her usual practice to always record the score. She knew that the blood pressure reading was in the purple area but instead of calling an emergency she decided to contact Dr Hughes because all her other observations were within normal limits, and Jasmyn was not unconscious or in pain.

89. At the time if she had called an emergency a Doctor, a registered nurse from emergency, the nurse in charge for the evening shift and a registered nurse from the ward upstairs would have responded.

90. RN Hamilton noted Dr Hughes had not written up further orders for intravenous fluids or analgesia. The standard observations for an admission to the general ward was “QID” (ie. usually at 6am, 11am, 3 pm and between 7 and 8 pm unless the Doctor ordered). It is now apparent this regime has changed for patients on admission to 4 hourly for the first 24 hours. In any event the next set of vital observations was not to be taken until 6 am. It is also apparent RN Hamilton completed the Integrated Care Plan which noted observations were standard.

91. RN Hamilton says she informed CN Alldridge of the fact no orders had been written up, although CN Alldridge says she has a very limited recollection of these conversations. CN Alldridge says she did not review the records and says no staff member spoke to her about Jasmyn. She states she has no recollection of

RN Hamilton speaking to her about Jasmyn or reviewing her chart. She has some recollection of a reference to a fluids order for a patient but not specifically about Jasmyn or that it was about getting a fluids order.

92. RN Hamilton says she advised CN Alldridge she would contact Dr Hughes to advise him of Jasmyn's ongoing low blood pressure, to obtain both IV fluid and analgesia orders for the patient's future management.

93. RN Hamilton went to the ED to talk to Dr Hughes. She took the patient chart with her. She was informed Dr Hughes was not at the ED and she spoke to RN Harmer about the low blood pressure and pre-admission history. RN Harmer pointed out that the latest blood pressure reading was slightly higher than the last one taken in ED. Whilst in the ED RN Hamilton contacted Dr Hughes by telephone and advised him of Jasmyn's blood pressure and her concern that her BP was very low even though at the time she was asymptomatic. Dr Hughes ordered a bolus fluid load and then further IV fluid orders and oral analgesia. She wrote both these up in the ED. She then returned to the ward to check on Jasmyn and to let her know she had spoken to Dr Hughes and the plan to administer more IV fluids.

94. Dr Hughes agrees that at approximately 8:25 pm he was telephoned by RN Hamilton who told him that Jasmyn's observations were satisfactory but for her blood pressure, which had remained low. It was at that point that he realised he had not charted the ongoing fluids that he had intended to prescribe and requested RN Hamilton to administer a fluid bolus of 500 mls intravenously. He ordered further fluids to continue overnight to address her low blood pressure. He also ordered Panadol and ibuprofen, which are the medications he normally prescribed for pain relief and temperature on an as required (PRN) basis. It is apparent there were no discussions with Dr Hughes indicating that observations should be taken more regularly or to review Jasmyn's BP after the fluids may have expected to have an impact. Dr Hughes stated he did not specify for the BP to be checked or for him to be informed of the results, a matter which he will now have to live with.

95. Dr Hughes returned to the hospital to see another patient and later retired and went to bed. Dr Hughes stated in evidence that observations should have been ordered more frequently and there should have been a more urgent response at

8:25 pm. He also agrees he did not document any plan in the progress notes and this should have been done. The Integrated Care Plan is prepared by and for nursing staff but would reflect any plan documented by him in the progress notes.

96. RN Hamilton made an entry in the progress notes at 8:25 pm, which briefly documented Jasmyn's admission to the ward, that she had a low blood pressure and the fact she had telephoned Dr Hughes who gave the orders for further IV fluids overnight and oral analgesia. She states she advised CN Alldridge of the telephone discussion with Dr Hughes about recommencing IV fluids and these had commenced as ordered. She recalled having discussions CN Alldridge (which CN Alldridge does not recall) and they considered Jasmyn's history of generally being unwell and nauseated but given that she was young, fit and asymptomatic they formed the view that her low blood pressure and headache was due to her being dehydrated. Based on this they decided to wait to see if her blood pressure responded favourably to the fluid bolus currently being administered. The shift was very busy and the evening went very quickly.

97. RN Hamilton recorded on the intravenous and subcutaneous fluid order these orders. She intended to recheck Jasmyn's blood pressure after she received the first fluid load but when she went to do this Jasmyn was not in her bed and her mother told her she had gone to the bathroom.

98. At 10:15 pm RN Hamilton handed over to the on-coming night staff. In relation to Jasmyn she stated her history and reason for admission, her observations and in particular her low blood pressure and the fact that she was febrile in the ED. She also handed over the telephone contact with Dr Hughes and the orders given. Although she cannot specifically recall any of the details of the hand-over she believes she would have requested the oncoming staff to keep an eye on Jasmyn's blood pressure and temperature.

99. RN Alice Henderson was rostered on the night shift at 3 August. She recalled a handover for Jasmyn where it was reported her blood pressure was low and she had been fluey and felt unwell after playing a game of football the previous day. She does recall attending to Jasmyn at approximately 11pm. When she entered the room she found vomit on the floor near her bed. She had her torch and had a brief conversation with Jasmyn and asked if she needed something for the

nausea but she said she had already received something. RN Henderson did not notice anything abnormal about her.

100. RN Heather Donges was rostered on the night shift commencing at 10:15 pm. She was rostered in the ED but helped out in the ward when the ED was not busy. She was present during the ward handover and was informed Jasmyn had been admitted after feeling unwell after playing a game of football the day before and was complaining of a sore wrist, vomiting and generally feeling unwell. It was handed over that she had vomited and had a low blood pressure and that the "Doctor was aware" of this. She was also receiving intravenous therapy. After the handover RN Donges returned to the ED where she took over the care of two other patients. RN Donges became available to help in the ward at 10:50 pm. At approximately 11 pm EN Jemma Valentine mentioned Jasmyn had vomited.

101. EN Gemma Valentine had also commenced her shift at 10:15 pm. She spoke to Jasmyn at 11 pm who told her she was a bit cold and wanted another blanket. Jasmyn spoke normally and appeared oriented and alert. There was no purple rash. Approximately 40 minutes later Jasmyn pressed the buzzer and told EN Valentine she felt nauseous and was wanting something for nausea. She was alert and oriented and did not appear distressed. EN Valentine gave her 10 mg of Maxolon and noted this in the medication chart. She went back into the room and could hear her pump beeping and noticed vomit on the floor beside her bed. RN Henderson came into the room at the same time and they cleaned up. Jasmyn did not appear distressed and was alert and origin.

102. At approximately 1:00 am the nurse call buzzer was pressed by another patient in the same room and RN Donges (who knew Jasmyn and played on her same football team) recalls she passed by Jasmyn's bed and could see she appeared to be resting comfortably.

103. At approximately 1:30 am during regular rounding, EN Henderson observed Jasmyn lying on her bed with her breathing louder than it had been earlier. At 1:35 am Jasmyn pressed the buzzer and said that she was having trouble breathing. EN Henderson for the first time noticed small faint markings on her face and they appeared greyish in colour from the torch light. She immediately reported this to RN Donges as she was concerned about the breathing.

104. RN Donges asked EN Henderson to notify RN Johnson as he was the nurse in charge of the ward. RN Johnson attended on the basis that Jasmyn was having trouble breathing and had developed some spots on her face. On examination he noted she was breathing rapidly and now had a rash on her face and abdominal area. RN Johnson telephoned Dr Hughes and was given orders to administer IV antibiotics and IV hydrocortisone and to call him back if she was not maintaining oxygen saturations above 90%. While administering medications her oxygen saturations were 70%. RN Donges then attended to Jasmyn and turned on the light over the bed. Jasmyn was very pale and her neck appeared swollen and she was concerned with her breathing. She also noted that her face, arms and torso were covered in purple red rash and Jasmyn was stating she could not breathe properly.

105. EN Henderson had returned at this stage and could also now see obvious purple patches on Jasmyn's abdomen, chest and neck. They started to take her vital signs and observations. Her oxygen saturations were reading in the 80s and she applied oxygen at 3 L/min. Her blood pressure was unable to be obtained by either machine or manually. Her oxygen saturations dropped to 70% and her temperature showed she was febrile. RN Donges then went to the nurse's station with the intention of telephoning Dr Hughes. RN Johnson was in the process of preparing the IV medications when she walked into the treatment room.

106. RN Johnson then attended with the IV antibiotics. EN Henderson expressed concerns on the basis that her respiratory rate was now 60 respirations per minute and her oxygen saturations were now in the 60s. RN Johnson asked her to tell RN Donges to call Dr Hughes. RN Donges rang Dr Hughes to ask him to come immediately and Dr Hughes stated he was coming quickly. When she returned Jasmyn appeared very distressed and continued to struggle to breathe on a re-breather mask.

107. The emergency trolley was now at the bed. Antibiotics were administered. Dr Hughes arrived and Jasmyn was appropriately moved to the ED. Jasmyn was placed in resuscitation bay but within two minutes of arrival she had a respiratory arrest and CPR was commenced. Jasmyn was intubated by Dr Hughes without sedation. Advanced resuscitation commenced. An attempt was made to connect to the retrieval team on teleconference but there was difficulty in connecting via

teleconference and Dr Hughes phoned retrieval for advice. A decision was made to talk to the retrieval team first regarding any further treatment options before ceasing CPR.

108. Dr Hughes says he was telephoned at approximately 1:45 am by RN Johnson who informed him that Jasmyn was in respiratory distress and had developed a widespread purple rash. Based on this information he immediately realised that she must have meningococcal disease and he directed the administration of the celtriaoxone, penicillin and hydrocortisone all intravenously. He then consulted a reference text as to whether there was anything else that should be given. Dr Hughes stated he had only come across meningococcal cases three times in his 20 years in practice. Whilst doing this he was telephoned by nursing staff at approximately 1:55 am and informed that she was not maintaining oxygen saturations on high dose oxygen. He immediately attended at the hospital five minutes later. He then directed she be taken to the resuscitation bed in the emergency department and it was evident that Jasmyn was very unwell in respiratory distress with a whole of body purpuric rash. He sought assistance from Dr Ware who was at home. Jasmyn then went into respiratory arrest and they commenced CPR. He also telephoned the clinical coordinator to discuss what further treatment could be provided and he was advised to trial 50 mls of sodium bicarbonate which was administered intravenously. She showed no return of signs of life. The cardiac monitor was consistent with pulseless electrical activity, which has a very poor prognosis. Individual doses of adrenaline was given intravenously but she continued to show no further signs of life. Further resuscitative efforts were considered to be futile and Jasmyn was declared deceased at 3:27 am.

109. Of significant concern and distress for Jasmyn's mother is that no-one at the hospital telephoned her to tell her about the deterioration and the emergency until after Jasmyn had passed away.

110. Dr Hughes stated he had been briefed about the RCA recommendations. He agrees more observations should have been done but is uncertain as to whether if they would have resulted in a prompt to him to institute other treatment. Since this tragic death he said there has been an increase in nursing staffing and a doctor is on-site on most shifts.

111. Dr Hughes stated that meningococcal septicaemia never crossed his mind. His differential diagnosis was flu. There is a balance between the need to provide antibiotics and the well documented concerns about the overuse of antibiotics and the subsequent difficulties resulting from antibiotic resistant bacteria proliferating. He said that if Jasmyn had been given antibiotics on presentation it is entirely possible she could have survived but one can never know.

Autopsy results for Ms Carter (Carter-Maher)

112. An external only autopsy examination was ordered, given the known clinical outcome. There was a macular rash all over the body along with haemorrhages in the eyes and oral mucosa. This was typically consistent with the clinical diagnosis of meningococcaemia.

113. CT scans of the body showed patchy pulmonary opacities, which may be consistent with pulmonary oedema or pneumonia or both. The bacterial nucleic acid test results confirmed the diagnosis of meningococcaemia.

114. Meningococcal septicaemia is a serious and deadly condition that can result from bacterium Neisseria Meningitides. Septicaemia happens when the bacteria enters the blood stream and multiplies uncontrollably, damaging the walls of the blood vessels and causes bleeding into the skin. Meningoccoccal septicaemia usually is associated with a purple to red rash. Septicaemia can lead to death even within a few hours.

Root Cause Analysis for Ms Carter (Carter-Maher)

115. A Root Cause Analysis was conducted and completed on 14 November 2014. The RCA team recognised that meningococcal can cause death within hours if not promptly recognised and treated. Atypical non-specific signs and symptoms make definitive diagnosis in the early stages difficult. The distinctive rash usually appears in the final stages; it usually represents disseminated intravascular coagulation and multi-organ failure.

116. Throughout the time that Jasmyn was admitted, a management plan was never established and documented. The RCA team identified several missed opportunities where Jasmyn could have been re-assessed:

    - From 1540 – 1845 – whilst in the ED, abnormal physiological observations were clearly documented in the Q-ADDS tool as requiring the initiation of a medical emergency response;

- At 1950 there was a clinical handover of Jasmyn's case from ED to the ward;
- At 2015, on admission to the ward, there were clearly documented abnormal physiological observations that were persisting;
- At 2025 there was a phone call initiated by the nursing staff to the on-call medical officer;
- At 2140 an oral anti-emetic was administered;
- At 2215 a clinical handover occurred due to a change of shift;
- At 2240 there was a change of intravenous fluids;
- At 2300 there was vomit found on the floor beside Jasmyn's bed.

117. The RCA team identified that one hour after Jasmyn presented to the Emergency Department, in addition to the symptoms she complained of, there was a significant and unexplained drop in her recorded blood pressure. This was documented in the ED Q-ADDS observation tool and scored "E" for emergency. The medical officer was notified of a low blood pressure. An emergency response was not activated. Despite the intervention of intravenous fluid administration, Jasmyn's recorded blood pressure over the next four hours actually worsened. This, combined with persistent tachycardia, profound lethargy, increasing fever, headache and absence of any urine output were symptoms clearly suggestive of an emerging septic shock. While she was admitted for observation, a management plan was never established and documented.

118. The RCA report stated that had the required actions of the Q-ADDS tool been followed, Jasmyn might have received appropriate and timely treatment. The RCA team noted that the Q-ADDS tool was developed and designed specifically in response to human factors impacting on the recording and interpreting of physiological observations in detecting deterioration.

119. The RCA team found that it was apparent both the Q-ADDS and ED Q-ADDS tool were not well understood by clinicians, treated with indifference and seen as yet another document to complete. The implementation of Q-ADDS (2012) and ED Q-ADDS (2013-2014) appears to have focused on how to complete the tool rather than the multiple elements of clinical deterioration. It was apparent there was a loss of situational awareness and confirmation bias; clinicians formed

subjective opinion individually and collectively as justification for the patient's symptoms and behaviour. There appears to have been a lack of critical thinking; clinicians were distracted completing numerous tasks associated with a patient admission, which for this patient seem superfluous. Care became task focused rather than patient centred. The RCA team was of the opinion the tragic outcome was most likely due to a series of individual errors and system errors. Individual errors were considered to be outside the scope of the report.

120. Contributing factors were identified by the RCA as being:
    - Sepsis was not considered as a possible cause of abnormal physiological observations
    - An admission management plan was never established
    - There was a culture of complacency and indifference towards established Tools (ED Q-ADDS and Q-ADDS observation charts)
    - Processes (SBAR comms, staff allocations, patient rounding and clinical handover)
    - Procedures (Code Blue Medical Emergency, Clinical Concern Escalation)
    - There was inadequate out of hours clinical supervision and support

121. Recommendations were made taking into account the continuing actions of DDHHS with respect to clinical deterioration. Those actions are:
    - An established 'Recognising and Responding to Clinical Deterioration Committee' that meets second monthly to monitor clinical incidents and provide direction regarding clinical deterioration related systems, process, resources and capacity
    - Monitoring of compliance with the use of Q-ADDS observation tool and a plan in the DDHHS S.A.F.E audit program to monitor compliance with the use of ED Q-ADDS observation tool
    - Clinical deterioration training resources are available on line and clinicians are provided with the opportunity to attend external and face-to-face programs. Requests the DDHHS Recognising and Responding Clinical Deterioration Committee to develop a sepsis awareness program and develop a competency base deterioration patient education module

- Inform facilities it is mandatory that all patients who are admitted to hospital must have a documented Admission Management Plan with clearly specified treatment and observation requirements
- Create a patient focused culture which includes clinician accountability for safe practice standards
- Review the arrangements for out of hours hospital supervision and clinical support with a Clinical Nurse allocated to this role on the nursing roster
- Review and restructure the model of care in emergency at this facility. This to include arrangements for:
    - Determining how to manage the high volume of category 4 and category 5 presentations
    - Providing additional medical officer resources to support out of business hours work activity
    - Ensuring a competent experienced emergency nurse is rostered on all shifts across every 24 hour period
    - Upgrading the existing rotational Clinical Nurse Monday - Friday business hours position to a permanent Associate Nurse Unit Manager position as accountable for the day to day operations
    - Rostering the nurse practitioner to known peak activity times
    - Extending the existing Administration Officer hours to cover peak out of business hours work activity

Implementation of RCA recommendations

122. The General Manager Rural for DDHHS, Mr Michael Bishop provided a detailed statement as to the outcome of the implementation of all the recommendations made in both RCAs. He stated that all recommendations for that of Jasmyn's case had been implemented and all but one for those of Mrs Wright have been completed.

123. He stated that Q-ADDS was implemented as a matter of urgency so that there was a consistent approach taken across the district. He stated that Ryan's Rule had also been introduced as a matter of policy. He would expect and is more confident that now in similar situations the emergency buzzer would be pressed

and staff would now respond. This would result in an earlier and more formal reaction and escalation until the matter could be de-escalated.

124. Mr Bishop stated that there are now more nursing and administrative staff on each shift with the Clinical Nurse manager no longer having a patient load.

125. The one recommendation not yet completed in Mrs Wright's case was to review the existing model of care in the ED. The external review conducted recognised there were too many less critical patients attending the EDs and there have been efforts to have these dealt with by GPs or after hours so EDs are utilised for real emergencies. It was noted this recommendation was well advanced in completion which was due by 31 December 2015.

Conclusions

126. In reaching my conclusions it should be kept in mind that a coroner must not include in the findings or any comments or recommendations, statements that a person is or maybe guilty of an offence or is or maybe civilly liable for something.[1] The focus is on discovering what happened, not on ascribing guilt, attributing blame or apportioning liability. The purpose is to inform the family and the public of how the death occurred with a view to reducing the likelihood of similar deaths.

127. If, from information obtained at an inquest or during the investigation, a coroner reasonably believes that the information may cause a disciplinary body for a person's profession or trade to inquire into or take steps in relation to the person's conduct, then the coroner may give that information to that body.

128. In most health care related adverse events there are usually contributory multifactorial issues and a combination of system and human errors. Poor communication, poor documentation and a lack of safeguards can result in poor decisions being made.

129. Mrs Wright died from septic shock due to a bowel obstruction which caused ischaemic bowel. She had probably been suffering from this condition, at least at an early stage, when she presented at Oakey Hospital on 24 December 2013.

[1] s 45(5) *Coroners Act 2003*

Although there is no criticism of the treatment and review conducted on 24 December, in hindsight it was recognised that a planned x-ray should have been completed before she was discharged, which may have assisted in an earlier diagnosis.

130. When Mrs Wright was brought back by her family on 26 December 2013 she was not reviewed by a doctor nor was any treatment instituted and in a four hour period she deteriorated and died. There were a series of almost unbelievable errors, misunderstandings and miscommunications which contributed to this tragic set of events. The nurse looking after Mrs Wright had only one plan and that was for Mrs Wright to be reviewed by the on-call doctor, Dr Hall. She endeavoured to contact him on a number of occasions but his phone was not charged and he did not receive any messages.

131. The failure by Dr Hall to have his phone charged or to advise the hospital of an alternative telephone number was inexcusable, a matter appropriately acknowledged by the Darling Downs Hospital and Health District.

132. Nonetheless the nursing staff should have considered a plan B to appropriately escalate their concerns in the absence of medical staff. This failure was likely due to the fact the seriousness of Mrs Wright's condition was not recognised by nursing staff. There were a number of opportunities where this could have occurred. An earlier review and commencement of treatment may have resulted in a more favourable outcome for Mrs Wright.

133. Jasmyn Carter (Carter-Maher) was a young woman who died from a relatively rare and serious septic condition. If treated early death is not inevitable. Soon after she presented to Warwick Hospital she was observed to have an unexplained drop in her blood pressure. Although this was noted on an adult deterioration detection chart as warranting an emergency response, it was not immediately acted upon as such. Jasmyn was provided with some hydration treatment to see if this brought her blood pressure back to a normal range, but again due to a series of errors, misunderstandings and miscommunications no plan for more frequent observations and review by the on-call medical practitioner Dr Hughes was put in place.

134. As a result the signs of emerging sepsis, which no doubt would have become even more evident over the coming hours, were not recognised and acted upon. As a result appropriate and timely treatment was not instituted, which may have resulted in a better outcome.

135. The DDHHS conducted a timely and rigorous Root Cause Analysis for each case and has implemented a number of appropriate recommendations. Accordingly it is unnecessary to make any specific recommendations relating to each of the Hospitals. The DDHHS has taken each of these tragic cases very seriously and recognised a number of system and staffing issues which were contributory and have acted to address these.

136. On a wider basis is the issue identified for consideration in the inquest, being the implementation and utilisation of the Q-ADDS tool. In Mrs Wright's case the tool had not been implemented, but if it had, her case would have been identified for escalation. In Jasmyn's case it had been used but was not utilised for the purposes of escalation. This was recognised during the course of the RCA which found the tool was not well understood by clinical staff and treated with indifference and yet another document to complete.[2] It was apparent from hearing from the medical and nursing staff that they now have a better understanding of the utility of the tool and would in future have escalated a similar case for more urgent review and treatment.

137. The Patient Safety Unit noted that a number of training exercises and courses including eLearning courses were set up to explain the purpose of the tools and the empowerment to escalate concerns about clinical deterioration to senior staff and the use of clinical handover tools such as Situation, Background, Assessment and Recommendation (SBAR) tools.

138. It is evident from Jasmyn's case and other cases referred to in the footnote above that hospital districts need to be vigilant regarding the education into and use of such early warning and response system (EWARS) tools and continue with the audit programs noted in the RCA recommendations.

[2] Similar findings and comments to that effect were made by Coroner Bentley in the *Inquest into the deaths of GB Gulliver, JL Harrison & AM Morten* delivered 8 December 2014 where it was noted staff failed to utiise the ADDS tool and resulted in failures to recognise the severity of the patient's condition.

Findings required by s. 45

Identity of the deceased – Verris Dawn Wright

How she died – Mrs Wright attended Oakey Hospital on 26 December 2013. It is apparent she was suffering from a bowel obstruction. In a four hour period she deteriorated and died. In that four hour period, due to a series of errors and miscommunications, no medical practitioner reviewed her and no treatment was instituted by nursing staff. The seriousness of her condition was not recognised by nursing staff and hence treatment and review was not escalated at all. An earlier review and commencement of treatment may have resulted in a more favourable outcome.

Place of death – Oakey Hospital, Oakey

Date of death– 26 December 2013

Cause of death –

1(a) Septic shock
1(b) Small bowel ischaemia
1(c) Small bowel obstruction
1(d) Band adhesion (previous appendicectomy
2 Coronary atherosclerosis

Identity of the deceased – Jasmyn Louise Carter (Carter-Maher)

How she died – Jasmyn presented to Warwick Hospital on 3 August 2014. Early in her presentation she was noted to have very low Blood Pressure. An observation chart and tool stipulated this was an emergency situation but this was not recognised or appreciated by nursing and medical staff. Due to a series of errors and miscommunication further and more frequent observations were not instituted resulting in a number of missed opportunities to review her condition and re-assess her. No management plan was written up or acted upon. This resulted in a failure to recognise signs of emerging septic shock

and to institute appropriate and timely treatment which may have changed the adverse outcome.

Place of death – Warwick Hospital, Warwick

Date of death– 4 August 2014

Cause of death – 1(a) Meningococcal septicaemia

Comments and recommendations

139. Ms Robertson of the Patient Safety Unit in Queensland Health advised that a culture of complacency commonly exists around the adequate completion of EWARS. Staff may not take a complete set of observations and may not add up the scores for observations making the use of the EWARS sub-optimal and making it impossible for the EWARS to flag deterioration adequately. All of these issues were identified in Jasmyn's case and noted as an issue by Coroner Bentley in matters she heard late last year.[3] Ms Robertson noted that research to identify sociocultural factors that may impact on this would be extremely valuable.

140. Ms Robertson also noted Q-ADDS has not yet been validated. This work is planned to be conducted in conjunction with Central Queensland University.

141. Accordingly it is recommended that Queensland Health provide sufficient funding to :

    i. Conduct research into the validation of the Q-ADDS tool; and

    ii. Conduct research to identify and address the sociocultural factors that influence compliance with existing hospital care escalation systems.

142. Of significant concern and distress for Jasmyn's mother was that no-one at the hospital telephoned her to tell her about Jasmyn's deterioration and the emergency situation until after Jasmyn had passed away.

143. Accordingly it is recommended that the DDHHS consider a protocol for advising family of the deterioration of a patient immediately upon staff becoming aware of

[3] *Inquest into the deaths of GB Gulliver, JL Harrison & AM Morten* delivered 8 December 2014.

such deterioration, such that family can attend if possible or at least be aware and appraised of the condition of their loved one in a timely and ongoing way.

I close the inquest.

John Lock
Deputy State Coroner
Brisbane
28 August 2015