Taranaki District Health Board

A Report by the
Health and Disability Commissioner

(Case 16HDC01028)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Contents

Executive summary

1. In 2015, Mr A (68 years old at the time) was admitted to the emergency department (ED) of a public hospital with chest discomfort.

2. Blood tests and an electrocardiogram (ECG)[1] showed that he had suffered a non-ST elevation myocardial infarction (NSTEMI) (a heart attack). On Day 2[2] at 1am, Mr A was admitted to a general medical ward, where he was monitored via remote cardiac monitoring, and commenced on anticoagulation and antiplatelet (blood-thinning) medications.[3]

3. During his time at TDHB, however, the following failings occurred:

- Medication administered to Mr A was recorded inaccurately in MedChart; software issues contributed to this.
- Mr A was left alone in the bathroom despite having recently been administered GTN sprays.
- Task Manager[4] was used inappropriately to notify medical staff of clinical issues.
- Nursing staff failed to follow up Task Manager messages with the medical staff.
- There was poor clinical judgement by the overnight house officer, who decided not to review Mr A despite his chest tightness and having required GTN sprays, and later having experienced a fall.
- The house officer did not look at Mr A's patient notes before deciding not to review him.
- Documentation was poor, including the overnight house officer not recording his decision not to review Mr A.
- There was poor communication between staff about Mr A's fall, particularly at the nursing and medical handovers.
- There is evidence that it was not uncommon practice for doctors not to document in the notes when they had attended patients.
- Nursing staff did not notify the house officer of the subsequent discovery of Mr A's head injury following the fall.
- There was no flag or warning system to identify patients on antiplatelet/ anticoagulation therapy, including in TDHB's electronic falls form.

[1] Recording of the electrical activity of the heart.
[2] Relevant dates are referred to as Days 1-3 to protect privacy.
[3] Clexane, aspirin, and ticagrelor.
[4] TDHB's electronic notification tool.

- There was a lack of critical thinking by nursing staff, who continued to administer Mr A's blood-thinning medication, and stopped neurological observations despite being told that Mr A might have hit his head.
- There is no evidence that a falls assessment was undertaken following Mr A's GTN use or after his fall.
- There was no face-to-face handover to the medical team from the night house officer.
- The nursing notes were not reviewed by the medical team during morning rounds.
- It appears that Mr A's knock to the head was not relayed verbally to the afternoon staff during the nursing handover.
- The nursing notes were not always reviewed by the incoming nursing staff.
- Additional medication would have been available for Mr A when he was in palliative care, but the nurse was not aware of this.

Findings

4. The cumulative effect of these failings was that overall care was of a very poor standard. Consequently, it was found that Taranaki District Health Board (TDHB) breached Right 4(1) of the Code of Health and Disability Services Consumers' Rights.[5]

Recommendations

5. It was recommended that TDHB:

a) Undertake an evaluation of the impact of the interventions put in place following its Serious and Sentinel Event Analysis.

b) Provide an update in relation to the remainder of the recommendations made in the Serious and Sentinel Event Analysis regarding what has yet to be implemented, and when this will take place — including, but not limited to, the recommendations in relation to the review of patient notes and the documentation of clinical decision-making to ensure appropriate communication.

c) Undertake an audit for the last six months from the date of this report, to assess whether patients who were diagnosed with a non-ST elevation myocardial infarction were admitted to the CCU in line with recommended practice.

d) Undertake an audit for the last three months from the date of this report, to assess the appropriateness or otherwise of the use of the electronic notification tool. TDHB is to provide a report to HDC that identifies whether clinical matters that normally require face-to-face discussion or a telephone conversation are being actioned adequately in this way, as opposed to via the electronic notification tool.

e) Undertake a review of its communication tools to ensure accurate handover between shifts. As part of this review, TDHB is to consider whether it should introduce a system such as the ISBAR sticker format, in line with Dr Hardcastle's advice.

[5] Right 4(1) states: "Every consumer has the right to have services provided with reasonable care and skill."

f) Provide evidence of its new alert system(s) flagging patients who are receiving antiplatelet and anticoagulation medications.

g) Develop training for new doctors on how to prioritise their tasks when on call, and provide evidence of this training to HDC.

Complaint and investigation

6. The Health and Disability Commissioner (HDC) received a complaint from Mrs A and her family about the care provided to her husband, Mr A, by Taranaki District Health Board. The following issue was identified for investigation:

- *Whether Taranaki District Health Board provided Mr A with an appropriate standard of care over three days in 2015.*

7. This report is the opinion of the Commissioner.

8. The parties directly involved in the investigation were:

Mr A's family	Complainants
Taranaki District Health Board	Provider

Also mentioned in this report:

Dr B	Medical registrar
RN C	Registered nurse
RN D	Registered nurse
Dr E	House officer
RN F	Registered nurse
RN G	Registered nurse
RN H	Registered nurse
Dr I	Consultant physician
RN J	Registered nurse

9. Independent expert advice was obtained from Dr Nicholas Szecket, an internal medicine specialist (**Appendix A**), and registered nurse (RN) Dr Jane Hardcastle (**Appendix B**).

Information gathered during investigation

Background

10. The focus of this investigation has been on issues relating to communication between providers, medication administration, escalation of concerns, and the management of a

fall that resulted in a head injury to a patient who had been receiving antiplatelet and anticoagulation therapy.

11. At around 8pm, Mr A (68 years old at the time) was admitted to the ED with chest discomfort. Blood tests and an electrocardiogram (ECG)[6] showed that he had suffered a non-ST elevation myocardial infarction (NSTEMI) (a heart attack). The ED clinician who reviewed Mr A noted that Mr A was alert and not in acute or respiratory distress.

Admission to medical ward

12. On Day 2 at 1am, the night duty medical registrar, Dr B, decided to admit Mr A to a general medical ward, and this was carried out by the medical admitting house officer.

13. Once admitted to the medical ward, Mr A was monitored via remote cardiac monitoring, and commenced on anticoagulation and antiplatelet (blood-thinning) medications.[7]

14. TDHB told HDC that recommended practice at the time of these events was that a new NSTEMI patient would be admitted to the Coronary Care Unit, which is part of the Intensive Care/Coronary Care/High Dependency Unit (ICU/CCU/HDU). However, TDHB noted:

> "[T]his must at times be considered in the context of bed availability in our CCU and when full, admission will at times require triaging of patients with the most stable patient admitted to the medical ward with an appropriate management plan in place."

15. TDHB said that in this situation, Dr B "knew there had already been 2 very recent acute medical admissions into our ICU/CCU/HDU [and] this would undoubtedly have influenced his decision to admit [Mr A] to the medical ward …".

16. TDHB further said that in such situations when this occurs:

> "[T]he patient will be monitored on telemetry[8] remotely from our CCU where we have a direct emergency phone line to the ward to allow CCU staff to immediately notify the ward staff if a significant arrhythmia is identified."

17. In TDHB's view, Mr A's "telemetry monitoring and associated processes mitigated any potential risk from specifically a malignant arrhythmia".

Administration of glyceryl trinitrate

18. On Day 2 at approximately 2.45am, while "float"[9] staff nurse RN C was taking Mr A's routine vital sign observations, he advised her that he was experiencing some chest tightness. He gave RN C a pain score of 3/10. RN C administered one spray of glyceryl

[6] Recording of the electrical activity of the heart.
[7] Clexane, aspirin, and ticagrelor.
[8] An automated communications process by which measurements and other data are collected from one area and transmitted to receiving equipment for monitoring in another area.
[9] Float nurses (some times referred to as pool nurses) do not have their own patient loads, but instead work between wards assisting other nurses.

trinitrate (GTN).[10] About five minutes later, Mr A was still complaining of chest pain, so RN C administered another spray of GTN. She took his vital signs, which were all normal, and notified RN D (the night duty/after-hours coordinator) that she had given Mr A two sprays of GTN. RN C and RN D then carried out an ECG.

19. RN C told HDC:

> "Unfortunately, I was unable to log into the electronic MedChart to add the GTN sprays I had administered, as it was not possible due to the need for multiple logons and the urgency of the situation. However, I clearly communicated with [RN D] the number of GTN sprays I had administered to [Mr A]."

20. About five minutes later, RN D reviewed Mr A. She told HDC that he advised her that he still had chest tightness and gave a pain score of 1/10. His observations were stable and his blood pressure (BP) was 130 systolic.[11] RN D administered a further two sprays of GTN for the unresolved chest pain. RN D told HDC that in view of his stable observations and BP, she felt that it was safe to do this five minutes after his previous GTN sprays.

21. RN D told HDC:

> "I had the understanding that the GTN spray that had been given [by RN C] was 2x sprays. I was unaware it was two separate sprays of 1x spray five mins apart. Reducing chest pain to 0/10 is a priority so I thought that since the patient had 2x sprays and the pain had reduced from a 3/10 to a 1/10 that another 2x sprays of GTN would likely be more effective in reducing the pain completely."

22. RN D told HDC that because Mr A's chest pain was an emergency situation, the GTN spray was not signed for on the MedChart until after the events. RN D said that by the time there was an opportunity to do so, RN C had gone to another ward. RN D stated:

> "[R]ather than calling her back to sign for the GTN she had administered I signed the GTN spray for her and I signed it as being 2x sprays at 0250 and then my own administration of GTN at 0255."

23. TDHB told HDC that the amount of GTN spray given was within the prescribed dose limits. TDHB also stated:

> "[R]apid administration by multiple users of a medication like GTN … requiring multiple log-in and log-outs [to the MedChart system] is unable to realistically occur in real time."

[10] GTN is used to relieve the symptoms of angina by relaxing the blood vessels and allowing blood to flow more freely to the heart.
[11] Systolic measurement is the pressure in the arteries as the hearts beats. Diastolic measurement is the blood pressure between heartbeats, when the ventricles relax.

First request for medical review/electronic notification to house officer

24. Because of Mr A's chest pain and need for GTN spray, RN D sent the night duty house officer, Dr E, the following electronic message to review Mr A: "gtn x2 and down to 1/10, ecg to review please thanks. Obs ok." The message was sent via Task Manager (TDHB's electronic notification tool).

25. TDHB told HDC that when tasks are placed on Task Manager, they are given priority ratings between 1 and 3, with 1 being urgent, 2 semi-urgent, and 3 routine. The associated time expectation of completion is based on the priority assigned by the task creator. TDHB told HDC that this request was logged as semi-urgent at 2.55am, with a preferred time to be seen by 3.00am.

26. TDHB told HDC that the Task Manager is meant to be used by clinicians to access only routine task requests from the nursing staff and, while the Task Manager "has a 'semi-urgent' category, this is intended to be used for a routine task that has a more urgent timeline for completion, not for a task that is clinically considered semi-urgent". TDHB said that anything clinically urgent is to be phoned through to the medical staff, which should have happened in this case. Nonetheless, TDHB noted to HDC:

> "[Nursing staff] understood [Mr A's] chest tightness was relieved following the final 2 GTN sprays. Noting his vital signs were stable and he was now pain free, they felt reassured enough at the time to choose to place a call on the electronic messaging system."

27. RN D did not follow up her request with Dr E. RN D told HDC that she does not recall receiving any formal training as to when Task Manager should be used. She said:

> "At that time it was common practice to request attention for resolved chest pain using task manager. In practice, task manager was used for all requests for medical attention short of an emergency …"

28. At an unknown time, Dr E attended the ward and reviewed Mr A's ECG, but did not review Mr A physically. According to TDHB, the ECG "did not show any acute changes compared to the previous ECG".

29. Dr E told HDC:

> "Unfortunately, on this occasion, I did not follow my normal practice, which is to review a patient's clinical notes when making a decision not to review a patient. Had I done so, I would have realized that he had only been admitted a few hours earlier for a NSTEMI. … Going forward, it would be useful for such information (new NSTEMI) to be included on the TM [Task Manager] task."

30. Other than signing off the ECG, Dr E did not document his response to the Task Manager notification. TDHB told HDC that this was an oversight. Dr E told HDC: "I accept that I should have documented the decision to not review [Mr A]." He said that it is now his practice to document meticulously.

Fall

31. Shortly after administration of the GTN sprays, Mr A advised RN C that he needed to go to the toilet. She offered him the use of a bottle at his bedside, as she was concerned that mobilisation might trigger another episode of chest pain. However, RN C told HDC that Mr A said that he was fine, and insisted on using the toilet. RN C checked Mr A's BP and asked whether he was feeling dizzy. Satisfied that Mr A was not dizzy, RN C escorted him to the toilet and left the room, leaving him unattended. She told HDC that Mr A was very steady on his feet.

32. TDHB told HDC:

> "[G]iven this was only his second use of GTN spray, more caution was required and he should have been instructed to use the bottle or wait at least 10 minutes following his last GTN spray before mobilising due to the risk of a drop in his blood pressure."

33. At around 3.10am, Mr A used the call bell and told RN D that while he had been in the bathroom he had passed out and had woken on the floor, and had then made his way back to his bed.[12] RN D checked Mr A's vital signs. His BP was low, and she assumed that he had fainted secondary to the GTN use. The clinical notes document: "[Mr A] doesn't appear to have hit head." RN D said that she asked Mr A "if he thought he may have hit his head and he said he didn't think so", but he did complain of a sore elbow. RN D told HDC that she did not see any apparent injury, and his blood pressure had stabilised. A further ECG was performed, and a falls form was completed.

Second request for medical review/electronic notification to house officer

34. At 3.16am, RN D sent a second electronic message to Dr E via Task Manager, requesting medical review of Mr A. The message said:

> "Pt rang bell, was sitting in bed but states he had collapse when in toilet, woke up and he was on the floor and didn't know where he was and then walked back to bed. BP 86/56 so likely vasovagal[13] after having gtn spray only 5 mins earlier."

35. The message was sent as a semi-urgent request (priority 2), with 3.30am as the preferred time within which to be seen. As per the earlier request for review, the task was identified as being one of: "Review patient — clinical concern."

36. TDHB told HDC:

> "[Mr A's appearance to the nurses] was of a patient who, despite an episode of chest pain followed by a fall which was very likely related to his recent GTN spray, was now pain free, had stable vital signs, had a sore elbow but was otherwise orientated and interacting normally."

[12] It is noted that Mr A's family recall Mr A informing them that he had fallen twice during his time in the bathroom. TDHB told HDC that it was aware of only one fall.
[13] Relating to a fall in blood pressure.

37. TDHB said that in this context, "there was no physical prompt for the nurses to follow up with the on-call HO [house officer] for him to come and review the patient more urgently". However, TDHB acknowledged to HDC that, in hindsight, "it was an error of judgment to use the messaging system for a clinically semi-urgent review".

Actions of house officer

38. TDHB told HDC:

> "Given the information presented to [Dr E] that [Mr A] had collapsed following GTN administration, had got himself back to bed and was now sleeping, [Dr E] decided that he did not need to speak with or examine [Mr A]."

39. This information was not documented.

40. Dr E acknowledged to HDC that not reviewing Mr A face-to-face did not represent best practice clinical judgement, but noted that this judgement was made in the context of "lack of experience, fatigue, issues with prioritization and mode of review request". Dr E was in his first year of practising medicine at the time of these events, and told HDC: "Although it is not offered as an excuse, … I was working my 7th (rostered) night in a row. I was physically and mentally exhausted." He further commented:

> "Unfortunately with junior doctors, the 'unknown-unknown' lack of knowledge/ experience can cause errors, and often (rather than a lack of insight), it is simply that the junior did not know of the potential issues/consequences that could occur due to this lack of experience. Having gained the experience I have now, I am confident that such a situation would not recur.
>
> …
>
> At no time during the night did it cross my mind that there was any concern that [Mr A] may have hit his head. I cannot recall what I thought when I read that he 'awoke on the floor', but it is reasonable to expect that I had put it down to the vasovagal event. Had I reviewed his clinical notes I would have been aware that he was on anticoagulation and antiplatelet, and therefore at an increased risk of head injury complications, and therefore a high risk patient for falls."

41. Dr E also told HDC that he was focused on dealing with an acutely deteriorating patient that night, whom he had to accompany to the ICU and continue to reassess until the day team arrived. He said that he did not consider that the acuity of other tasks required him to be pulled away from this patient. Regarding prioritisation, Dr E told HDC that the priority rating in Task Manager "is used as a guideline and is not strictly enforced as there will often be multiple conflicting tasks requiring attention".

42. TDHB's view is that "without question ... [Mr A] should have been reviewed by [Dr E] following his episode of chest pain and following his unwitnessed fall with a drop of blood pressure and loss of consciousness".

43. TDHB could not confirm to HDC when Dr E accessed Task Manager and became aware of the two separate requests relating to Mr A. TDHB told HDC that Dr E had a very busy night, with multiple demands and a number of acute admissions, and that both tasks were signed off on Task Manager after 5.00am. TDHB commented:

> "In the absence of a direct page or phone call that would signify urgency and/or concern from the nurses, it was always a risk that there would be a delay in getting HO review. Until [Dr E] accessed the system, he would have been completely unaware of the episode of chest pain or the fall. Once he became aware and until he reviewed the patient, he may also have been unaware that the patient who had chest pain and who had a fall was the recently admitted NSTEMI patient on blood thinning medications."

44. In addition, TDHB said that there is no dedicated training that specifically teaches new doctors how to prioritise their tasks when on call.

45. TDHB's Serious and Sentinel Event Analysis (SSE) (carried out after these events) noted that the task was signed off as completed (as the medical officer had reviewed the ECG), even though there had been no physical review. The event report noted that Task Manager gave nursing staff a false sense of "job completion", and may have led to no further follow-up occurring. TDHB acknowledged that the use of Task Manager may be contributing to an issue of complacency amongst nursing staff when they are requesting medical staff review.

Actions of nurse

46. RN D told HDC that she went for a 30-minute break and returned at approximately 4.30–5am. When she returned, she did not know, and the other staff nurse was not sure, whether Dr E had reviewed Mr A. RN D told HDC:

> "It was not uncommon practice for the doctor not to document in the notes when they had attended but decided not to wake a patient to review them in person after a fall and therefore the absence of documentation did not alert me to the fact the doctor had not been."

47. RN D did not follow up her second request with Dr E.

Knowledge of possible knock to head during fall

48. At 6.15am, RN D took routine bloods from Mr A, and he advised her that he thought he must have hit his head when he fell, as a lump had developed on the back of his head. RN D carried out neurological observations, which were stable. She told HDC that other than the lump, Mr A said he felt fine.

49. RN D told HDC:

> "The on-call house surgeon wasn't on the ward and was likely busy at this time so I decided to document what had happened and hand it over to the morning staff verbally as some of the morning shift were already present on the ward … Given the

> timing of this event (just prior to handover) and that [Mr A's] GCS[14] was 15 and was otherwise asymptomatic I did not consider that telephoning the medical staff would ensure that was any sooner than handing over [to] the morning shift."

50. Dr E was not notified of Mr A's head injury. TDHB considered that once it was identified that Mr A had struck his head, Dr E "should have been notified immediately due to the heightened risk of a patient fall with head injury in tandem with blood thinning medications". While TDHB acknowledged that RN D was reassured by the normal neurological observations, and that Mr A was alert, responsive, and uncomplaining, in TDHB's view, a telephone call to Dr E may have prompted an earlier follow-up.

Morning nursing handover

51. RN D handed over to the morning nursing staff, including the Ward Coordinator, RN F,[15] and the morning nurse, RN G, who began her shift at 6.45am. RN D told HDC that she informed them that Mr A had hit his head and would require a medical review as soon as the morning medical team arrived.

52. RN F told HDC that she recalls that at the morning handover RN D reported:

> "[Mr A] had had a fall, that she had recently discovered that he had hit his head and had a bump, that his neuro obs and vital signs were all stable but that he needed to be reviewed by the medical team on their ward round."

53. RN G also recalled being told that Mr A might have hit his head.

Discontinuation of neurological observations

54. Despite having been told that Mr A might have hit his head, RN G did not continue with neurological observations. She told HDC that she took Mr A's vital signs and was able to assess his GCS as 15/15 just through conversation with him. She did not assess his pupil reaction to light or record her observations on the neuro observations chart. She said: "I don't know why I didn't use that form, as it would be my usual practice to do so." RN G said that she was focused on the cardiac treatment, and Mr A appeared alert, stable, and communicative, and did not show any indications of a head injury.

55. TDHB told HDC:

> "This was an error of judgment … While neurological observations should have continued until an informed decision was made to discontinue them by the medical team, the outward presentation of a stable patient was the context in which these errors of judgment occurred."

[14] Glasgow Coma Scale — an assessment tool used to measure a person's level of consciousness.

[15] The Ward Coordinator provides shift-to-shift operational oversight for the ward. The role has a general watching brief over all patients. However, TDHB told HDC that it is not an expectation of that role to be responsible and accountable to follow up all patient-specific actions across the ward.

Administration of anticoagulants

56. RN G gave Mr A his anticoagulant medication when due at 10am. She told HDC:

> "[I gave the medication] in the context of treating [Mr A's] established NSTEMI, I did not do a full physical assessment other than his abdomen which was the injection site and observed no excessive bruising from his previous injection."

57. RN G administered further antiplatelet medication to Mr A at 1.02pm, when it was due. RN G did not seek medical advice before administering the anticoagulants.

58. TDHB told HDC:

> "The decision to administer blood thinning medication to a patient who had a fall overnight and knocked his head without first consulting with the medical team was poor judgment. It reflects a lack of appreciation of the significant risk posed by patients on blood thinners who injure themselves, even more so when it involves a head knock."

59. TDHB said that at the time of these events, the increased use of blood-thinning medication for acute coronary syndrome had not been accompanied by an increased educational focus for its staff on the associated risks.

60. As discussed below, RN G was on her lunch break during the medical ward round. TDHB told HDC that when RN G returned from her break, and prior to administering the ticagrelor (antiplatelet medication/blood thinner) at 1.02pm:

> "[RN G] presumed incorrectly that [the medical team] would have seen documentation of the fall when reviewing the clinical record while seeing [Mr A]. She thus presumed there had been an informed decision to continue with the blood thinning medication regime."

Morning medical review

61. Dr E did not inform the incoming medical team of Mr A's fall or chest pain overnight. TDHB told HDC that usually there is a face-to-face handover to the medical team from the night house officer and night medical registrar at 8.00am, and that a handover protocol details this expectation for the morning handover. TDHB stated:

> "[O]n the morning in question, the night HO at the exact same time as the handover was busy on the medical ward managing the urgent transfer to our High Dependency Unit of a patient in respiratory distress and requiring Bi-PAP support. He was thus unable to attend the handover meeting for reasons beyond his control and his handover of the patient events of the night would have been unexpectedly compromised at the last minute. Regardless, the handover would not have identified that [Mr A] had hit his head as the HO never knew about this."

62. At 8.00am, Dr B presented at the doctors' handover. Consultant physician Dr I was also at the handover. Dr I told HDC that no alarms were raised regarding Mr A, and there was no mention of any falls.

63. At 10.30am, the cardiac nurse specialist visited Mr A. She documented her conversation with Mr A, including mention of the fall. After this, Dr I, a medical registrar and two house officers went to see Mr A, but he was out of the ward having a heart ultrasound.

64. At approximately 11.30am, the medical team returned and reviewed Mr A. Dr I told HDC that he examined Mr A. Dr I stated:

> "The junior doctors presented [Mr A] to me, which included admitting notes, examination, diagnosis and management. … Unfortunately the nursing notes were not reviewed by the [medical] team and the overnight issues (the fall) were not relayed to the rounding medical team."

65. Each member of the medical team noted to TDHB that the events of the night, including the fall, were not discussed with them by Mr A or his family. Therefore, the medical team was unaware of Mr A's fall, and continued to prescribe blood thinners, and the notes written by Dr I at the time did not mention the fall.

66. In response to the provisional opinion, Mr A's family queried how, if an examination took place, the medical team did not see the bruising on Mr A's elbow and the lump on his head following the fall.

Nursing involvement

67. The medical staff who undertook the ward round were not informed verbally by the nursing staff about Mr A's fall or head injury.

68. At the time of the medical review, RN G was at lunch, and no other nurses attended the ward round, as they were busy with other complex patients. RN F told HDC that she accompanied medical team ward rounds regularly, depending on what else was happening in the ward at the time.

69. RN F said:

> "On this particular duty, there were a number of complex patients on the ward who required my input … As far as I was aware, [Mr A] was stable and was to be reviewed by the medical team on their ward round. There was no information available to me to suggest his condition post his fall had deteriorated or was causing any concern that required urgent review. I was not aware that following the medical team ward round, the [medical] team remained unaware of his overnight fall or his head knock.
>
> In the absence of a nurse escort for the medical team ward round, it would be my expectation that the [medical] team make reference to the nursing documentation in the shared clinical record to ensure they remain well informed of any significant issues that may have arisen."

70. RN G told HDC that she also assumed that the medical team knew of the fall. She stated:

> "In hindsight I realise that I shouldn't have assumed that and that it would have been ideal for me to talk with the doctors personally. While not trying to excuse myself, the fall was not at the front of my thinking at this time I was really just thinking about the cardiac treatment."

71. TDHB told HDC that it is unrealistic to expect that every ward round will be able to have a nurse escort, although it is desirable. TDHB noted that "when a nurse escort is not present, there is extra responsibility on both the nursing and medical teams to ensure good communication occurs which clearly did not happen on this occasion".

Afternoon nursing handover

72. RN H was allocated Mr A as one of her patients for the afternoon shift, which started at 2.45pm, and was also the afternoon Ward Co-ordinator. RN G handed over Mr A's care to RN H. RN G recalls handing over that Mr A had had a fall overnight, but does not recall whether she specifically stated that he had hit his head. RN H said that she was advised of Mr A's fall, but not that he had hit his head or that the medical team was unaware of his fall.

Mr A's report of a headache

73. At around 3.30pm, a student nurse under the supervision of RN H assessed Mr A and took his observations, which were normal, and no concerns were raised.

74. At approximately 7.30pm, Mr A's family advised the nursing staff that Mr A had a headache. RN H and the student nurse then took Mr A's observations, and his vital signs were stable. Mr A complained of feeling dizzy when he stood up, and of chronic neck pain. The sore neck was explained as being a long-standing issue, and Mr A's daughter was to bring in his own pillow. RN H attributed the dizziness to the introduction of his new beta-blocker medication, which slows the heart rate and lowers the blood pressure, and thought that the neck pain could have accounted for the headache.

75. At 7.46pm, RN H administered paracetamol to Mr A. She told HDC that Mr A had told her that Panadol had been effective on previous occasions. RN H told HDC that the Panadol appeared to have the desired effect, as Mr A later appeared to be settled in bed with no complaint of a headache.

76. RN H further told HDC:

> "As there had: been no mention of head injury; been no neurological observations taken on the morning shift; and because [Mr A] responded to the Panadol given, I did not make the connection regarding the potential cause of [Mr A's] headache. In addition, there was nothing mentioned in the consultant round that had taken place at approximately 1130am that morning, to alert me.

> As a result I considered I was treating [Mr A's] as a cardiac patient rather than as a patient who could have sustained a cerebral bleed. It is for these reasons, that I did not consider that neurological observations should be taken or that a medical review should be sought."

77. At approximately 9.15pm, nursing staff found that Mr A had vomited, was breathing abnormally, and was non-responsive. Resuscitation commenced, and Mr A was stabilised, but it was evident that his neurological function was severely compromised. Mr A was sent for an urgent CT scan, and a large acute subdural haemorrhage was identified. Following discussion with family, it was decided that Mr A would receive palliative care.

Palliative care

78. Mr A's family raised concerns with TDHB regarding the palliative care provided to Mr A. Specifically, the family was distressed as Mr A was struggling to breathe, and although it appears that further medication was available, the nurse thought it was not.[16] The family also stated that they were not provided with enough information on what to expect during this time, and that the nurse caring for Mr A was unhelpful.

79. TDHB told HDC:

> "The manner in which [Mr A] was cared for during the end stages of his life has been discussed in detail with [the family] and apologies made as we agree that there were more options available to keep [Mr A] comfortable that weren't explored. This has been discussed directly with the nurse involved and included in the nursing education package that has been developed as a direct result of a number of issues that have been highlighted in this case."

80. RN J was the primary nurse overseeing Mr A during this time. RN J told HDC that usually there are five nurses on the night shift managing the two wards, but on that night there were only four. She told HDC that Mr A did appear distressed, with very loud gasping respirations, despite receiving oxygen.

81. At 10.30pm, 2.5–5mg of morphine was charted two-hourly. At 11.28pm, a nurse gave Mr A 2.5mg of morphine. RN J gave him a further 2.5mg of morphine at 12.40am, and 2.5mg of midazolam[17] at 12.57am. In response to the provisional opinion, Mr A's family told HDC that the pool nurse had told them that if they felt that Mr A needed more medication, they just had to ask.

82. The family requested further medication, but RN J thought that she could not access further medication, as it was not yet due. She thought that she was locked out of the medication chart until the next dose was due. TDHB advised HDC that morphine was not due, but that midazolam was available.

83. Mr A died at 2.30am the following morning.

[16] TDHB said that the nurse did not understand the medication chart.
[17] A sedative.

84. TDHB said that RN J was confronted with an uncommon clinical situation, which was very difficult to manage. TDHB noted that during her shift, she also shared the admission of four new patients, managed the death of a second patient, and was responsible for 11 patients. TDHB said that this "constrained to some extent her ability to spend time with and respond to the wider needs of [the family] as well as [Mr A] during his last hours".

Further information

85. The majority of the nurses caring for Mr A told HDC that they were working in a busy environment at the time of these events. RN D stated that the night shift (on Day 2) was "moderately busy". She said that during the night shift only two nurses were allocated to care for patients, and they were also managing admissions from ED.

86. RN G, who took over from RN D on the morning of Day 3, told HDC that she recalls being busy up to the end of the shift.

87. RN H took over for the afternoon shift. She told HDC: "[T]he shift was extremely busy … which is why we were sent a pool nurse to help with admissions."

88. In relation to the night shift of Day 3, RN J told HDC that they were down one nurse that night. TDHB said that RN J had to manage four new patients that evening and also the death of a second patient, and was responsible for 11 patients overall. TDHB acknowledged that this is likely to have affected her level of care.

TDHB

89. TDHB acknowledged that if Mr A had been admitted to the Critical Care Unit instead of the medical ward, "the closer supervision [Mr A] would have received in CCU due to the higher nurse/patient ratio would have made a fall much less likely".

90. TDHB also told HDC that following these events, ongoing monitoring of its electronic notification system made it aware of some continued inappropriate use by nursing staff for signalling semi-urgent clinical tasks that the DHB would consider non-routine. TDHB said that as a result it instructed its Clinical Nurse Managers to remind staff that the system is to be used only for communicating routine tasks. TDHB stated:

> "[Currently we are] liaising with our resident medical officers and our IT development team to look to modify the system and associated processes to remove any potential for further confusion and/or risk."

Serious and Sentinel Event Investigation Analysis

91. TDHB carried out a Serious and Sentinel Event Investigation Analysis (SSE) in relation to these events. TDHB provided Mr A's family with a copy of the report from the SSE. Among other things, the SSE report noted the following:

- Ward nurses have a significantly higher patient to nurse ratio than ICU/HDU/CCU nurses, which can make managing complex clinical situations more difficult.

- Some patients, like Mr A, admitted to the public hospital after experiencing an NSTEMI were not always being transferred to ICU/HDU/CCU for a period of monitoring.
- The Task Manager may give a false sense of "job completion" to nursing staff, and may have led to no further follow-up by the medical team.
- There was no flag or warning system to identify patients who are on antiplatelet/anticoagulation therapy, and no flag to identify such patients in the electronic falls form.

Actions taken

92. TDHB told HDC that it has undertaken the following actions, as recommended in the SSE report:

- Presentations and education sessions reinforcing to all nursing staff:
  - safe use of GTN and risk of mobilisation;
  - the risks of anticoagulation and antiplatelet therapy when a patient falls;
  - the importance of good communication between all clinical teams; and
  - electronic doctor requests and the importance of ensuring follow-up.
- Presentation of the case at the public hospital's Multidisciplinary Morbidity, Mortality & Improvement Meeting in March 2016, highlighting:
  - the risks of antiplatelet and anticoagulation therapy and falls;
  - doctor review of patients following falls;
  - handover of relevant events between shifts and between doctor teams;
  - the importance of good communication between all clinical teams; and
  - the importance of reviewing previous nursing shift reports, particularly when there is no nurse escort available during the medical ward round.
- Introduction of a bright green fluorescent sticker to the inpatient wards, and other updates to nursing documentation and processes, to alert staff of patients who are receiving anticoagulation and antiplatelet medications.
- A flowchart regarding patient falls has been updated to include an instruction to withhold any anticoagulation medication until doctor review.
- An electronic icon has also been added to the electronic whiteboard, alerting staff to patients who are receiving therapeutic anticoagulation and antiplatelet therapies.
- Medical teams and ICU nursing staff have been advised, and since reminded, that all NSTEMI patients are to be transferred to ICU/CCU/HDU for +/– 24 hours of cardiac monitoring unless contraindications exist.

93. Recently, TDHB changed its roster system, and it is no longer acceptable practice for a medical practitioner to work for seven nights in a row. TDHB stated: "Now, the maximum consecutive number of nights that a house officer is allowed to be rostered on to work is 4."

94. TDHB told HDC that the aspect of the complaint relating to palliative care was followed up with RN J, and she has since attended relevant education sessions. TDHB said that it highlighted with RN J, and the wider team, the responsibility to liaise with medical staff to achieve an appropriate dose of analgesic and/or sedative medication to keep a dying patient comfortable.

95. TDHB also notified the Health Quality & Safety Commission (HQSC) of these events.

Responses to provisional opinion

96. The parties were all given the opportunity to respond to relevant sections of my provisional opinion.

97. TDHB accepted the "factual accuracy of the provisional opinion" and had no further comments to make. The CEO apologised to Mr A's family "for what must have been an extremely distressing time for them during and after [Mr A's] admission and for which we are very sorry".

98. Mr A's family's response has been added to the report where relevant. In addition, they queried why they were told by TDHB that following a previous incident, the ED had "massive learnings about the risk of blood thinners and a patient with falls", yet these learnings had not been put in place for all medical staff at the public hospital.

Opinion: Taranaki District Health Board — breach

Contextual factors

99. The focus of my report is on the role TDHB played in caring for Mr A during the time of these events. District health boards are responsible for the operation of the services they provide.

100. Expert nursing advice was sought from Dr Jane Hardcastle, a registered nurse. Repeatedly in her advice, Dr Hardcastle refers to the "busy nature of the clinical environment and understandable workload demands on health professionals' time", the cumulative effects of which "were detrimental to the staff's ability to make informed decisions regarding Mr A's care". Expert internal medicine advice was sought from Dr Nicholas Szecket. He indicated some of the factors that mitigate his criticism of Dr E's poor clinical judgement, including that Dr E was very busy and exhausted after having worked seven night shifts in a row. As noted by Dr Hardcastle, it is the responsibility of TDHB to explore the extent to which clinical workload impairs appropriate practice.

101. In relation to the communication between nursing and medical staff, Dr Hardcastle noted that during the morning, multiple assumptions were made by the staff who cared for Mr A, which "highlight a shared responsibility amongst medical and nursing staff to ensure that good communication occurs".

102. Dr Hardcastle advised that the communication between nursing and medical staff overnight "was inadequate in this case, leading to clinical decisions being made by several health professionals who were inadequately informed of relevant information about Mr A's condition".

103. Again in relation to the communication between nursing and medical staff overnight, Dr Hardcastle advised that any individual actions or inactions that occur as a consequence of workload and/or inability to communicate effectively represent a mild departure from expected standards. She said:

> "These are likely to be influenced by systems and processes within the clinical context impacting on the individuals' ability to provide care rather than deliberate actions or omissions."

104. Dr Hardcastle further advised:

> "[W]hilst each individual omission in communication (written or verbal) represents a mild departure from expected standards when considered in isolation, the cumulative effects of nursing and medical communication breakdown in this case were detrimental to [Mr A's] care. I consider this to be a moderate departure from expected standards."

105. Dr Hardcastle noted that it was the systems and processes that appear to have contributed to the cumulative effects of communication breakdown and the quality of care provided to Mr A.

106. I note that there was an accumulation of individual actions and inactions, including an inadequate assessment of Mr A's falls risk and other individual nursing issues, which are discussed in more detail below.

Admission to medical ward

107. Mr A was a new NSTEMI patient and, as such, TDHB's stated recommended practice was for him to be admitted to the CCU. However, at the outset, Mr A was transferred to the medical ward. TDHB has indicated that admission to the CCU will at times need to be considered in the context of bed availability, with the most stable patient being admitted to the medical ward with an appropriate management and monitoring plan in place. TDHB acknowledged that patients other than Mr A who were admitted to the public hospital after experiencing an NSTEMI were not always being transferred to ICU/HDU/CCU for a period of monitoring.

108. TDHB told HDC that when Dr B decided to admit Mr A to the medical ward, there had been two very recent acute admissions to the ICU/CCU/HDU. I have not been provided with evidence that no beds were available in the CCU. However, I note the ED clinician's documented impression that Mr A was alert and not showing signs of acute or respiratory distress.

109. The SSE report noted that managing complex clinical situations on the ward is more difficult than in the CCU, owing to the significantly higher nurse-to-patient ratio in CCU. I agree. Had Mr A been admitted to the CCU instead of the medical ward, it is likely that he would have received a heightened level of care. I appreciate that Mr A did not present to ED in acute distress, and that clinicians need to ensure that ICU/CCU/HDU beds are available for people who present to ED requiring acute care. Nonetheless, it is concerning that Mr A was not admitted to the CCU.

110. It is pleasing that TDHB has made changes to ensure that such patients are now sent to an intensive care unit.

Administration of GTN

111. Four sprays of GTN were administered to Mr A. RN C provided the first two sprays, but did not document this personally on the electronic MedChart. RN D gave the second two sprays, and rather than calling RN C back from another ward, RN D signed for all four GTN administrations on the MedChart. RN C told HDC that she did not log in to the electronic MedChart, owing to the time constraints created by the urgency of the situation and the fact that MedChart required multiple logons.

112. While the drug doses administered were recorded and the amount provided was consistent with the prescription, it is concerning that the administering nurse is not documented accurately on the MedChart.

113. Dr Hardcastle stated that although the total dose of GTN sprays did not exceed the prescription, the timing or dose of the drug administered was not clear, or factually correct, in the available documentation. She advised that the documentation of GTN spray administration in this case was not consistent with relevant practice standards and guidelines current at the time of these events. She further advised:

> "The inability of the person administering medication to electronically sign for their administration at, or close to, the time of administration represents a moderate departure from expected standards."

114. As noted by Dr Hardcastle, systems should enable the administrator to sign for medication "close" to the time, rather than require the administrator to delegate the responsibility to a colleague. I note that TDHB has acknowledged that multiple log-ins and log-outs are a limitation with its electronic medication administration system.

115. I am critical that practical challenges existed with the electronic MedChart (including that it required multiple logons), and that as a result, the person who gave a drug, and the time of administration, were not always recorded accurately.

Unattended bathroom visit

116. Shortly after administration of the GTN sprays, Mr A advised RN C that he needed to go to the toilet. I note that RN C told HDC that she was concerned that mobilisation might trigger another episode of chest pain, but that Mr A insisted on using the toilet. RN C

checked Mr A's BP and, satisfied that Mr A was not dizzy, she escorted him to the toilet and left the room, leaving him unattended.

117. TDHB told HDC:

> "[G]iven this was only his second use of GTN spray, more caution was required and he should have been instructed to use the bottle or wait at least 10 minutes following his last GTN spray before mobilising due to the risk of a drop in his blood pressure."

118. I agree. As also identified in TDHB's SSE report, this is concerning.

Requests for house officer review

119. Two semi-urgent requests were sent by RN D to Dr E to review Mr A that night — the first after Mr A required GTN for his chest pain, and the second after Mr A's unwitnessed fall. These requests were made via Task Manager, which, according to TDHB, is meant to be used for routine tasks only, not for tasks considered clinically semi-urgent.

120. In response to the first request, Dr E reviewed and signed off the ECG, but did not review Mr A. In response to the second request, Dr E reviewed the information presented to him (that Mr A had collapsed following GTN administration, had got himself back to bed and was now sleeping), and considered that he did not need to speak to Mr A. Other than signing off on the ECG, Dr E did not document his actions in response to either request. RN D did not follow up with Dr E following either request.

121. At around 3.10am, Mr A informed RN D that he had fallen. The notes state: "[D]oesn't appear to have hit head." The electronic request to Dr E for medical review stated:

> "Pt rang bell, was sitting in bed but states he had collapse when in toilet, woke up and he was on the floor and didn't know where he was and then walked back to bed. BP 86/56 so likely vasovagal after having gtn spray only 5 mins earlier."

122. At approximately 6.15am, Mr A told RN D that he thought he had bumped his head when he fell, as a lump had developed on the back of his head. RN D carried out neurological observations, which were stable. She told HDC that as Dr E was not on the ward and likely was busy, she decided to document what had happened and hand it over to the morning nursing staff, as some morning staff were already present on the ward. She said that given the closeness in time to handover, and that Mr A's GCS was 15 and he was otherwise asymptomatic, she considered that telephoning the medical staff would not ensure medical review any sooner than handing over to the morning shift. She said that she passed on to the morning nursing staff that Mr A had hit his head and needed to be reviewed by the medical team as soon as the team arrived.

Actions of house officer

123. Despite two separate requests by RN D for Dr E to review Mr A physically, this did not occur. TDHB has acknowledged that Dr E should have reviewed Mr A. I note Dr E's comments that he had another acutely deteriorating patient to look after that night, and he did not consider that the acuity of other tasks required him to be pulled away from this.

124. My expert advisor, Dr Szecket, considered that "the failure to prioritise the face-to-face review of Mr A by the on call house officer (HO) was poor clinical judgment". Dr Szecket advised that this was a moderate departure from accepted practice. He pointed to a number of clinical circumstances and risks that should have prompted Dr E to review Mr A physically and perform a neurological assessment, including that Mr A had ongoing angina, he had had an unwitnessed fall with a loss of consciousness, and he was on three different blood-thinning medications. Dr Szecket stated that in light of this history, Mr A was at risk of intra-cranial bleeding and malignant ventricular arrhythmias.

125. However, Dr Szecket also commented:

> "I know of no dedicated training that specifically teaches new doctors how to prioritise their tasks when on call. The on call HO undoubtedly was being pulled in multiple directions and would need to continuously prioritise his/her work. It is not difficult to envision how this particular request (which was an impersonal, electronic message rather than an urgent personal phone call) could be dismissed by the HO — a 'faint' in a healthy, 'naive to medications' man who had just received at least 4 sprays of GTN spray and who then stood up and passed urine."

126. Dr Szecket said that in light of the combination of Dr E's inexperience, being very busy, and being exhausted after many continuous nights on duty, "it was not difficult to see" why Dr E decided not to review Mr A personally.

127. In addition, while Dr E did review Mr A's ECG at some stage, he did not document his decision not to review Mr A physically. Dr Szecket advised:

> "The HO made a very active decision that no further investigation was necessary on the basis that the ECG was unchanged from previous. These clinical decisions should be documented, and I would consider the failure to do so a moderate departure from accepted practice."

128. I agree, and I am critical that nothing was documented about Mr A by Dr E during the night.

129. I note that RN D told HDC that she did not know whether or not Mr A had been reviewed, as clinicians did not always document when they had attended.

130. I further note that the SSE report identified that at the time of these events, there was no flag or warning system to identify patients on anticoagulant/antiplatelet therapy, and no flag to identify such patients in the electronic falls form. Dr E told HDC that had he reviewed the clinical notes, he would have known that Mr A was on anticoagulation and antiplatelet medication, and therefore at an increased risk of head injury complications and a high-risk patient for falls. A flag/warning system may have assisted Dr E in identifying this important medical information.

131. I am critical that Dr E did not review Mr A physically during the evening of Day 2, but I am also concerned that TDHB's work environment contributed to Dr E's failure to do so.

132. It is also concerning that RN D stated that clinicians did not always document when they had attended to a patient. As advised by Dr Szecket: "It is standard practice to document in the patient's notes any review or decision made about a patient's care." For adequate coordination of care, people need to know whether medical review is still required or not. The system and operating environment should require clarity on these matters.

Actions of nurse

133. As advised by Dr Hardcastle, and as acknowledged by TDHB, in the context of these events, it would be expected that the nurse would telephone or have a face-to-face conversation with the on-call doctor to ensure that clinical information was articulated clearly and the doctor was fully informed of the patient's situation. Dr Hardcastle advised that it would be expected that the nurse caring for Mr A would:

- Inform colleagues that they needed to talk to the on-call doctor when the doctor arrived to review Mr A;
- Check to make sure that the doctor had attended the ward as requested to review the ECG and to examine Mr A following his fall;
- Review the clinical record for evidence of medical review if the doctor's attendance was not witnessed personally;
- Discuss with colleagues if no evidence of the doctor's visit could be found;
- Make further contact with the doctor when it became apparent that the doctor had reviewed the ECG but not reviewed Mr A following his collapse; and
- Document in the clinical records that the doctor had not examined Mr A following his collapse.

134. I note that the Task Manager tasks were signed off as having been completed, but that Mr A was not reviewed physically. The SSE report noted that Task Manager may have given a false sense of "job completion" to nurses, and may have led to no further follow-up with the medical team. TDHB also acknowledged that the use of Task Manager may have been contributing to an issue of complacency amongst nursing staff when they requested medical staff review. Dr Hardcastle advised: "It would appear that this was a factor in [Mr A's] care."

135. I agree with Dr Hardcastle's recommendation that "the nurses' use of [Task Manager] is reviewed, clearer guidance provided for nursing and medical staff regarding appropriate use of the tool, and when personal communication may be warranted".

136. While I am critical that the request was not followed up by the nurses, in my view it is also concerning that TDHB did not have an adequate system in place to ensure that the nurses were aware of whether or not the on-call house officer had responded to the request to review Mr A. I am also critical that RN D stated to HDC that it was normal practice to use Task Manager to notify clinicians of such events as these and, furthermore, that she does not recall receiving any formal training as to when Task Manager should be used.

137. However, it is pleasing that such training has since taken place, and process changes have been made to ensure that Task Manager is used to communicate routine requests only. Dr Hardcastle noted that this is a positive process change regarding future communication of concerns and timely clinical review.

Knowledge of possible knock to head during fall

138. Dr Hardcastle advised that when Mr A told RN D at 6.15am that he thought that he had hit his head, RN D would have been expected to undertake the following:

- Escalate the urgency of request for medical review, given Mr A's history of antiplatelet and anticoagulant medication administration;
- Undertake a preliminary physical examination of Mr A; and
- Document the above assessment findings in the clinical record.

139. RN D did undertake a preliminary physical examination of Mr A and document the fall accordingly. However, she did not escalate the urgency of her request for medical review by telephoning the medical staff; instead, she decided to advise the incoming morning staff of the need for a medical review at handover.

140. Dr Hardcastle advised:

> "In order to ensure that relevant information is communicated to the appropriate health professional, a telephone call to the on call house surgeon to inform him/her of the head injury and time elapsed since the fall would have been more appropriate (and a reasonable expectation) …"

141. Dr Hardcastle noted that RN D's assumption that Mr A would be seen by the medical team in a timely manner that morning represents "an understandable, but unacceptable departure from expected standards". Dr Hardcastle stated:

> "The contextual influences, including systems and processes, are likely to have significantly influenced this moderate departure that appears to have arisen from cumulative assumptions or presumptions regarding communication of important information rather than deliberate action or omission on the part of any individual."

142. I agree. While it was not unreasonable for RN D to assume that Mr A would receive a timely medical review during the morning rounds, I nonetheless note that RN D's failure to follow up or escalate the request to Dr E was a missed opportunity for Mr A to be reviewed earlier.

Nursing handovers

Night to morning staff

143. RN D told HDC that she informed the incoming morning staff that Mr A had hit his head during an unwitnessed fall that had resulted in a period of unconsciousness. She told the morning staff that neurological observations had been commenced, and that Mr A would require a medical review as soon as the medical team arrived. RN D was not aware that

the on-call house officer had responded to the requests to review Mr A. RN F recalled to HDC that RN D reported that Mr A had had a fall, and that recently she had discovered that he had hit his head. RN D noted that his neurological observations and vital signs were all stable, but that he needed to be reviewed by the medical team on their ward round. RN G also recalled being told that Mr A might have hit his head.

144. Dr Hardcastle advised that handover of the following information would represent best practice in situations of this nature: that the fall was un-witnessed, that Mr A had lost consciousness at the time of the fall for an unknown period, that he had not been reviewed by a doctor following his fall, and that he had received multiple antiplatelet and anticoagulant medications, and the implications of this in the context of the fall.

145. While there is evidence that much of this information was communicated during the handover, although the recollections of the receiving nurses vary, there is no evidence that RN D mentioned the anticoagulant medication administration and potential risks associated with this. I accept Dr Hardcastle's advice, and I note that communication of this information would be considered best practice.

Discontinuation of neurological observations

146. RN G recalled being told at handover that Mr A might have hit his head. However, she decided not to continue Mr A's neurological observations. RN G said that she was focused on the cardiac treatment, and that there was no indication that Mr A had a head injury.

147. Dr Hardcastle advised that the failure to continue neurological observations is "concerning given the nature of neurological deterioration that can occur in clinical presentations of cerebral bleeds. Neurological observations are undertaken to detect the possibility of subtle, early changes should they occur." While I note that RN G told HDC that Mr A presented as an alert, stable, and communicative patient, I am critical that apparently she did not appreciate the need to continue close monitoring. I expect nurses, as a matter of course, to undertake neurological observations of a patient who has had a bump to the head, and especially when that patient is receiving antiplatelet therapy, at least until the patient has been reviewed by a doctor. Dr Hardcastle advised that the failure to continue neurological observations was a departure from the expected standard of care. I am critical that despite knowing that Mr A may have sustained a head injury, RN G discontinued his neurological observations.

Administration of anticoagulants

148. RN G did not seek medical advice before continuing to administer anticoagulants, despite being told at handover that Mr A might have hit his head. Dr I's notes also do not reference the fall or whether the medical review team had considered this issue in the morning review. TDHB stated that the decision to administer blood-thinning medication to a patient who had had a fall overnight and knocked his head, without first consulting with the medical team, was poor judgement.

149. The New Zealand Nurses Organisation's *Guidelines for Nurses on the Administration of Medicines*[18] includes the following:[19]

> "**12.2 Prior to administration**
>
> Prior to administration of medication, the regulated nurse … administering the medicine:
>
> - ensures they are aware of the client's current assessment and planned programme of care; and makes a clinical assessment of the suitability of administration at the scheduled time of administration.
> - is aware of the therapeutic uses of the medicine to be administered, its normal dosage, side effects, precautions and contra-indications;
> - contacts the prescriber/pharmacists, designated senior health professional as appropriate, if:
>   - there are potential adverse interactions with other medicines;
>   - where contra-indications to the administration of any prescribed medicine are observed; …"

150. Dr Hardcastle advised:

> "It would be expected that, a registered nurse who has been informed of a patient's history that includes a fall, potential head injury and recent administration of multiple antiplatelet and anticoagulant medications would make the clinical decision to withhold further doses of such medications until the patient had been reviewed by [a] doctor ..."

151. I accept this advice. As identified in the SSE report, at the time of these events there was no flag or warning system to identify patients on anticoagulant/antiplatelet therapy. As identified by the nurses, they were focused on Mr A in terms of being a cardiac patient, and therefore did not automatically focus on the seriousness of a fall for a patient on anticoagulants. Furthermore, there was no flag or warning system on the electronic falls form to identify patients on anticoagulation/antiplatelet therapy to ensure that this additional risk factor was taken into account and that these patients were assessed by a doctor. Not only was there an apparent lack of critical thinking, it is also clear that the systems could have been improved in this regard.

152. It is pleasing that actions have been taken by TDHB to address the risk assessment for patients on anticoagulants, the process requirements for falls assessment, and nursing education concerning anticoagulant use. Dr Hardcastle advised: "These represent positive steps to address the recognised departures that occurred during [Mr A's] hospitalisation."

[18] 2014.
[19] Appendix one, pp 46–47.

153. At the time of these events, however, in light of Mr A's history of a fall and head injury, I am critical that RN G did not withhold anticoagulant medications until medical input could be obtained.

Handover from morning to afternoon staff

154. It appears that RN H was not informed during the handover to afternoon staff that Mr A may have hit his head at the time of his fall. I am critical that during this nursing handover, incoming staff were ill-informed of Mr A's relevant history.

Administration of anticoagulant, and neurological observations by afternoon staff

155. As noted above, in relation to Mr A's complaint of a headache in the afternoon, RN H said that she was unaware that he had hit his head. Although RN D's clinical notes document the bump to Mr A's head, and that neurological observations had been undertaken earlier that morning, RN H's statement to HDC identifies that a significant clinical workload was assigned to her throughout the shift, including student supervision and ward coordination. Dr Hardcastle advised:

> "These factors are likely to have negatively impacted on the nurse's ability to read the clinical record to identify that [Mr A] had sustained a head injury. Without this knowledge, it is understandable that questions were not raised concerning anticoagulant administration, nor a connection made between headache, dizziness and potential cerebral bleed.
>
> …
>
> Whilst it is unacceptable that communication failures and clinical workload demands contributed to the nurse's ability to be fully informed of [Mr A's] condition, these contextual factors have significantly affected her ability to make informed, and appropriate clinical decisions in this case. I therefore consider the actions and omissions a mild departure from expected standards."

156. While I note Dr Hardcastle's advice above, I am concerned that RN H was unaware of this information. This implies that RN H failed to review the overnight nursing notes.

Morning medical review

157. Dr E did not inform the incoming medical team of Mr A's fall or chest pain overnight. TDHB told HDC that Dr E was not able to attend the handover because he was busy with a deteriorating patient who required urgent transfer to ICU. Dr B presented at the doctors' handover, and no alarms were raised about Mr A, and his fall was not mentioned.

158. Furthermore, the medical team did not read the nursing notes during their round. Dr Szecket advised:

> "Although it would be unreasonable to expect the medical team to divine, and actively search for, adverse events during the night, it would be important for the medical team to know how the patient's symptoms progressed after an admission with a heart

attack. In the absence of any other hand over information to this effect, it would be standard to read the nurses notes."

159. Dr Szecket noted: "With respect to handover, there should be a blanket policy, as most places already have, that all patients require verbal handover to the next care team." Dr Szecket advised that in the absence of handover information it would be standard to read the notes, and the failure to do so constituted a mild departure.

160. The inadequate verbal handover from night medical staff resulted in significant events not being communicated to the incoming team. I am concerned that TDHB's work environment affected the quality of the handover between shifts. I am also disappointed that nursing notes were not reviewed by the incoming medical team.

Nursing involvement in medical review

161. As noted above, Dr E was not notified of Mr A's head injury. In addition, RN D thought that given the timing of the event just prior to handover, the handover would result in Mr A being seen soon afterwards, as the morning medical ward round was due at approximately 8.30am. Dr Hardcastle noted that even if the ward round doctors saw Mr A first, this would have been over five hours after the fall, two hours after the disclosure of the head injury, and 15 minutes before a further dose of antiplatelet medication was due. In Dr Hardcastle's view, "[i]t was inappropriate to make this assumption".

162. Mr A was reviewed during the medical ward round at 11.30am. There was no nursing input into the ward round — RN G was at lunch, and RN F was attending to other complex patients. Therefore, the medical staff who undertook the ward round were not verbally informed by nursing staff about Mr A's fall or head injury.

163. Dr Hardcastle advised that it would be expected that "every attempt" would have been made by the attending nurse or ward coordinator to ensure that Mr A was examined by a doctor who was fully aware of Mr A's history leading up to the fall, the details of the fall, including that he had lost consciousness and his apparent and suspected injuries (i.e., the lump on his head), and that he was taking anticoagulation medication. In Dr Harcastle's view, this "should have occurred as a matter of urgency prior to the ward round and thus represents a moderate departure from expected standards". Dr Hardcastle also advised that it would be expected that a nurse would attend a ward round to ensure that this information was verbalised, and that the attending nurse would hand over this requirement to another nurse prior to going on a break. Dr Hardcastle said that it would have been good practice to use a communication tool such as the ISBAR sticker format.

164. Healthcare practice is founded on the right information getting to the right people at the right time, so that appropriate, informed decisions can be made. This fundamental principle failed on this occasion.

165. I note that in line with the SSE report recommendations, TDHB has educated staff and made changes to highlight the risks of antiplatelet and anticoagulation therapy and falls.

While this is pleasing, I am critical that at the time of these events the nurses were more focused on the cardiac aspects of Mr A's care.

Palliative care

166. While this opinion has focused on the standard of care provided to Mr A prior to receiving palliative care, I note that Mr A's family had raised concerns with TDHB about his palliative care.

167. In particular, Mr A's family were concerned that Mr A was struggling to breathe, and that RN J would not administer additional pain management because she believed that medication was not due. However, a further dose of midazolam was available. The family were also concerned at the lack of sensitivity shown by RN J.

168. RN J told HDC that during her shift she had an extremely heavy and challenging workload, which appears to have exceeded her ability to provide care to the standards expected.

169. TDHB told HDC that RN J misunderstood the medication chart. TDHB also acknowledged that "[RN J's] actions fell short of expectations in the circumstances", but stated that the nurse "was confronted with an uncommon clinical situation which was very difficult to manage". TDHB agreed that RN J was dealing with a significantly challenging workload, which had a negative impact on her ability to spend time with Mr A and his family.

170. Dr Hardcastle advised that the end-of-life care Mr A received was inadequate. In particular, it is noted that further doses of midazolam could have been administered by RN J.[20] Dr Hardcastle considers that RN J's departure from the standard of care was related to an unachievable workload, as opposed to a conscious omission or inappropriate actions.

171. I note both RN J's and TDHB's acknowledgements that there were deficits in knowledge and ability, which meant that an accepted standard of end-of-life care was not provided to Mr A. It is pleasing to note that as a result of the SSE, TDHB has taken steps to address these deficits, and that RN J has undertaken significant personal learning regarding palliative care medication management.

Overall conclusion

172. The following failings occurred throughout Mr A's time at TDHB:

- Mr A was admitted to the medical ward instead of the Coronary Care Unit.
- Medication administered to Mr A was recorded inaccurately in MedChart, and this was contributed to by software that required multiple log-ons.
- Mr A was left alone in the bathroom despite having recently been administered GTN sprays.

[20] It is noted that when Dr Hardcastle provided her advice, she was of the understanding that there was also a further dose of morphine available. I accept the DHB's response that there was not a dose of morphine due at that time.

- Task Manager was used inappropriately to notify medical staff of issues of clinical concern.
- Nursing staff failed to follow up Task Manager messages with the medical staff.
- There was poor clinical judgement by the overnight house officer, who decided not to review Mr A despite his chest tightness and having required GTN sprays, and later having experienced a fall.
- The house officer did not review Mr A's patient notes before making a decision not to review him.
- Documentation was poor, including the overnight house officer not recording his decision not to review Mr A.
- There was poor communication between staff about Mr A's fall, particularly at the nursing and medical handovers.
- There is evidence that it was not uncommon practice for doctors not to document in the notes when they had attended patients.
- Nursing staff did not notify the house officer of Mr A's head injury.
- There was no flag or warning system to identify patients on antiplatelet/ anticoagulation therapy, and no flag to identify such patients in the electronic falls form.
- Despite having been told that Mr A might have hit his head, there was a lack of critical thinking by nursing staff, who continued to administer his blood-thinning medication, and stopped his neurological observations.
- There is no evidence that a falls assessment was undertaken following Mr A's GTN use or after his fall.
- There was no face-to-face handover to the medical team from the night house officer.
- The nursing notes were not reviewed by the medical team during their morning round.
- It appears that Mr A's knock to the head was not relayed verbally to the afternoon staff during the nursing handover.
- The nursing notes were not always reviewed by the incoming nursing staff.
- Additional medication was available for Mr A when he was in palliative care, but the nurse was not aware of this.

173. This is a case where the information required to treat this vulnerable patient correctly was contained within the system, yet staff failed to do so, with tragic consequences. Mr A was given several GTN sprays, and then was left alone in the bathroom. Mobilisation soon after the use of GTN carries a risk of falling over. Despite this, Mr A's risk of falling was not managed adequately. When he did in fact fall, he injured his head. When staff were alerted to this, they did not respond appropriately. The information was held by some

staff, but not communicated adequately to those who needed to know. Furthermore, anticoagulants continued to be administered to Mr A by some nursing staff, despite knowing that he had sustained a head injury, and without ensuring that he had been reviewed by the medical team. When Mr A began to deteriorate, medical review was not sought with clarity, nor were decisions about the medical review recorded.

174. The system lost sight of Mr A through this process. Attention to the most basic aspects of monitoring, assessment, communication, and critical thinking were noticeably absent. This is well below the standard expected of hospital-level care in New Zealand. While staff may have been busy, they had the opportunity to consider the care of this patient, and simply failed to do so adequately — this was a collective failure of the system and the people operating in it, not the fault of any one individual. Nonetheless, Mr A's experience resulted from a pattern of poor care, which reflects a sobering collection of suboptimal features.

175. The cumulative effect of these failings was that overall care was of a very poor standard. Consequently, I find that TDHB breached Right 4(1) of the Code of Health and Disability Services Consumers' Rights.[21]

Recommendations

176. I recommend that TDHB:

a) Undertake an evaluation of the impact of the interventions put in place following its Serious and Sentinel Event Analysis. TDHB is to provide HDC with a report summarising the interventions and their impact, within three months of the date of this report.

b) Provide an update in relation to the remainder of the recommendations made in the Serious and Sentinel Event Analysis regarding what has yet to be implemented, and when this will take place — including, but not limited to, the recommendations in relation to the review of patient notes and the documentation of clinical decision-making to ensure appropriate communication. TDHB is to report back to HDC within three months of the date of this report.

c) Undertake an audit for the last six months from the date of this report, to assess whether patients who were diagnosed with a non-ST elevation myocardial infarction were admitted to the CCU in line with recommended practice. TDHB is to provide HDC with a copy of the audit within six months of the date of this report.

d) Undertake an audit for the last three months from the date of this report, to assess the appropriateness or otherwise of the use of the electronic notification tool. TDHB is to provide a report to HDC that identifies whether clinical matters that normally

[21] Right 4(1) states: "Every consumer has the right to have services provided with reasonable care and skill."

require face-to-face discussion or a telephone conversation are being actioned adequately in this way, as opposed to via the electronic notification tool. TDHB is to provide HDC with this information within six months of the date of this report.

e) Undertake a review of its communication tools to ensure accurate handover between shifts. As part of this review, TDHB is to consider whether it should introduce a system such as the ISBAR sticker format, in line with Dr Hardcastle's advice. This information is to be provided to HDC within three months of the date of this report.

f) Provide evidence of its new alert system(s) flagging patients who are receiving antiplatelet and anticoagulation medications. This information is to be provided to HDC within three months of the date of this report.

g) Develop training for new doctors on how to prioritise their tasks when on call. Evidence of this training is to be provided to HDC within three months of the date of this report.

Follow-up actions

177. TDHB will be referred to the Director of Proceedings in accordance with section 45(2)(f) of the Health and Disability Commissioner Act 1994, for the purpose of deciding whether any proceedings should be taken.

178. A copy of this report will be sent to the Coroner.

179. A copy of this report with details identifying the parties removed, except TDHB and the experts who advised on this case, will be circulated to the Technical Advisory Service, to all DHB Chief Medical Officers, and to the Nursing Council of New Zealand and the Medical Council of New Zealand.

180. A copy of this report with details identifying the parties removed, except TDHB and the experts who advised on this case, will be placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

Addendum

181. The Director of Proceedings filed proceedings by consent against TDHB in the Human Rights Review Tribunal. The Tribunal issued a declaration that TDHB breached Right 4(1) of the Code by failing to provide services with reasonable care and skill.

Appendix A: Independent advice to the Commissioner

The following expert advice was obtained from Dr Nicholas Szecket, an internal medicine specialist:

> "Below you will find my advice to the Commissioner regarding [Mr A] and the care provided to him by Taranaki DHB [over three days in] 2015. In brief, [Mr A] was a 68 year old man who was admitted to TDHB with a heart attack, and subsequently died 2 days later from a catastrophic subdural haemorrhage as a result of head trauma from a syncopal episode while on anti platelet and anticoagulant therapy. As the TDHB has already identified, there were several shortcomings in the care [Mr A] received which likely contributed to his death. As requested, I will be addressing the specific questions posed to me by the office of the Commissioner.
>
> **1. The failure by the night on-call MO to physically review [Mr A] on [Day 2] following two separate requests by nursing staff to do so, including a priority 2 request.** It is my opinion that the failure to prioritise the face-to-face review of [Mr A] by the on call House officer (HO) was poor clinical judgement, and represents a significant departure from accepted practice. There were several important indications to physically review [Mr A] that night:
>
> **Ongoing Angina**. [Mr A] had been admitted with a Non-ST-Elevation Myocardial Infarction (NSTEMI). Often in these cases, once acute therapies are initiated (anti-coagulation, anti-platelets, and beta-blockers), the symptoms settle down, and the urgency for coronary intervention is reduced, and can be delayed until it is logistically safe (and convenient) to do so. At TDHB that requires transfer to a larger regional cardiac centre, which is not a light decision to make after hours. But, in the case of [Mr A], the symptoms were NOT settling down. The first request for the HO to review [Mr A] was for ongoing angina in the face of an acute NSTEMI, potentially representing an indication for urgent intervention. Reviewing the patient to explore this further was important.
>
> **Risk for malignant ventricular arrhythmias**. The primary reason patients are admitted to a High Dependency Unit (ICU, CCU, HDU, etc) after a proven Myocardial Infarction (MI) is because of the risk for malignant ventricular arrhythmias, potentially requiring defibrillation, in the first 48 hours. Assuming such a unit is available, this would have been a more appropriate disposition for [Mr A].
>
> A malignant arrhythmia would without a doubt be the leading concern in a patient admitted a few hours earlier with an MI who was reported to have a syncopal episode with loss of consciousness (LOC). Although it is true that a simple check of the telemetry can rule out this possibility, the threshold should be quite low in such cases to review the patient physically.
>
> **Risk of intra-cranial bleeding**. Any patient with head trauma has the risk of a subdural [or other form of intracranial] haemorrhage. If that patient is on any form of blood thinner the risk rises significantly. [Mr A] was on two anti platelet medications AND full anticoagulation with low molecular weight heparin by subcutaneous injection.

That is a total of three blood thinners. The risk of significant bleeding anywhere in the body, but particularly intracranially, is significant, even without head trauma. I appreciate that it was not known by the nursing staff (NS) until later in the morning that [Mr A] had indeed hit his head, however, having had an unwitnessed fall, and especially if there was LOC, should strongly raise the possibility of complications from the blood thinners. This should have been a strong indication to physically review the patient and do a neurological assessment to look for subtle signs of focal neurological dysfunction. It is important to point out that I know of no dedicated training that specifically teaches new doctors how to prioritise their tasks when on call. The on call HO undoubtedly was being pulled in multiple directions and would need to continuously prioritise his/her work. It is not difficult to envision how this particular request (which was an impersonal, electronic message rather than an urgent personal phone call) could be dismissed by the HO — a 'faint' in a healthy, 'naive to medications' man who had just received at least 4 sprays of GTN spray and who then stood up and passed urine.

2. The failure by the night on-call MO to document in the clinical notes the fact they had attended the ward in response to the requests by nursing staff and the reasons he declined to review [Mr A]. It is standard practice to document in the patient's notes any review or decision made about a patient's care. If the HO on call had felt the request for a review was superfluous or trivial, and had made a decision that there was no aspect of care that needed to be addressed, then it may be reasonable to discuss this with the requesting NS without documentation. However, this was not the case. At the very least the on-call HO decided that a review of [Mr A's] ECG was indicated. The HO made a very active decision that no further investigation was necessary on the basis that the ECG was unchanged from previous. These clinical decisions should be documented, and I would consider the failure to do so a moderate departure from accepted practice. As mentioned above, the decision NOT to physically review [Mr A] was poor clinical judgment. However, once this decision was made by the on-call HO, it is not clear that the reasons need to be documented. It is not standard practice for clinicians to document all the issues they are not worried about for patients. The on call HO decided, rightly or wrongly, that the only review required of [Mr A] was to look through the ECGs. The HO should have documented this task and his/her decisions in relation to it, but would not be expected to document why they chose to do a limited review.

3. The failure by [Mr A's] medical team to refer to nursing notes at the ward round of [Day 2] when there had already been a lack of handover from the night on-call HO due to other commitments, and there was no nurse available to accompany the team on the ward round. During the morning post-acute ward round (PAWR), it is not uncommon for the doctor team to acquire the entirety of the clinical information from the patient chart, prior to visiting the patient, without a direct verbal handover from the admitting doctor. This is especially true for routine admissions where the diagnosis is clear and the patients are stable. The most relevant documentation for the team to read would be the admission note. For most routine admissions the

admission note will be the only documentation performed by a doctor, UNLESS other important clinical events occurred after the patient was physically admitted. During the PAWR, the team usually seeks out any important clinical events by noticing the need for an on-call HO review and documentation. As previously mentioned, the absence of documentation from the on-call HO was the primary issue. The nursing notes most often contain routine nursing information and other important clinical events that occurred during their shift. There is an expectation that they will verbally hand over this non-routine information, either to an on-call doctor, the morning medical team directly, to their daytime counterpart, or to their charge nurse. It would have been ideal if the daytime nurse looking after [Mr A] had been present to speak to the morning team during the PAWR to inform them of the events of the night (ongoing chest pain requiring 4 sprays of GTN, a syncopal episode, and a bump to the head). Because there is an expectation that such information will be highlighted verbally to the doctors, nurses often leave 'post-it' notes on the front of the chart in order to bring it to the attention of the medical team. Although it would be unreasonable to expect the medical team to divine, and actively search for, adverse events during the night, it would be important for the medical team to know how the patient's symptoms progressed after an admission with a heart attack. In the absence of any other hand over information to this effect, it would be standard to read the nurses notes. It is my opinion that the failure of the medical team to read the nurses notes is a mild departure from accepted practice. In summary, on the issues that I have been asked to comment, the main themes are documentation and handover. There is no easy solution to the issue of clinical experience and judgement. With respect to handover, there should be a blanket policy, as most places already have, that all patients require verbal handover to the next care team. Similarly, all clinical interactions, whether or not any changes resulted to a patient's plan, should be carefully documented in the patient notes, also as a form of handover. Please do not hesitate to contact me for further clarification.

Nicolas Szecket
General Physician
Auckland District Health Board."

On 20 November 2018, Dr Szecket provided the following further comments:

"I have read through all the responses to my advice document. I am not really sure how/why I would change my previous comments. I completely appreciate that there were all manner of mitigating circumstances that resulted in clinicians not making optimal choices. Given the circumstances presented, it is not difficult to see why the on call house officer decided that a face-to-face review with the patient was not required. A combination of inexperience, being very busy, being exhausted after many continuous nights, and having not received the right messaging from the nursing staff.

I agree that the benefit of hindsight makes this difficult to comment on with objectivity. For example, if nothing had happened to the patient after the fall, we would never have been alerted to the 'mistakes' committed on the night in question.

It is only because of the outcome that we are discussing this case at all. And either outcome (nothing or something) could have been equally predicted based on the events of that night. From a human error perspective, taking into account the system issues, I would downgrade my opinion to a 'moderate' departure from accepted practice."

Appendix B: Independent advice to the Commissioner

The following expert advice was obtained from Dr Jane Hardcastle, a registered nurse:

"**Independent Advisor report to the Health and Disability Commissioner**

Additional information as per 28th February request

Submitted by Dr Jane Hardcastle
1 February 2017
Additional information submitted, as requested 28 March 2017

Initial advice
Introduction

I have been asked to provide an opinion to the Health and Disability Commissioner (the Commissioner) regarding investigation C16HDC01028.

I have read and agree to follow the Commissioner's Guidelines for Independent Advisors.

I am a Nurse Consultant working at St George's Hospital, Christchurch. My qualifications are RN, ENB 100 (General intensive care nursing), BSc (Nursing studies), MEd (Adult education), EdD (Dr of education).

I have 25 years' clinical experience in general and cardiothoracic intensive care, cardiology, high dependency and surgical nursing and over ten years experience as a principal lecturer in post graduate nursing (critical care and acute nursing). I currently practise as a nurse consultant in education and practice development for various specialties in private surgical hospital practice (nursing, midwifery, anaesthetic technician).

Instructions

Purpose:

To provide independent expert advice on the care provided to [Mr A (dec)] by Taranaki District Health Board (TDHB).

Advice requested:

To review the documents provided and advise whether the care provided to [Mr A] by Taranaki District Health Board [in 2015] was reasonable in the circumstances. I was also asked to advise on the adequacy of the Serious and Sentinel Event review, and its recommendations.

Expert Advice Required:

I was asked specifically to comment on the following points:

1. The documentation of GTN spray administration leading to some retrospective confusion over what dose of GTN has been administered at what times.
2. The failure to follow up timely attendance of the night on-call Medical Officer (MO) following two separate requests for review of [Mr A] (the second being a priority 2 call) around 0300 on [Day 2].
3. The failure to ensure [Mr A] was reviewed by the on-call MO when they attended the ward at an unconfirmed time and signed off [Mr A's] ECG result before leaving.
4. The failure to adequately communicate at handover on the morning of [Day 2] the history of [Mr A's] fall and the suspicion (from at least 0630) he had suffered a head injury.
5. The failure to communicate to medical staff the suspicion of head injury secondary to the fall, and to clearly document this suspicion, once this history was obtained from [Mr A] around 0630 on [Day 2].
6. The failure to take into consideration the fact that [Mr A] was on anticoagulants and antiplatelet agents in the context of a head injury, and continuing to administer these medications without seeking medical advice.
7. The decision to stop neurological observations from the time [Mr A] confirmed he had suffered a head injury with his fall (around 0630 [Day 2]) and a failure to recommence such observations or seek prompt medical review when [Mr A] began to complain of headache on the evening of [Day 2].
8. The failure to ensure there was nursing input into the ward round held late morning on [Day 2] or alternatively to ensure there was clear information passed on to the medical team that focused review was required in light of [Mr A's] fall history and the new information that he was likely to have suffered a head injury at the time of the fall.
9. The management of [Mr A's] terminal care on late [Day 2]/early [Day 3].

Interpretation of instructions

I have been asked to provide expert advice regarding the care provided to [Mr A]. I am aware that advice will be forthcoming from expert general medical perspectives about this case as a component of this investigation. Consequently I will focus on the nursing care of [Mr A] and the clinical decisions made within the episode of care ([Days 1-3]). In order to provide the advice requested I have reviewed all the documentation provided to me. There are some specific issues regarding the interactions of nursing and medical staff, I will therefore give advice regarding collaborative management where it is appropriate to do so. I am aware that the care provided within an acute environment is influenced by the ability of the whole institution to respond to acute care demands. The documentation pertaining to the incident review involving medical perspectives provides gives useful insights in this regard, and so I will refer to this information as appropriate, although I will not comment on aspects of care that are not relevant to the instructions that I have been given.

Information reviewed

Response letter to the Health and Disability Commissioner's Office from Taranaki DHB dated [2015].

Medical records (emergency department & general medical ward).

Taranaki DHB Serious & Sentinel Event analysis report.

Taranaki DHB PowerPoint presentation slide summary (staff education) following sentinel event.

Family timeline.

Family questions (submitted prior to meeting [date]).

Minutes of family meeting with TDHB.

Correspondence from [the public hospital].

Correspondence from coronial case manager.

Media release.

Brief factual summary of the case

- [Mr A] was admitted to the public hospital emergency department at 19.36 hrs with chest pain (described as a 'severe ache') that radiated to the right arm. [Mr A] had a 2 day (approx 63 hrs) of intermittent chest pain prior to his admission to hospital. Medical history, physical examination, electrocardiogram (ECG), vital signs, chest X-ray and blood tests were undertaken in the emergency department and a provisional diagnosis of cardiac ischaemia was made. [Mr A] was given Aspirin (oral antiplatelet) and Clexane (subcutaneous anticoagulant) medication. The prescribed Metoprolol (beta-blocker) was withheld due to low heart rate of 60 beats per minute.
- At 21.00 hrs [Mr A] required GTN sublingual spray x 1 dose (400 mcg) for chest pain (score 1/10). Blood results (high sensitivity Troponin T) indicated a non-ST elevation myocardial infarction (NSTEMI — heart attack). He was referred to medical registrar for review and opinion. Further observations of vital signs and ECG were undertaken. Clinical notes stated 'pain free, comfortable'.
- Review by the medical registrar at 23.15 hrs — treatment for acute coronary syndrome prescribed and decision to admit [Mr A] to [the medical ward] for telemetry (remote cardiac monitoring) and echocardiogram. [Mr A] was given Ticagrelor (antiplatelet) and Atorvastatin (cholesterol lowering) medications prior to transfer from the emergency department to medical ward at 00.45 hrs.
- [General medical ward] clinical notes indicate that [Mr A] was admitted in a 'comfortable condition' at 01.00 hrs on [Day 2]. Observations of respiratory rate (RR), oxygen saturations (SpO2), heart rate (HR), blood pressure (BP), temperature, level of consciousness, pain and nausea taken. Telemetry monitoring commenced at 01.30 hrs by a CCU (coronary care unit) nurse. [Mr A's]

heart rate and rhythm were then monitored remotely in the coronary care unit throughout his admission.

Critical care pathway appears to contain entries (initials) for some care from the admitting nurse on the night shift. Medical checklist not completed. Cardiac education flow chart not commenced. Baseline nursing admission assessment not completed.

- 03.00 clinical record entry states [Mr A] 'complained of chest tightness' with a pain score of 3/10. The entry states that two sprays were taken at 02.50 with the effect of lowering the pain score to 1/10. The clinical record states that a further two sprays of GTN were 'taken', an ECG was taken and the on call house surgeon (OCHS) notified to review [Mr A]. [Mr A's] medication administration record details that 2 sprays of GTN were administered at 02.50 and 2 sprays at 02.55. There is no record of the house surgeon seeing [Mr A] regarding the nurse's request to review. The Taranaki DHB *Event Analysis Report* notes that the on call house surgeon was notified of the request to review [Mr A] via an electronic notification tool.

- 03.35 clinical record entry states that [Mr A] rang the call bell at 03.05. The attending nurse found [Mr A] sitting on the edge of the bed. The nurse documented that [Mr A] stated that he had 'walked UTT [up to toilet], felt dizzy after passing urine and then woke up on the floor'.

  The Taranaki DHB *Event Analysis Report* notes that [Mr A] advised a float nurse that he needed to go to the toilet and while she offered him a bottle, he preferred to go to the toilet. The nurse stayed with [Mr A] while he sat on the edge of the bed and when he expressed no dizziness, observed him walking to the toilet and left the room to notify the nurse who was caring for [Mr A]. It appears that this event preceded that (above) documented in the clinical notes.

- 03.35 nursing record notes that he 'c/o [complained of] sore R) elbow but no apparent injury. Doesn't appear to have hit his head'. Observations were recorded noting low blood pressure (86/56) 'so ? syncope after having GTN spray'. Early warning score (EWS) of 2 noted on observation chart but not in the clinical record. [Mr A] was given a bottle and advised to notify the nurse if he needed to get up. The entry notes 'please give only 1 spray of GTN if gets chest pain again'. BP was checked (normal/EWS 0), repeat ECG taken, patient falls form completed* (notifiable event) and the on call house surgeon notified of the fall (03.15 hrs) via electronic notification tool. There is no record of physical assessment undertaken by the attending nurse following [Mr A's] fall.

  *The patient falls form indicates that no injury was sustained and that [Mr A] did not meet the criteria for a falls risk assessment to be completed prior to the event.

  The Taranaki DHB *Event Analysis Report* notes that the nurse informed the on call doctor at 03.16 as a priority 2 (semi-urgent) request for review.

There is no record of the house surgeon seeing [Mr A] regarding the fall. The *Taranaki DHB letter to the Health and Disability Commissioner's office* notes that 'the out-of-hours doctors periodically check the routine tasks which have been electronically referred over the course of their duty ... at some point after viewing these referrals, the night duty house officer came to the ward and reviewed [Mr A's] ECG which did not show any acute changes compared to the previous ECG. Given the information presented to him that [Mr A] had collapsed following GTN administration, had got himself back to bed and was now sleeping, the house officer decided that he did not need to speak with or examine [Mr A].

- Vital sign observations were repeated 3 hrs later (06.30 — normal), blood tests taken (06.15). 'nil further chest pain' and 'appeared to sleep for a short time' noted in clinical record (nursing).
- 06.45 hrs clinical record entry (nursing) 'Pt. states that he think he must have hit his head when he fell as he feels a lump at the back of head'. Neurological observations were taken and recorded at 06.30 (normal, pupils 4mm equal, '+' reaction). Clinical record states 'R/v with (medical shorthand used) team mane'. The Taranaki DHB *Event Analysis Report* notes that the night nurse handed over to the morning staff regarding the fall and need for medical review on the morning round.

  07.30 hrs vital sign observations repeated (normal). EWS not recorded. Neurological observations not recorded (no neurological observations documented following initial 06.30 assessment). Baseline (shift start) nursing assessment not documented. Critical care pathway contains entries (initialled) for some care from the nurse on the morning shift. Staff identification list does not contain a name or sample initial. Medical checklist not completed. Cardiac education flow chart not commenced. Baseline nursing admission assessment not completed.
- 08.15 hrs medications administered:
  Aspirin 100 mg oral (antiplatelet)
  Metoprolol 23.75 mg oral (beta-blocker)

  Paracetamol 1 g oral (pain relief) (pain score 0/10, nil reference to rationale for administration documented)

  Review by medical staff had not been completed.
- 10.00 hrs family in attendance (wife, daughter & son in law) according to *family timeline*. The timeline notes that [Mr A] informed them that he woke up on the toilet floor after going for a pee earlier that morning. He said that he collapsed again after trying to get up. Then made it back to bed and a nurse came. The family timeline states that [Mr A] informed the nurse that he had been unconscious. He showed the family the bruises on his right arm and said that he had an 'egg on his head'. [Mr A] told his wife that a doctor had seen him and checked for concussion. No record of this found.
- 10.21 hrs Enoxaparin 85 mg subcutaneous injection (anticoagulant) administered.

Review by medical staff had not been completed.

No further neurological or physical assessment documented by attending nurse.

10.30 hrs seen by Cardiac CNS (clinical nurse specialist) — history documented, reference to 'see previous notes re syncope with NLS (nitrolingual spray/GTN)' and 'encouraged to report ongoing episodes' of chest pain. Notes made of education and resources given to [Mr A] re NSTEMI (heart attack) and explanation of upcoming echocardiogram. Critical pathway not completed re cardiac education. No reference made to fall, vital signs, neurological status or antiplatelet/ anticoagulant medication administration.

- Medical motes entry at 11.35 hrs for [Dr I's] ward round. Presenting history, medical history, HR, BP, heart sounds, chest, oedema and abdominal assessment, impression and plan documented. There is no record of the fall, chest pain experienced overnight or communication from nursing staff regarding [Mr A's] condition.

  Plan notes to 'chase echo report', continue with medical management (mediations listed) and 'discuss with [another DHB] re: transfer for angiogram'. Noted that if [Mr A] experienced any further chest pain he was to be reviewed, transfer (T/F) to HDU and discuss with [other DHB]'. Subsequent entry (no time noted) 'for transfer 1–2 days'.

  The Taranaki DHB *Event Analysis Report* notes that the consultant, registrar and house officer attended the ward to see [Mr A] at approximately 09.00 when [Mr A] was having an echocardiogram. They returned at 11.35 when [Mr A's] nurse was at lunch, no nursing representative attended the ward round or informed the medical team of [Mr A's] fall. [Mrs A] recalls the ward round occurring at around 10.40 am and that her husband talked to the doctors about the chest pain and syncope overnight.

  The *cardiac CNS note* at 10.30 refers to upcoming echo. [Mrs A] recalls going with her husband to the radiology department at approximately 10.40 hrs. The *Taranaki DHB response to family questions* states that the echocardiogram was carried out at 10.45 hrs. The cardiac physiologist echo report was faxed to the ward at 11.38 hrs.

- 12.05 pharmacy note entry re e-medicine reconciliation. Note that Doxazosin was omitted at admission. Not declared as a usual medication in ED notes. No other reference to this medication found.

- Ticagrelor 90 mg oral (antiplatelet) administered 13.02 hrs

  Review by medical staff had not included discussion re fall and potential head injury. Attending nurse had not discussed ongoing care with medical staff. No further neurological or physical assessment documented by attending nurse.

  [Mr A's] son in attendance, other family members went home.

- Clinical notes entry nursing — no time documented — reference made to 'shift'. Reports [Mr A] has had 'low grade "pressure" 0.5/10 all duty'. Vital sign observations last recorded at 07.30 hrs, no additional pain score documented on observation chart. Reference made to 'Clexane due 2200'. Incomplete ACS risk assessment sticker present in notes.

  The Taranaki DHB *Event Analysis Report* notes that the above entry refers to the morning nursing shift and that the nurse's handover to the afternoon nurse included reference to [Mr A's] fall but did not report that he had hit his head. The morning nurse 'made a presumption' that the doctors would be aware of the fall via the nursing notes in the clinical record.

- 15.50 vital signs recorded (respiratory rate was not recorded). EWS documented at 0 despite unknown respiratory rate. Pain score 0. Baseline nursing assessment was not documented at the beginning of the afternoon shift. Baseline nursing admission assessment and risk assessment appears to have been completed by the student nurse. Critical care pathway contains entries (initials) for some care from the student nurse on the afternoon shift. Medical checklist not completed. Cardiac education flow chart not commenced.

- 19.40 vital signs recorded (respiratory rate was not recorded). EWS documented at 0 despite unknown respiratory rate. Pain score illegible on observation chart. Paracetamol 1 g (pain relief) given at 19.46 hrs. Neurological observations not recorded.

- [Mr A's] family left about 20.30 hrs.

- No clinical record entries were made until 21.50 hrs noting that at approx 21.10 hrs [Mr A] was found unresponsive in bed having vomited. The emergency bell was activated by the student nurse and '777 call put out' (see later notes re this event). Family contacted to attend.

  The clinical record entry time appears to have been altered from 22.50 to 21.50.

  The *event analysis report* interview with the afternoon nurses (student nurse and RN) 'described [Mr A] as bright and chatty on the afternoon shift up until approximately 7.30 pm when his daughter told his nurse that he had a headache'. [Mr A] also reported feeling 'a little dizzy when he got up' and complained of a sore neck (long standing complaint).

  Retrospective notes were made to this effect in the 21.50 hrs nursing entry.

- Arrest call documented to occur at 21.34 hrs (registrar on call notes) after 'pt found unresponsive by N/S (nursing staff)'. CPR summary documented. Post arrest physical assessment documented. [Mr A] remained unresponsive, fixed, dilated pupils. Spontaneous respiration returned post arrest with oral airway and non-rebreather oxygen mask.

- *Adult clinical resuscitation record* notes 777 call at 21.23, CPR commenced at 21.25, arrest team arrival 21.27. Cardiac rhythm on arrival asystole. After 2 mins CPR & Adrenaline 1:10,000 (21.28 hrs) sinus rhythm. Further 2 mins CPR; sinus

rhythm at 21.30 hrs. Family informed, pupils size 8 mm sluggish response. 21.35 sinus rhythm 78 bpm, 'eyes' fixed and dilated, upgoing plantars, bloods sent and X-ray recorded 21.40'. Family spoken to at 21.45.

Family noted to be present at 21.50 hrs.

- 22.15 — ICU registrar notes: resuscitation documented to commence at 21.24 hrs. Resuscitation summary from registrar's assessment — three cycles of CPR resulted in return of spontaneous circulation (ROSC) to sinus rhythm 70 bpm (cardiac rhythm noted to be PEA (pulseless electrical activity) prior to resuscitation). Escorted to radiology for CT head with ICU/ward nursing staff, medical registrar and intensive care consultant at 22.10 hrs.
- CT scan results reviewed by attending medical team and intensive care consultant. Massive subdural haemorrhage, very poor prognosis given [Mr A's] condition at the time.

  [Mr A's] condition, prognosis and plan for palliative (comfort) care discussed with family (daughter & son *according to medical registrar's notes*).

  Not for cardio-pulmonary resuscitation form completed by the registrar. Decision not discussed with nominated next of kin ticked. Brief details were documented; reason for not discussing was not clear. RN confirmation signature not completed.
- 23.55 hrs nursing notes report that 'family spoken to by [medical registrar]', [Mr A] had been moved to a side room and 'care handed over to night staff'.
- 00.40 Morphine injection 2.5 mg administered. 00.57 Midazolam injection 2.5 mg administered.
- 02.20 hrs nursing notes report that [Mr A's] family distressed that he was struggling to breathe, requesting non-rebreather oxygen mask to be removed and additional morphine and midazolam be given to [Mr A]. Nurse commented on [Mr A's] 'gasping sounds', would not administer additional medication as they were 'not due for 30 mins RN will administer when due'.

  Midazolam was prescribed 2.5 to 5 mg PRN (as required), minimum dosage interval 2 hrs. The additional 2.5 mg was not administered when requested.

  Morphine was prescribed 2.5 to 5 mg PRN (as required), minimum dosage interval 2 hrs. The additional 2.5 mg was not administered when requested[22].

  The Taranaki DHB *Event Analysis Report* makes no reference to the above episode of nursing care.
- 02.30 [Mr A] died. Nursing staff informed by [Mr A's] son.

  RN confirmed death, removed oxygen mask. Put [Mr A's] teeth in at the request of the family. RN notified on call house surgeon, 'front desk' and duty manager.

[22] The DHB responded to this point and pointed out that this was incorrect — it stated that there was not any morphine due to be administered at that time.

No further nursing notes entries made.

- 03.00 on call house surgeon (OCHS) examined [Mr A], confirmed death had occurred at 02.30. Record of death form completed, coroner informed.

Following [Mr A's] death — factual summary of events

- [Day 3] chief medical officer informed of [Mr A's] death, serious and sentinel event investigation commenced, root cause analysis form completed re fall.
- Death was reported to senior management [two days later] as an unexpected death that required further review.
- Tanaraki DHB clinical services manager — projects telephoned [Mr A's] daughter to advise that a formal investigation was going to be launched into the circumstances of her father's death, and that a full copy of the findings from this investigation would be shared with them. Confirmed to them by letter on [date].
- [Date] onwards — nursing team debrief led by medical registrar.
- [Date] acting Clinical Services Manager — Medicine for Taranaki (DHB) met with [Mrs A] and [her daughter] at their request to provide further comment on their recollection of events from [Day 2] and ask further questions.
- [Date] further meeting with acting Clinical Services Manager — Medicine Taranaki DHB, [Mrs A] and [her daughters] — full copy of [Mr A's] medical record provided, feedback and questions discussed.

  Specific concerns expressed regarding the period of palliative care provided by the night nursing staff.
- [Date], Taranaki DHB Serious and Sentinel Event Investigation Report ([date]) and outcomes sent to [Mrs A]. The family were advised the DHB would meet with the family when they were ready to discuss the report's findings and to answer any outstanding questions.

  Report also sent to the Health Quality Safety Commission.

Response(s) to the Commissioner's questions:

1. The documentation of GTN spray administration leading to some retrospective confusion over what dose of GTN has been administered at what times.

The printed data from the electronic medication chart used in [Mr A's] care shows that [Mr A] was prescribed GTN (glyceryl trinitrate) 400 mcg per dose oral spray to be administered as 1 to 2 sprays sublingually PRN (as required) for angina. A minimum dosage interval of 5 minutes is stated, meaning that 1, or 2 sprays can be administered at a time. Further administration of 1 or 2 doses may be administered 5 minutes after a previous dose. When a variable dose of medication is prescribed the administrator is required to make a clinical decision based upon their assessment of the patient's condition. When a medication is prescribed to be administered 'for angina' the nursing assessment should include:

- Assessment of the patient's pain (severity score and their account of provoking/ palliating factors, quality of pain, radiation or referral, timing on onset, duration and frequency (Bickley, 2012).
- Previous administration of the medication (GTN) history including the dose administered, the patient's response (alleviation of pain, effect on blood pressure, headache, dizziness, facial flushing, visual disturbance) and any precautions previously taken/required prior to, or following, administration of the medication (given the known adverse effects of GTN*); such as sitting prior to administration, rest after administration, route of administration (patients with sensitivity to GTN spray may be advised to spray the medication onto the back on their hand and lick the spray to minimise adverse effects and reduce dosage exposure). *Medsafe Glyceryl Trinitrate data sheet (2013).

The printed data from the electronic medication chart history indicates that [Mr A] was given 2 sprays of GTN (total 800 mcg) at 02.50 and 2 sprays at 02.55 (total 800 mcg). This record is consistent with the 03.00 hrs clinical record entry made by the nurse caring for [Mr A] who reported that he 'complained of chest tightness' with a pain score of 3/10. Two sprays were taken at 02.50 with the effect of lowering the pain score to 1/10. The clinical record states that a further two sprays of GTN were 'taken' at this point. Whilst each RN (registered nurse) is responsible for their own clinical decision making and any subsequent medication administration, a further dose of 800 mcg GTN for a reported pain score of 1/10 (reduced following previous drug administration) could be considered excessive.

It is not possible, from the printed electronic medication chart information provided, to see who administered each of the recorded doses of GTN. The clinical notes suggest that all doses were administered by the RN caring for [Mr A]. However, subsequent interviews with the nursing staff involved in [Mr A's] care revealed that the 'float' nurse had administered 1 x spray of GTN at 02.50, followed by 1 x GTN spray at 02.55. This is consistent with the prescription but is not documented as such on the electronic medication record. The *Taranaki DHB response to family questions* on [DATE] also indicates that the float nurse did not personally document the GTN she administered on the electronic medication chart. Rather she informed the nurse caring for [Mr A] that she had administered 2 sprays. According to the NZNO Guidelines for Nurses on the Administration of Medicines (2014):

> *After administration, the regulated nurse administering the medicine: makes clear and accurate recordings of the administration of each individual medicine administered or deliberately withheld, or refused, ensuring any written entries and the signature are clear and legible. Documentation must be timely;* (p. 47)

This is consistent with the Nursing Council of New Zealand (NCNZ) *Code of Conduct for Nurses* (2012), and the Nursing and Midwifery Council (NMC) *Standards for medicines management* (2010):

> *… you must make a clear, accurate and immediate record of all medicine administered, intentionally withheld or refused by the patient, ensuring the signature is clear and legible.*

Both guidelines cited note that the regulated nurse must ensure that the record of drug administration is completed when the task of administering medication has been delegated. Regardless of whether the float nurse considered that the administration of the first 2 x sprays (5 minutes apart) had been delegated to her in the absence of the nurse caring for [Mr A] or not; the documentation of drug administered should have been either:

- Completed by the nurse administering the medication — this would be consistent with best practice.

OR

- Checked by the nurse who administered the medication if the entry had been completed by another nurse — this practice increases the risk of documentation error that may affect the appropriateness of future drug administration.

[Mr A] received a total of 1600 mcg GTN (4 sprays) within a time period of ten minutes. This is permissible according to the prescription, and recommendations made by Medsafe (2013) and BPAC (2012), yet the confusion over who administered what and when occurring as a result of poor verbal and written communication between the two registered nurses involved makes it possible that the latter 3 sprays were all given within a 5 minute time period. This would exceed the prescribed dosage.

There are no entries in the critical pathway document alongside the Nitrates Y/N care prompt despite GTN being administered by both the ED nurse and the night duty nurse on [Day 2].

The emergency department prescription dose for GTN is unclear. It is likely to be 0.4 mg but could be interpreted as 0.7 mg. However, as GTN is administered by metered dose it would not be possible to administer 0.7 mg.

It would be prudent for Tananaki DHB to emphasise the importance of legible prescribing amongst staff in areas not using the electronic medication chart in order to adequately meet The New Zealand Ministry of Health *Health and Disability Sector Standards* NZS 8134:2001.

Opinion: The documentation of GTN spray administration in this case is not consistent with best practice standards and guidelines and is likely to have contributed to a potential, but not proven, drug administration error. I consider this to be a moderate departure from expected standards. Taranaki DHB would be expected to investigate this incident through their incident reporting and management process in order that the factors contributing to the incident are thoroughly explored and appropriate risk reduction strategies put in place.

I have not been asked to comment on any potential contribution of this particular event to [Mr A's] outcome.

2. The failure to follow up timely attendance of the night on-call Medical Officer (MO) following two separate requests for review of [Mr A] (the second being a priority 2 call) around 0300 on [Day 2].

And

3. The failure to ensure [Mr A] was reviewed by the on-call MO when they attended the ward at an unconfirmed time and signed off [Mr A's] ECG result before leaving.

Taranaki DHB have acknowledged that the use of the electronic 'task manager' system may be contributing to an issue of complacency amongst nursing staff when they are requesting medical staff review. It would appear that this was a factor in [Mr A's] care, the failure of nursing staff to ensure that [Mr A] was seen by a doctor following the episode of chest pain, and then to examine [Mr A] following his un-witnessed fall/collapse in the toilet. They (TDHB) acknowledge that [Mr A] should have been reviewed following the fall and have acknowledged that the nurse caring for [Mr A] should have ensured that he was seen by a doctor when she knew that [Mr A] had lost consciousness. The complexity of what were essentially three events within a period of 16 minutes warranted a telephone, or face to face conversation between the nurse and on call doctor to ensure that clinical information was clearly articulated and the doctor was fully informed of [Mr A's] situation. The three events were:

- Chest pain, necessitating a repeat ECG that required medical review (non-urgent as the chest pain resolved).
- Un-witnessed collapse in the context of:
    - Patient's reported loss of consciousness
    - Recent GTN administration
    - Previous antiplatelet and anticoagulant medication administration
- Hypotension (low blood pressure) following collapse and independent return to bed, triggering an early warning score (EWS) of 2

  Although the hypotension resolved within 5 minutes, the EWS of 2 required medical review within 1 hour. This did not occur.

It appears that several assumptions have been made regarding communication between health professionals involved in the care of [Mr A] that have negatively impacted upon appropriate health assessment, data analysis and clinical decision making. This has been acknowledged by Taranaki DHB as a breakdown in communication and clinical decision making and a formal written and personal apology has been provided to [the family] by the Acting Chief Operating Officer.

The Taranaki DHB *serious and sentinel event analysis report* recommendations include reinforcement, via case review of the event, of the importance of good communication between clinical teams to:

- Nursing staff (completed [DATE], awaiting evaluation)
- Hospital wide multidisciplinary mortality and morbidity improvement meeting (completed [DATE], awaiting evaluation)

Opinion: Communication amongst, and between, the nursing and medical staff involved in [Mr A's] care was inadequate in this case, leading to clinical decisions being made by several health professionals who were inadequately informed of relevant information about [Mr A's] condition. It would be expected that, in the context of the three events noted above, the nurse caring for [Mr A] would telephone, or have a face to face conversation with the on call doctor to ensure that clinical information was clearly articulated and the doctor was fully informed of [Mr A's] situation. It would be expected that the nurse would inform his/her colleagues that he/she needed to talk to the on call doctor when he/she arrived to review [Mr A]. According to the New Zealand Nursing Council Registered Nurse Scope of Practice (NCNZ 2007):

They [registered nurses] provide comprehensive assessments to develop, implement, and evaluate an integrated plan of health care, and provide interventions that require substantial scientific and professional knowledge, skills and clinical decision making ... Registered nurses are accountable for ensuring all health services they provide are consistent with their education and assessed competence, meet legislative requirements and are supported by appropriate standards. (p. 3)

It would, therefore, also be expected that the nurse caring for [Mr A]:

- Checked to make sure that the doctor had attended the ward as requested:
  - To review the ECG
  - To examine [Mr A] following the un-witnessed collapse
- Review the clinical record for evidence of medical review if the doctor's attendance was not personally witnessed
- Discuss with colleagues if no evidence of the doctor's visit could be found
- Make further contact with the doctor when it became apparent that the doctor had reviewed the ECG but not reviewed [Mr A] following his collapse
- Document in the clinical records that the doctor had not examined [Mr A] following his collapse
- Escalate the urgency of request for medical review when it became apparent that [Mr A] had sustained a head injury (given his history of antiplatelet and anticoagulant medication administration)
- Undertake preliminary physical examination of [Mr A] following his disclosure of a lump on the back of his head subsequent to the fall

- Document the above assessment findings to ensure that evidence was present in the clinical record.

In my opinion, whilst each individual omission in communication (written or verbal) represents a mild departure from expected standards when considered in isolation, the cumulative effects of nursing and medical communication breakdown in this case were detrimental to [Mr A's] care. I consider this to be a moderate departure from expected standards.

I have not been asked to comment specifically on the care provided by the on call house surgeon in relation to [Mr A's] outcome.

4. The failure to adequately communicate at handover on the morning of [Day 2] the history of [Mr A's] fall and the suspicion (from at least 0630) he had suffered a head injury.

The nurse caring for [Mr A] from the time of his admission to the ward at 01.00 hrs until his care was taken over by nurse on the morning shift (06.45–07.15 hrs) provided written documentation in the clinical record that [Mr A] had fallen and, subsequently, reported that he must have hit his head (06.45 entry). The Taranaki DHB *serious and sentinel event analysis report* details that the night nurse handed over to the morning staff (including the ward coordinator) that [Mr A] had a fall, hit his head, and needed to be reviewed on the morning ward round. A neurological assessment summary was documented in the clinical record and on the neurological observations chart by the nurse caring for [Mr A] overnight. Although [Mr A] had not been reviewed by a doctor in the requested time period overnight, the night nurse did only discover that [Mr A] had sustained a head injury at 06.15. [Her] actions thereafter were appropriate in that she undertook, and documented, standard neurological observations, documented the new information regarding the head injury in the clinical record and verbally handed over to the oncoming staff that [Mr A] needed to be seen by the medical team that morning. An assumption was made that the morning staff would respond appropriately to ensure that [Mr A] was, indeed seen by a doctor. This did not occur until mid morning, at which time the medical staff were unaware of the fall and head injury (no verbal communication between nursing and medical staff occurred and medical staff did not read the clinical record notes at the time of the ward round).

Opinion: From the information provided to me, the nurse caring for [Mr A] 01.00 hrs to 07.15 hrs did communicate to the morning staff verbally and in writing regarding the need for [Mr A] to be reviewed following the discovery that he sustained a head injury associated with the fall at 03.30. It is not clear how much emphasis the nurse placed on the following information, each of which would represent best practice in situations of this nature:

- That the fall was un-witnessed
- That [Mr A] had lost consciousness at the time of his fall for an unknown period of time

- The fact that [Mr A] had not been reviewed by a doctor following his fall some 3 hrs earlier despite the on call house surgeon (OCHS) being notified
- The fact that the OCHS had attended the ward to review [Mr A's] ECG, but was unaware of the fall, or need to physically examine [Mr A]
- The fact that [Mr A] had received multiple antiplatelet and anticoagulant medications (Aspirin, Ticagrelor, and Clexane) as a consequence of his management for NSTEMI
- The implications of the above medication actions in the context of a subsequent fall

The assumption made by the nurse caring for [Mr A] overnight that a medical review would occur within an hour at the morning ward round proved to be detrimental to [Mr A's] outcome. I consider this to be a mild departure from expected standards as it is unclear regarding the emphasis that the nurse placed on the above points. If the nurse did not appreciate the significance of the above points this would be a moderate departure from expected standards of nursing knowledge and practice. In order to ensure that relevant information is communicated to the appropriate health professional, a telephone call to the on call house surgeon to inform him/her of the head injury and time elapsed since the fall would have been more appropriate (and a reasonable expectation). If this is not the accepted practice within the public hospital it is recommended that the nurses' use of the electronic task manager referral tool is reviewed, clearer guidance provided for nursing and medical staff regarding appropriate use of the tool, and when personal communication may be warranted.

5. The failure to communicate to medical staff the suspicion of head injury secondary to the fall, and to clearly document this suspicion, once this history was obtained from [Mr A] around 0630 on [Day 2].

As it is not clear, from the information provided, whether the above five points were emphasised in the verbal handover it is possible that the morning nursing staff did not appreciate the potential consequences of [Mr A's] fall. As outlined above, it is a reasonable expectation that the nurse caring for [Mr A] overnight should contact the on call house surgeon to provide an update on [Mr A's] condition and rationale for the request to review before she/he went off duty. I consider this to be a mild departure from expected standards given the timing of the event and handover of care.

The nurse is likely to have assumed that the overnight on call house surgeon would handover [Mr A's] situation, and need to be reviewed, to the oncoming doctor. However, it seems apparent that the doctor was unaware of [Mr A's] condition as he/she had not responded to the task manager request to review. In this situation it is not an unreasonable expectation that the nurse caring for [Mr A] overnight should contact the on call house surgeon to provide an update on [Mr A's] condition and rationale for a timely review before she/he went off duty.

Further comments concerning the absence of nursing to medical communication throughout the morning are provided in response to the questions that follow.

6. The failure to take into consideration the fact [Mr A] was on anticoagulants and antiplatelet agents in the context of a head injury, and continuing to administer these medications without seeking medical advice.

The NZNO *Guidelines for Nurses on the Administration of Medicines* (2014) details the standards for the administration of medicines (Appendix one, p. 46–7). The standards include the following:

12.2 Prior to administration

Prior to administration of medication, the regulated nurse or midwife administering the medicine:

- ensures they are aware of the client's current assessment and planned programme of care; and makes a clinical assessment of the suitability of administration at the scheduled time of administration.
- is aware of the therapeutic uses of the medicine to be administered, its normal dosage, side effects, precautions and contra-indications;
- contacts the prescriber/pharmacists, designated senior health professional as appropriate, if:
    - there are potential adverse interactions with other medicines;
    - where contra-indications to the administration of any prescribed medicine are observed;

It would be expected that, a registered nurse who has been informed of a patient's history that includes a fall, potential head injury and recent administration of multiple antiplatelet and anticoagulant medications would make the clinical decision to withhold further doses of such medications until the patient had been reviewed by doctor and confirmation, from that doctor, was provided that further doses of anticoagulant or antiplatelet medications were to be administered. It would be expected that the nurse caring for the patient would document their discussion with the relevant doctor, and the outcome of that discussion.

Opinion: From the information provided to me there is no evidence that this happened. The prescription was not questioned and, subsequently, Aspirin (antiplatelet tablet) was administered at 08.15, followed by Enoxaparin (anticoagulant injection) at 10.21, and Ticagrelor (antiplatelet tablet) at 13.02 hrs. This is not consistent with the guidelines provided for registered nurses for the administration of medicines (NZNO 2014) or accepted practice of a registered nurse in this context. I consider this to be a severe departure from expected standards.

The NZNO *Guidelines for Nurses on the Administration of Medicines* (2014) also provides a list of resources that are recommended reading for all nurses (p.6). This

includes reference to Medsafe, the New Zealand Medicines and Medical Devices Safety Authority (www.medsafe.govt.nz). Resources such as this, and the New Zealand Formulary, are widely available independent resources providing healthcare professionals with clinically validated medicines information and guidance on best practice, enabling healthcare professionals to select safe and effective medicines for individual patients (www.nzformulary.org). It is expected that nurses unfamiliar with the actions, and possible adverse reactions, to medicines that they are required to administer use such resources to enable them to be adequately informed prior to the administration of medicines.

It would be expected that a registered nurse in the situation above would undertake a physical assessment of the patient to evaluate the presence, and extent, of any bruising occurring secondary to the fall (considering that several antiplatelet and anticoagulant medications had been administered overnight). This assessment would provide the nurse with evidence of adverse effects of the medications administered previously. This would be useful information to communicate to the prescriber/relevant doctor in order for them to make a clinical decision regarding ongoing therapy.

The NZNO Guidelines (2014) medicine administration standards also include the following:

12.3 During administration

During the administration of medication, the regulated nurse administering the medicine:

- monitors the patient for adverse effects of the medicine and takes appropriate action as determined by local guidelines

It would be expected that, a registered nurse who has been informed of a patient's history that includes a fall, potential head injury and recent administration of multiple antiplatelet and anticoagulant medications would make the clinical decision to:

- undertake a physical assessment of the patient to evaluate the presence, and extent, of any bruising occurring as a consequence of medication administration
- continue to monitor the patient's neurological status in consideration of the potential risk of bleeding in patients receiving anticoagulant and antiplatelet medication in the treatment of acute coronary syndrome (ACS — NSETM heart attack is classified as acute coronary syndrome) (BPAC 2015)

Physical assessment did not occur; the medications were administered despite absence of medical review and prescription confirmation and the neurological observations were discontinued. From the information provided to me it is unclear who made the clinical decision to discontinue neurological observations. Nonetheless, in my opinion the care provided, and decisions made were inappropriate given the circumstances. This represents a severe departure from expected standards.

7. The decision to stop neurological observations from the time [Mr A] confirmed he had suffered a head injury with his fall (around 0630 [Day 2]) and a failure to recommence such observations or seek prompt medical review when [Mr A] began to complain of headache on the evening of [Day 2].

The first part of this question (decision to stop neurological observations from the time [Mr A] confirmed he had suffered a head injury with his fall) has been partially addressed in the response above.

The New Zealand 2012 Guidelines for the management of non ST elevation acute coronary syndromes report that major bleeding occurs in approximately 4.7% of patients with non-STEMI, and that major bleeding is associated with increased in-hospital mortality; 5.3–15.3% in non-STEMI (p.125). Intracranial haemorrhage is one form of bleeding that may occur. Although the responsibility to undertake bleeding risk assessment in the consideration of antiplatelet regimens lies with the medical staff prescribing such therapy, it would be expected that a nurse assigned to care for a patient with non-STEMI would be aware of the risk of intracerebral bleeding when antiplatelet and anticoagulation medications are being administered. It would also be expected that the nurse would inform the attending doctor of any change in the patient's clinical condition that may affect their bleeding risk (such as a fall and associated head injury).

Opinion: This, along with the nurses' possession of the information below, indicates that the decision to stop neurological observations was i) inappropriate and ii) detrimental to [Mr A's] outcome.

- [Mr A] sustained an un-witnessed collapse and head injury overnight
- [Mr A] had not been reviewed by a doctor
- The nurse on the previous shift had commenced neurological observations
- The nurse on the previous shift had requested that [Mr A] be seen by a doctor following the discovery of a head injury

I consider this to be a severe departure from expected practice standards.

According to the New Zealand Nursing Council Registered Nurse Scope of Practice (NCNZ 2007):

> *They [registered nurses] provide comprehensive assessments to develop, implement, and evaluate an integrated plan of health care, and provide interventions that require substantial scientific and professional knowledge, skills and clinical decision making … Registered nurses are accountable for ensuring all health services they provide are consistent with their education and assessed competence, meet legislative requirements and are supported by appropriate standards. (p. 3)* [my emphasis]

It would be expected that a New Zealand Registered Nurse (RN) would have knowledge of the signs and symptoms associated with intracerebral (brain) haemorrhage and raised intracranial pressure (raised pressure within the skull). Headache is a well known symptom of raised intracranial pressure (Hickey 2013, Hinkle & Cheever 2014). It would be expected that, if a patient complained of a headache when there was also a suspicion of head injury the RN would initiate neurological observations and seek medical review as a matter of urgency. [Mr A] had sustained a head injury, was receiving antiplatelet and anticoagulant medications (blood thinners — increasing his risk of intracerebral haemorrhage), and complained of a headache (via his daughter) to the nurse caring for him at 19.30 hrs (*Taranaki DHB serious and sentinel event analysis report*). The nurse administered paracetamol as simple pain relief at 19.45 hrs. At this time the nurse recalls that [Mr A] admitted to feeling a bit dizzy when he got up. Dizziness may also be associated with head injury and/or raised intracranial pressure (Hickey 2013, Hinkle & Cheever 2014). The headache and dizziness were not documented in the clinical record, nor did the nurse appear to associate the symptoms as a potential consequence of [Mr A's] head injury and/or risk of bleeding. Although the clinical picture may have been blurred by [Mr A's] complaint of a sore neck as a long standing problem at this time, the decision made was inappropriate.

Opinion: The decision not to recommence neurological observations and inform the doctor on call of the change in [Mr A's] condition represents poor clinical decision making by the nurse involved. It would be expected that both actions would be initiated in this situation. I consider this to be a moderate departure from expected standards given the potential that the nurse was ill-informed of the events surrounding the fall and the potential that the clinical picture was blurred as a consequence of [Mr A's] sore neck.

8. The failure to ensure there was nursing input into the ward round held late morning on [Day 2] or alternatively to ensure there was clear information passed on to the medical team that focused review was required in light of [Mr A's] fall history and the new information that he was likely to have suffered a head injury at the time of the fall.

A number of assumptions have been made regarding communication between the health professionals involved in the care of [Mr A] on the morning of [Day 2] that prevented key clinical information being shared. The lack of information communicated verbally to medical staff has undoubtedly impaired their ability to make appropriate decisions. However, written information was available in the clinical record that was not considered by the medical staff at this time. Communication breakdown appears to have occurred at the following points:

- Emphasis during nursing handover (06.45–07.15) regarding the clinical urgency for medical review following the discovery of [Mr A's] head injury (night duty nurse)

- Appreciation of the clinical urgency for medical review following the discovery of [Mr A's] head injury (morning duty nurses and ward coordinator)
- Based on the above, failure to contact the doctor on duty prior to the ward round (night duty and oncoming morning duty nurse)

The nursing staff assumed that the ward round would arrive to the ward at approximately 08.30 and that this was an acceptable time to wait for [Mr A] to be examined. Even if the ward round doctors saw [Mr A] first this would have been over five hours post fall, two hours post disclosure of head injury and 15 mins prior to a further dose of antiplatelet medication being due (aspirin — blood thinner).

Opinion: It was inappropriate to make this assumption, particularly as the medical staff did not manage to attend [Mr A] until 11.35 (there is confusion as to whether the team visited at 09.00 and the time that [Mr A] was away from the ward having an echocardiogram). In my opinion this is a moderate departure from expected standards.

- It appears that a failure to appreciate the significance of [Mr A's] fall, head injury and associated anticoagulant and antiplatelet medication negatively influenced the nursing staff's efforts to communicate personally with the medical staff caring for [Mr A] and/or attend the ward round to ensure that this key information was communicated and received.

  The medical staff have no recollection of being informed about [Mr A's] fall or head injury when they undertook the ward round as there was no nurse present (*TDHB/Family meeting notes*).

  The on-call doctor overnight failed to report [Mr A's] condition to the oncoming house surgeon, the ward round medical staff then failed to read the clinical record of events documented prior to the ward round. It would be expected that the attending house surgeon would provide a summary of the patient's condition at the ward round based on their personal knowledge, by consultation with the attending nurse, or by reading the clinical record. None of these options appear to have been pursued.

Opinion: It would be expected that, given [Mr A's] condition every attempt would have been made by the attending nurse, or ward coordinator to ensure that:

- [Mr A] was examined by a doctor who was fully aware of:
  - the history leading up to the fall
  - details of the fall — including loss of consciousness, apparent and suspected injuries
  - the administration of antiplatelet and anticoagulant medications and further medication prescriptions (further doses of blood thinners)

- The attending nurse, or ward coordinator, was either present during the examination, or personally communicated with the doctor post examination to discuss any alterations to the plan of care, medication administration, monitoring requirements to be undertaken and future communication strategies that should be used (between nurse and doctor)

It is my belief that the above should have occurred as a matter of urgency prior to the ward round and thus represents a moderate departure from expected standards. Failing this, the nursing staff would be expected to make sure that a nurse attended the ward round to ensure that information was verbalised. It would be expected that the attending nurse would handover this requirement to another nurse prior to leaving the ward for any scheduled breaks to minimise the risk of communication breakdown. It would also be good practice to use a communication tool such as the ISBAR sticker format within the clinical notes as a 'red flag' to the medical staff that key information needs to be passed on (HQSC 2016, CDHB 2013). This would be particularly useful in situations where clinical demand prevents nurses from attending the ward round.

Healthcare practice is founded on the right information getting to the right people at the right time so that appropriate, informed decisions can be made. This case raises questions around the nursing staff's understanding of the significance of a fall and head injury in the context of anticoagulant and antiplatelet medication use. Taranaki DHB have acknowledged that several breakdowns occurred in communication and clinical decision making and a formal written and personal apology has been provided to [the family] by the Acting Chief Operating Officer. The *serious and sentinel event analysis report* recommendations also make reference to educational provision for all nurses regarding the implications of antiplatelet and anticoagulant medications in the context of patient falls, and the importance of good communication between clinical teams.

9. The management of [Mr A's] terminal care on late [Day 2]/early [Day 3].

Following [Mr A's] cardiac arrest and resuscitation an urgent CT scan revealed a massive subdural haemorrhage that was associated with a very poor prognosis given [Mr A's] condition at the time. [Mr A's] condition, prognosis and plan for palliative (comfort) care were discussed with his family (daughter & son *according to medical registrar's notes*). A decision was also made that [Mr A] would not undergo further cardio-pulmonary resuscitation as a consequence of his prognosis. [Mr A] was moved to a side room within [the ward] to provide the family with additional privacy and space during the last hours of [Mr A's] life. The nurse caring for [Mr A] on the afternoon of [Day 2] (14.45 to 23.15 hrs) documented (in the clinical record) that the family had been spoken to by the medical registrar, [Mr A] had been moved to a side room and 'care handed over to night staff' at 23.55 at the end of the shift. There was no evidence that the nurse was present during the family discussion with the medical registrar. Further details regarding his care on this, and the following shift were not

documented, nor were they evident in the *Taranaki DHB serious and sentinel event analysis report*.

A night duty nurse would have taken over [Mr A's] care at 22.45 hrs. There is no baseline documentation of [Mr A's] condition or plan of care at the beginning of this nurse's shift. There is no documentation from this nurse on the critical care pathway document for [Day 3]. It was appropriate for [Mr A] to be off this pathway of care given his condition; however it would be expected that this would be documented in the clinical record and a new plan of care outlined. Without this information it is difficult to comment on the specific care that would have been appropriate for [Mr A] and his family at this point. However it would be expected that end of life care in a hospital environment would be provided according to the *New Zealand Te Ara Whakapiri — Principles and guidance for the last days of life* (2015), and the Ministry of Health *New Zealand Palliative Care Strategy* (2001).

The medication administration record shows that midazolam subcutaneous injection was prescribed from 00.27 hrs; 2.5 to 5 mg PRN (as required for comfort cares, agitation or dyspnoea), with a minimum dosage interval of 2 hrs. Morphine was also prescribed from 23.20 hrs; 2.5 to 5 mg PRN (as required for comfort cares, pain, agitation or dyspnoea), with a minimum dosage interval of 2 hrs. As would be expected when providing comfort care at the end of life [Mr A] was given morphine 2.5 mg injection at 00.40 and midazolam 2.5 mg injection at 00.57 hrs. It is not clear why these medications were administered at different times. It may have been less distressing for the family if both medications were administered in one injection. It would be acceptable to give the lower range of prescribed dose in the first instance in order to evaluate [Mr A's] response to the medications. However, if the first dose was inadequate, it would be expected that the additional 2.5 mg of each medication would be administered. This is consistent with the family's account of events at this time; however they report that 'the first nurse was very helpful' and that 'she administered the morphine'. It is not clear which nurse this was as the evening nurse reported handing over care at 23.55 hrs.

The nurse caring for [Mr A] from 23.45 hrs onwards first documentation in the clinical notes was made at 02.20 hrs to report that [Mr A's] family were distressed that he was struggling to breathe, requesting non-rebreather oxygen mask to be removed and additional morphine and midazolam be given to [Mr A]. The nurse reported that the oxygen mask was replaced with nasal prongs and noted that 'pt face visibly purple in colour'. The nurse commented to the family that [Mr A] would continue to make 'gasping sounds'. She would not administer the additional medication as she believed that they were 'not due for 30 mins RN will administer when due'.

According to the prescription a further 2.5 mg of morphine and midazolam were able to be administered at this time. If the additional 2.5 mg dose of morphine and/or midazolam had been inadequate to relieve the distress that the family were experiencing as a consequence of [Mr A's] breathing pattern (described as gasping for breath) it would be expected that the attending nurse would question the doctor's

prescription and request either an alteration to the minimum dosage interval; or that a continuous infusion of the medications be prescribed (Ministry of Health 2015).

[Mr A] died at 02.30 in the presence of his family. The nurse caring for [Mr A] was informed by [Mr A's] son. The nurse attended [Mr A] to confirm his death and removed the oxygen mask. She reports that she put [Mr A's] teeth in at the request of the family. The family report that the nurse initially told [Mr A's] daughter to do this, but she found it too distressing. The family report that the nurse caring for [Mr A] on the night shift was 'not as helpful' and 'told [us] off for pushing the wrong [call] button'.

The nursing notes entry detailed 'RN notified on call house surgeon, 'front desk' and duty manager'. No further nursing notes entries were made.

The Taranaki DHB *Event Analysis Report* makes no reference to the above episode of nursing care. However, in their *response to [the family] meeting* on [DATE] they acknowledged that they were 'disappointed' in the care that was provided. It was noted that the nurse on duty could have administered further medication, but misunderstood the medication chart. It is noted that the matter has been discussed with the nurse concerned and included in the staff education presentation provided to nursing staff as a consequence of the serious and sentinel event investigation.

Opinion: The care provided to [Mr A] and his family in the remaining hours of his life was inadequate given the situation that they were in at the time. Although the evening duty nurse appears to have provided sensitive and appropriate care, this was not continued on the subsequent shift when [Mr A] passed away. I consider this to be a severe departure from expected standards given the distress that [the family] suffered at this time. The *Taranaki DHB response to [the family] meeting* notes that the nurses are expected to be able to manage 'these situations', and that they 'believe that they are well trained and qualified to do so'. The care provided to this family is not consistent with this statement, or the guiding principles outlined in the *New Zealand Te Ara Whakapiri — Principles and guidance for the last days of life* (2015):

> *Te Ara Whakapiri … serves as a foundation document for all policies and procedures concerned with care at the end of life and for all education initiatives … it defines what adult New Zealanders can expect as they come to the end of their life. It is a statement of guiding principles and components for the care of adults in their last days of life across all settings.*
>
> [The] *seven overarching principles … are underpinned by Te Whare Tapa Whā, a model of care that is concerned with the total wellbeing of the person and their family/whānau.*
>
> 1. *Care is patient-centred and holistic.*
> 2. *The health care workforce is appropriately educated and is supported by clinical champions.*

3. *Communication is clear and respectful.*

[The document] *describes three components to care in the last days of life. While being respectful of any cultural, spiritual, religious and family issues that are unique to the dying person, each of these three components is addressed from the perspectives of:*

- *the person who is dying and their family/whānau*
- *the health professional(s) providing care*

1. *A comprehensive baseline assessment …*
2. *Ongoing assessment emphasises the importance of developing individualised care plans.*
3. *After death care …*

Additional advice requested — Serious and Sentinel Event review and recommendations

The Serious and Sentinel Event Investigation Analysis and Report (report date [2016]) completed by the Taranaki DHB (TDHB) Acting Clinical Services Manager, medicine is consistent with the *Health Quality and Safety Commission New Zealand (2012) National Reportable Events Policy* as the following principles were reflected in the investigation report:

3.1 Open disclosure/open communication.

Opinion: [The family] appear to have received truthful and open communication at all times following this event, and the subsequent meetings held with the TDHB.

3.2 System changes. Reporting is … accompanied by meaningful analysis which leads to system changes designed to prevent recurrence of events. Lessons learnt have been disseminated locally by the TDHB as well as Nationally to the central repository (via submission of the report to the Health Quality and Safety Commission — HQSC).

Opinion: From the information provided to me, the report identifies valid findings within each of the following factor categories:

- patient
- task and technology
- individual (staff)
- team
- work environment
- organisational and management
- institutional context

The recommendations made are clearly linked to the report findings with particular reference to strategies to improve communication amongst, and between, health

professionals with a shared responsibility for patient care. This is by far the most significant finding in this case, and is closely linked to systems factors (such as patient placement, task management and handover complacency), that have contributed to communication breakdowns in this case.

Case presentations have occurred across the hospital in relevant professional group settings to share lessons learned from this incident, and subsequent investigation, and encourage a team approach to risk minimisation in future care. An evaluation of the impact of these interventions will be important for future practice and the family's reassurance that the actions taken make a meaningful contribution to patient safety.

3.3 Accountability is provided by assuring the community that when adverse events and near misses occur, action is taken both at the local and national level. Action at the local level focuses on learning, improving safety and reducing the possibility of recurrence. At the national level action focuses on analysing aggregated data, reporting publicly on reportable events and sharing information about actions taken to reduce the possibility of recurrence or ensuring prevention. *This responsibility lies with the Health Quality & Safety Commission to whom a report of this investigation has been submitted.*

Opinion: The investigation and reporting process has demonstrated to the family, DHB staff and the HQSC that appropriate systems are in place to identify, investigate and report adverse events. The report recommendations have a significant focus on staff education and the employment of strategies to ensure that the right patient receives the right care from the right people at the right time. The identification that hospital guidelines for patient placement when non-ST elevation MI (heart attack) is diagnosed were not consistently being upheld is a significant finding. Reinforcement of this organisational patient management strategy is likely to contribute to increased patient safety in the future. Evaluation of the impact of this strategy will be an important component of 'closing the feedback loop' for [the family].

3.4 Reporting must be safe. Consumers and staff must be empowered to report events without fear of retribution. Events that are reported must be investigated with a focus on determining the underlying system failures and not blaming or punishing individuals. Providers must ensure a just culture prevails so individuals are not held accountable for system failures.

Opinion: The report reflects an open communication style in which [the family] and TDHB staff members have been encouraged to voice their concerns and recollections of the events contributing to this case. The DHB have analysed the findings using the HQSC principles to identify both organisational and systems factors that have impacted on the contribution of individual staff members' actions to [Mr A's] overall care and treatment plans.

Staff have been provided with debriefing sessions to enable concerns to be voiced. They have also been offered employee assistance programme (EAP) support in reflection of the distressing nature of this incident.

During the process of completing the investigation, report compilation and analysis of information gleaned the TDHB have:

5.5 Undertaken a serious incident review for serious and sentinel mental health events

Opinion: The methodology is consistent with recommended methods of clinical incident investigation and analysis (Taylor-Adams & Vincent 2001, Vincent et al. 2000, HQSC 2012, 2016)

5.6 Developed recommendations to eliminate, control, or accept the root causes or causal factors identified for the adverse event

Opinion: As discussed above, the recommendation to transfer all patients with non-ST elevation MI to the ICU/CCU is likely to make a significant contribution to patient safety. The remaining recommendations focus on staff education, increasing awareness of causal factors and plans to explore the potential benefits of introducing a flagging/alert system to identify patients receiving antiplatelet and anticoagulation medications as i) a general alert ii) within the electronic patient falls form.

It will be important to 'close the feedback loop' on all recommendations to ensure that the recommended strategies indeed translate into action and shared learning. The actual, and intended, actions should be monitored and shared with both staff and [the family] (should they wish to receive further updates from the TDHB). The recommendations need to be tracked to ensure that the intended changes to systems and practice are i) implemented and ii) effective (HQSC 2016, p.22).

Dr Jane Hardcastle
28 March 2017

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The following further advice was received from Dr Hardcastle:

"Independent Advisor report to the Health and Disability Commissioner Additional information as per 12 September request 2018

Submitted by Dr Jane Hardcastle

Original report 1 February 2017/Additional information submitted, as requested 28 March 2017 Revisions following additional information from the TDHB, as requested 12 September 2018

Additional request for advice

Introduction

I have been asked to review additional evidence supplied to the Health and Disability Commissioner (the Commissioner) regarding investigation C16HDC01028 in order to further consider the opinions provided, by me, on 1 February and 28 March 2017.

I have read and agree to follow the Commissioner's Guidelines for Independent Advisors.

I am a Nurse Consultant working at St George's Hospital, Christchurch. My qualifications are RN, ENB 100 (General intensive care nursing), BSc (Nursing studies), MEd (Adult education), EdD (Dr of education).

I have 27 years' clinical experience in general and cardiothoracic intensive care, cardiology, high dependency and surgical nursing and over ten years experience as a principal lecturer in post graduate nursing (critical care and acute nursing). I currently practise as a nurse consultant in education and practice development for various

specialties in private surgical hospital practice (nursing, midwifery, anaesthetic technician).

Instructions

Purpose:

To provide independent expert advice on the care provided to [Mr A] (dec)] by Taranaki District Health Board (TDHB).

Advice requested:

To review the documents provided and advise whether the care provided to [Mr A] by Taranaki District Health Board [in 2015] was reasonable in the circumstances. I was previously asked to advise on the adequacy of the Serious and Sentinel Event review, and its recommendations. This information was detailed in the March 2017 report submitted to The Commissioner and has not been considered in this, additional, advice.

Expert Advice Required:

I was asked specifically to comment on supplementary evidence relating to the following points:

1. The documentation of GTN spray administration leading to some retrospective confusion over what dose of GTN has been administered at what times.
2. The failure to follow up timely attendance of the night on-call Medical Officer (MO) following two separate requests for review of [Mr A] (the second being a priority 2 call) around 0300 on [Day 2].
3. The failure to ensure [Mr A] was reviewed by the on-call MO when they attended the ward at an unconfirmed time and signed off [Mr A's] ECG result before leaving.
4. The failure to adequately communicate at handover on the morning of [Day 2] the history of [Mr A's] fall and the suspicion (from at least 0630) he had suffered a head injury.
5. The failure to communicate to medical staff the suspicion of head injury secondary to the fall, and to clearly document this suspicion, once this history was obtained from [Mr A] around 0630 on [Day 2].
6. The failure to take into consideration the fact that [Mr A] was on anticoagulants and antiplatelet agents in the context of a head injury, and continuing to administer these medications without seeking medical advice.
7. The decision to stop neurological observations from the time [Mr A] confirmed he had suffered a head injury with his fall (around 0630 [Day 2]) and a failure to recommence such observations or seek prompt medical review when [Mr A] began to complain of headache on the evening of [Day 2].

8. The failure to ensure there was nursing input into the ward round held late morning on [Day 2] or alternatively to ensure there was clear information passed on to the medical team that focused review was required in light of [Mr A's] fall history and the new information that he was likely to have suffered a head injury at the time of the fall.
9. The management of [Mr A's] terminal care on late [Day 2]/early [Day 3].

Subsequent advice — September 2018

Additional information reviewed

The following information was provided to me by the Health and Disability Commissioner's Office on 12 September 2018.

- Letter of response to The Commissioner's office from the Chief Operations Officer, Taranaki DHB dated 13 November 2017.
- Statements from individual registered nurses (RNs) involved in [Mr A's] care x 7.

Interpretation of instructions 12 September 2018

I have been asked to review the additional information provided by the TDHB detailing personal statements from the individual nurses involved in [Mr A's] care and contextual information from the TDHB to determine whether any change in advice or opinion is warranted. In order to provide the advice requested I have reviewed all the documentation provided to me. There are some specific issues regarding the interactions of nursing and medical staff, I will therefore give advice regarding collaborative management where it is appropriate to do so. I am aware that the care provided within an acute environment is influenced by the ability of the whole institution to respond to acute care demands. I will not comment on aspects of care or organisational structure that are not relevant to the instructions that I have been given.

My opinion(s) are detailed within a revised Independent Advisor report to The Commissioner (20 September 2018). The details below are extracted from this report and pertain only to the request to review additional information supplied by the TDHB. Information is detailed under the headings '*Additional information review September 2018:' and '*Opinion':*

Response(s) to the Commissioner's questions:

1. The documentation of GTN spray administration leading to some retrospective confusion over what dose of GTN has been administered at what times.

***Additional information review September 2018:**

The nurses involved in GTN administration have provided statements to explain the contextual influences at the time of drug administration and electronic documentation. The statements detail some misunderstanding between nurses regarding the timing and individual dosage per drug administration. One nurse

administered 2 sprays in divided doses, 5 minutes apart; the other nurse administered 2 sprays as one dose. My original report states that, although the total dose did not exceed the prescription, the timing or dose of drug administered was not clear, or factually correct in the available documentation. This remains the case. The nurses' statements identify a discrepancy in their accounts of what was administered when. Statements also identify that, with the electronic medication administration system in use (MedChart) the nurse administering the first two doses was unable to login due to the need for multiple logons and the time constraints created by the urgency of the situation. The drug doses administered were recorded yet one nurse 'electronically signed' for each of the four sprays despite administering only two. The record of drug doses administered was not consistent with what actually happened, albeit within prescribed limits.

Opinion: The additional evidence provides an understanding regarding the practical challenges created with electronic MedChart use that, in this case contributed to factually incorrect recording of drug administration. My original opinion that the documentation of GTN spray administration in this case is not consistent with best practice standards and guidelines stands. The departure from expected standards created a near miss regarding potential drug administration error that warrants appropriate investigation within Taranaki DHB's incident reporting and management process in order that the factors contributing to the incident are thoroughly explored and appropriate risk reduction strategies put in place. The inability of the person administering medication to electronically sign for their administration at, or close to, the time of administration represents a moderate departure from expected standards. The TDHB acknowledge that multiple log-in and log-outs limit the possibility of medication administration to occur in real time, however systems should enable the administrator to sign for medication 'close' to the time rather than delegate the responsibility to a colleague.

2. The failure to follow up timely attendance of the night on-call Medical Officer (MO) following two separate requests for review of [Mr A] (the second being a priority 2 call) around 0300 on [Day 2].

And

3. The failure to ensure [Mr A] was reviewed by the on-call MO when they attended the ward at an unconfirmed time and signed off [Mr A's] ECG result before leaving.

***Additional information review September 2018:**

The individual statements provided add some contextual detail surrounding events that further highlight communication breakdown as a consequence of acknowledged presumption or assumption that important information concerning [Mr A's] condition had been communicated amongst the health professionals requiring this information to make informed decisions about medication, treatment plans and required observations. Whilst the contextual information enhances understanding as to how the various communication errors occurred, the cumulative effect that multiple errors

had on the quality of care provided to [Mr A] was detrimental in this case. The statements provided, and supplementary letter from the TDHB demonstrate the busy nature of the clinical environment and understandable workload demands on health professionals' time.

Opinion: As previously stated, individual actions or inactions occurring as a consequence of workload and/or inability to effectively communicate represent a mild departure from expected standards. These are likely to be influenced by systems and processes within the clinical context impacting on the individuals' ability to provide care rather than deliberate actions or omissions. However, the same systems and processes appear to have contributed to the cumulative effects of communication breakdown and the quality of care provided to [Mr A].

The TDHB have acknowledged that [Mr A] should have been reviewed by the night house officer following his episode of chest pain, unwitnessed fall, hypotension and loss of consciousness. The TDHB also acknowledge that a telephone call may have prompted further handover interaction and earlier follow up. It is noted that process changes have been made to the use of electronic task messenger as a means of communicating only routine requests. This is a positive process change regarding future communication of concerns and timely clinical review. It also appears that the introduction of bedside handover amongst nursing staff in 2017 may positively influence effective communication in the clinical environment. These are examples of steps that have been taken, by the TDHB, to address the moderate departure from expected standards that occurred in the care of [Mr A].

4. The failure to adequately communicate at handover on the morning of [Day 2] the history of [Mr A's] fall and the suspicion (from at least 0630) he had suffered a head injury.

*Additional information review September 2018:

The additional evidence supplied clarifies that:

- Neither nurse involved in the care of [Mr A] overnight on [Day 2] was aware if the on call house surgeon had responded to the request to review [Mr A] or his ECG overnight following the 03.00 hr chest pain episodes.
- The nursing handover emphasised that [Mr A] had hit his head following a fall; that the fall was not identified until after the event (patient back in bed — therefore unwitnessed), that [Mr A] stated that he had passed out and required medical review as soon as oncoming medical staff arrived. Handover also reported that neurological observations had been commenced.
- The request for medical review was verbally handed over to the oncoming nursing staff at 06.45 as it was deemed unlikely that a telephone call would result in earlier review given the end of shift timing and medical workload at that time.

- It does not appear that mention of the anticoagulant medication administration and potential risks associated with this and suspected head injury were communicated.

The individual statements provided add some contextual detail surrounding events that, again, highlight communication breakdown as a consequence of acknowledged presumption or assumption that important information concerning [Mr A's] condition had been communicated amongst the health professionals requiring this information to make informed decisions about medication, treatment plans and required observations. Whilst the contextual information enhances understanding as to how the various communication errors occurred, the cumulative effect that multiple errors had on the quality of care provided to [Mr A] was detrimental in this case. The statements provided, and supplementary letter from the TDHB demonstrate the busy nature of the clinical environment and understandable workload demands on health professionals' time. Whilst these factors undeniably influence health professionals' ability to manage their workload to attend to required assessments and communication, the cumulative effects were detrimental to the staff's ability to make informed decisions regarding [Mr A's] care.

Opinion: The assumptions made regarding timely attendance of the house surgeon and/or medical team to review [Mr A] on the morning of [Day 2] represent an understandable, but unacceptable departure from expected standards. The contextual influences, including systems and processes, are likely to have significantly influenced this moderate departure that appears to have arisen from cumulative assumptions or presumptions regarding communication of important information rather than deliberate action or omission on the part of any individual. The primary diagnosis of NSTEMI and acute chest pain is acknowledged, in some statements, to have negatively influenced nursing decision making regarding the significance of ongoing anticoagulant use in the context of head injury. Actions have been taken by the TDHB to address risk assessment with anticoagulant use, the process requirements for falls assessment and nursing education concerning anticoagulant use. These represent positive steps to address the recognised departures that occurred during [Mr A's] hospitalisation.

5. The failure to communicate to medical staff the suspicion of head injury secondary to the fall, and to clearly document this suspicion, once this history was obtained from [Mr A] around 0630 on [Day 2]

***Additional information review September 2018:**

The additional information pertaining to this question and my original opinion has been reviewed and forms part of the additional opinion stated above (opinion for question 4).

6. The failure to take into consideration the fact [Mr A] was on anticoagulants and antiplatelet agents in the context of a head injury, and continuing to administer these medications without seeking medical advice.

***Additional information review September 2018:**

The individual statements provided by the nurses involved in [Mr A's] care on the morning of [Day 2] acknowledge that it had been communicated to the oncoming staff that [Mr A] had fallen and hit his head during the night. It is acknowledged that the head injury had been given 'a lesser profile' than his chest pain and related investigations. It is acknowledged that [Mr A] showed no overt signs of neurological impairment and that assumptions were made regarding medical review and communication to the medical staff on the morning ward round regarding the fall. It was assumed that, as nothing was documented in reference to the fall, head injury or alteration to medication, the medical team were aware of, and had considered the implications of head injury in their plan of treatment. Subsequent anticoagulant and antiplatelet medications were administered. The implications of such assumptions have been acknowledged as an error in judgement on the part of the nurses, and the TDHB. It is acknowledged that these medications should not have been administered without prior consultation with the medical team. The TDHB have taken steps to address knowledge deficit in relation to the risks of anticoagulant and antiplatelet medications as a consequence of their SSE report and follow up actions.

Opinion: There are several contextual factors relating to clinical workload challenges that are likely to have contributed to an assumption that appropriate communication had occurred to enable informed decision making. Communication had not occurred appropriately and, consequently, the nurse's decision to administer anticoagulant and antiplatelet medications following a known fall and head injury without clarification from medical staff represents a moderate departure from expected standards of practice. This has been acknowledged by the nurse involved.

***Additional information review September 2018:**

Individual statements provided detail that an assessment of [Mr A's] abdomen was undertaken prior to Clexane injection administration, showing no excessive bruising.

Neurological assessment was undertaken at the commencement of the morning shift on [Day 2], revealing a GCS of 15/15. It is acknowledged that pupillary assessment was not completed, nor was a neurological observation chart used. The nurse is unable to recall the decision making process regarding documentation, stating that it would be her usual practice to use a neurological chart. The observations were not continued. It is acknowledged by the TDHB that neurological observations should have been continued until an informed decision was made by the medical team to discontinue such monitoring. Explanation is provided to suggest that [Mr A's] outward display of an alert, stable and communicative patient influenced the nurses' error of judgement. The TDHB letter suggests that neurological observations were, in this situation likely to have been normal. This is concerning given the nature of neurological deterioration that can occur in clinical presentations of cerebral bleeds. Neurological observations are undertaken to detect the possibility of subtle, early changes should they occur.

Opinion: There are several contextual factors relating to clinical workload challenges that again, are likely to have contributed to an assumption that appropriate communication had occurred to enable informed decision making. Communication had not occurred appropriately and, consequently, the nurse's decision to administer anticoagulant and antiplatelet medications and discontinue neurological observations following a known fall and head injury without clarification from medical staff represents a moderate departure from expected standards of practice. This has been acknowledged by the nurse involved and the TDHB.

7. The decision to stop neurological observations from the time [Mr A] confirmed he had suffered a head injury with his fall (around 0630 [Day 2]) and a failure to recommence such observations or seek prompt medical review when [Mr A] began to complain of headache on the evening of [Day 2].

The first part of this question (decision to stop neurological observations from the time [Mr A] confirmed he had suffered a head injury with his fall) has been partially addressed in the response above.

***Additional information review September 2018:**

Individual statements from the nurses involved in [Mr A's] care on [Day 2] reveal that the nurse assigned to care for [Mr A] on the afternoon shift was not aware that [Mr A] had hit his head when he fell. There was no evidence in the information provided to me to confirm or refute that the nurse on the previous shift handed over this information. It appears that neither [Mr A] nor his family mentioned the fall to the oncoming nurse either. This significantly changes the prior interpretation of the actions and omissions during the episode of care 14.45–23.15 given there was neither verbal communication, nor evidence from medical ward round documentation that a fall had occurred. A falls form had been completed, as had documentation from the overnight nurse concerning the head injury, lump to the head, loss of consciousness that [Mr A] experienced and neurological observations undertaken earlier that morning (clinical notes record). The afternoon nurse's statement identifies a significant clinical workload (assigned to her) and activity throughout the shift in addition to student supervision and ward coordination. These factors are likely to have negatively impacted on the nurse's ability to read the clinical record to identify that [Mr A] had sustained a head injury. Without this knowledge, it is understandable that questions were not raised concerning anticoagulant administration, nor a connection made between headache, dizziness and potential cerebral bleed.

The nurse acknowledges that, had she known the full details of [Mr A's] fall and injuries the clinical decisions would have been different, including recommencement of neurological observations and calling for an urgent medical review.

Opinion: Whilst it is unacceptable that communication failures and clinical workload demands contributed to the nurse's ability to be fully informed of [Mr A's] condition, these contextual factors have significantly affected her ability to make informed, and appropriate clinical decisions in this case. I therefore consider the actions and omissions a mild departure from expected standards. It is the responsibility of the

TDHB to explore the extent to which clinical workload impairs appropriate practice in order that nurses are enabled to read clinical records and be provided with adequate opportunities to communicate effectively in order to minimise the contribution of communication errors in adverse events.

8. The failure to ensure there was nursing input into the ward round held late morning on [Day 2] or alternatively to ensure there was clear information passed on to the medical team that focused review was required in light of [Mr A's] fall history and the new information that he was likely to have suffered a head injury at the time of the fall.

***Additional information review September 2018:**

Individual statements from the nurses involved in [Mr A's] care on [Day 2] and the TDHB COO confirm that assumptions were made on multiple levels and highlight a shared responsibility amongst medical and nursing staff to ensure that good communication occurs. The cumulative effect of communication errors was detrimental in this case. It is clear that the clinical workload demands negatively influenced the ability of many health professionals to communicate important clinical details regarding [Mr A's] condition and the events overnight [Days 1-2]. Whilst this is understandable, it remains a moderate departure from expected standards.

The additional information provided again highlights the impact of high clinical workload on effective communication and communication failures. Whilst understandable, communication failures were detrimental to [Mr A's] care in this situation. As identified in the TDHB serious and sentinel event report, contextual factors warrant exploration and correction to minimise the risk of future communication breakdown.

9. The management of [Mr A's] terminal care on late [Day 2]/early [Day 3].
***Additional information review September 2018:**

The Taranaki District Health Board letter to The Commissioner (13 November 2017) acknowledges that the actions of the nurse 'fell short of expectations in the circumstances' and that (the nurse) 'was confronted with an uncommon clinical situation which was very difficult to manage'. The letter goes on to describe a significantly challenging workload that negatively impacted on the nurse's ability to spend time with [Mr A] and his family. This is a recurrent theme throughout the additional evidence supplied to me regarding this case. Whilst clinical demands inevitably affect one's ability to provide care as expected I believe that the prevalence of busyness as a means of explaining inadequate care provision warrants exploration by the TDHB. The Health Board have a responsibility to enable staff to provide quality care that appears to fall short of individual staff's expectations throughout the evidence provided.

With respect to the end of life care provided to [Mr A] and his family, the statement provided by the primary nurse during the night [Days 2-3] reflects an account of the situation and interactions that differs from the perspective of the family. This has

been considered in light of the subjective nature of individual perspectives and the additional distress that is likely to have influenced [the family] at this time. The nurse describes an extremely heavy and challenging workload that appears to have understandably exceeded her ability to provide care to the standards expected. The nurse was also unaware that [the family] were unhappy with the level of care provided. I believe that the moderate departure from standards appears to reflect unachievable workload as opposed to conscious omission or inappropriate actions.

The nurse's statement details significant personal learning that has occurred following this event regarding palliative care medication management and more appropriate use of the MedChart electronic medication system to enable additional doses of medication to be administered. It is acknowledged by the nurse and the DHB that there were deficits in knowledge and ability to provide a high standard of end of life care for [Mr A] and his family. Steps have been taken as a result of the TDHB serious and sentinel event investigation and report to address these deficits.

Dr Jane Hardcastle
20 September 2018"