Registered Nurse, RN D

Registered Nurse, RN C

Anaesthetist, Dr B

Private Hospital

A Report by the Health and Disability Commissioner

(Case 13HDC00213)

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Executive summary

Background

1. On 22 January 2013 Master A, aged three years, was due to have a tonsillectomy and adenoidectomy performed by surgeon Dr E at a private hospital (the hospital). Master A's sister, Miss A, aged four years, was due to have the same procedure performed by Dr E immediately after Master A.

2. The children's allocated nurse was registered nurse (RN) D. RN D had six years' experience as a registered nurse, but had only recently commenced employment at the hospital and was working her first shift alone following a four-week buddy period.

3. Prior to surgery, anaesthetist Dr B wrote prescriptions for Master A's and Miss A's pre-surgery medications. Pre-medications are administered to patients prior to surgery to help prepare them for surgery, and typically include sedative or pain relief medications. In this case, Dr B prescribed paracetamol and codeine, both of which are commonly prescribed pain relief medications. The recommended adult dose for codeine is 30–60mg, while the recommended dose for a child of Master A's size is 8.5mg.

4. Before administering the pre-medications, RN D asked RN C to check Master A's prescription with her, in accordance with the hospital policy. RNs D and C both read Master A's prescription for codeine as 85mg. The nurses discussed the fact that it was a large dose, but neither checked the prescription with Dr B.

5. RN D administered Master A 85mg of codeine orally. When she checked Miss A's prescription, which was for 8mg of codeine, she realised that a mistake had been made. Master A had his stomach washed out, and the tonsillectomy and adenoidectomy were performed as planned. Master A showed no evidence of codeine overdose postoperatively.

Findings

6. Despite having six years' experience as a registered nurse, RN D administered more than the recommended adult dose of a commonly prescribed analgesia to a three-year-old child. RN D's actions were unacceptable and a breach of Right 4(1) of the Code of Health and Disability Services Consumers' Rights (the Code).[1]

7. RN C's role, in acting as an independent checker, was to provide a safeguard against errors such as this occurring. RN C failed in this regard and breached Right 4(1) of the Code.

8. Adverse comment was made about the legibility of Dr B's prescription in this case, and the quality of her documentation.

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

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9. Adverse comment was made about the care provided by the hospital to Master A.

10. Comment was also made about Master A's postoperative care and the hospital's Medicines Management Policy.

11. Master A's prescription was altered retrospectively, but no finding was made regarding who was responsible for this.

Complaint and investigation

12. The Commissioner received a complaint from Mrs A about the services provided to her son, Master A, at the hospital. The following issues were identified for investigation:

- *Whether the hospital provided Master A with an appropriate standard of care on 22 January 2013.*
- *Whether RN C provided Master A with an appropriate standard of care on 22 January 2013.*
- *Whether RN D provided Master A with an appropriate standard of care on 22 January 2013.*

13. The investigation was subsequently extended, with the following additional issue identified for investigation:

- *Whether Dr B provided Master A with an appropriate standard of care on 22 January 2013.*

14. The parties directly involved in the investigation were:

Mrs A	Complainant, consumer's mother
Mr A	Complainant, consumer's father
Private hospital	Provider
Dr B	Anaesthetist, provider
RN C	Registered nurse, provider
RN D	Registered nurse, provider

Also mentioned in this report:

Ms J	Hospital Manager

15. Information was also reviewed from surgeon Dr E, RN F, RN G, and anaesthetic technician Mr I.

16. Independent expert advice was obtained from in-house nursing advisor Dawn Carey (**Appendix A**) and anaesthetist Dr Andrew Love (**Appendix B**).

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Information gathered during investigation

Introduction

17. On 22 January 2013 three-year-old Master A was administered 85mg of codeine phosphate syrup (codeine)[2] in error. 85mg of codeine was ten times the dose that Master A should have been given. The events surrounding the administration are set out below.

Background

18. On 22 January 2013 Master A was due to have a tonsillectomy[3] and adenoidectomy[4] performed by surgeon Dr E at the private hospital. Master A's sister, Miss A, aged four years, was due to have the same procedure performed by Dr E immediately after Master A.

19. At 7.45am on 22 January 2013 Master A and Miss A were admitted to the hospital for the planned surgery. The children were placed in the same room in beds next to each another. They were accompanied by their mother, Mrs A. Their father, Mr A, was due to arrive later in the morning.

20. The children's allocated nurse was registered nurse RN D, who was responsible for admitting the children and caring for them prior to surgery, including administering their pre-surgery medications (pre-medications). RN D had six years' experience as a registered nurse, but had only recently commenced employment at the hospital and was working her first shift alone following a four-week "buddy period" (discussed further below). On the morning of 22 January 2013, she was allocated three patients, including Master A and Miss A.[5]

Anaesthetic review

21. At around 8am anaesthetist Dr B reviewed the children. RN D was also in the room.

22. The review is undocumented, but Dr B told HDC that she explained to Mrs A and the children how she would induce anaesthesia during the surgery. Dr B noted on the "Agreement to Anaesthesia" form: "Discussed w mum. JW [Jehovah's Witness]. Cell saver[6] ok." However, no further details about the conversation are recorded. Dr B and Mrs A both told HDC that they discussed that although Mrs A is a Jehovah's Witness and would not consent to blood products, her husband

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[2] An opioid used to treat mild to moderate pain, among other things.

[3] Removal of tonsils.

[4] Removal of the adenoids, commonly performed at the same time as a tonsillectomy.

[5] The hospital told HDC that RN D's patients were allocated based on the hospital's acuity tool, which is used to calculate safe staffing to predicted needs of patients, based on cases being weighted as minor, moderate or major.

[6] A medical procedure involving recovering blood lost during surgery and re-infusing it into the patient.

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would be the one to make a final decision regarding blood products when he arrived at the hospital if blood products were required.[7]

23. Following her review, Dr B wrote prescriptions for Master A's and Miss A's pre-medications. Pre-medications are administered to patients prior to surgery to help prepare them for surgery, and typically include sedative or pain relief medications. In this case, Dr B prescribed paracetamol and codeine, both of which are pain relief medications. For children, the dosages required for both medications are calculated and prescribed according to the child's weight in kilograms (kg). The recommended dose of codeine for children is 0.5 milligrams (mg) per kg, according to *MIMS* (the *Monthly Index of Medical Specialties*) and Medsafe (the New Zealand Medicines and Medical Devices Safety Authority).

24. Dr B told HDC that normally she calculates dosages required out loud, and probably did so in this case. She also stated that Master A's weight, 17.1kg, was written on the medication chart at the time.[8] She said that, for Master A, she charted 30mg per kg of paracetamol and 8.5mg of codeine (the equivalent of 0.5mg per kg) to be given orally. For Miss A, she charted 30mg per kg of paracetamol and 8mg of codeine to be given orally.

25. Mrs A stated to HDC that Dr B was reading out loud as she was writing the prescription, and Mrs A recalls that one of the dosages definitely had a decimal point in it, but she does not recall which one.

Medication check

RN D

26. RN D told HDC that, after writing the prescription, Dr B handed her the medication chart and asked her to prepare the pre-medications for Master A. RN D advised HDC that she "promptly left the room to find a nurse to check the medication with [her]"[9] without looking at the prescription. RN D told HDC that everyone was very busy but that she found a senior nurse, RN C, to check the medications with her.[10] RNs D and C then went into the treatment room to draw up the paracetamol and codeine dosages for Master A. Both medications were drawn up in separate syringes.

27. The hospital advised HDC that codeine is supplied as a syrup with a concentration of 20mg per 5 millilitres (ml). This means that a calculation is needed to determine

[7] Mrs A also signed an "Agreement to Treatment" form, which stated: "I agree to blood or blood products." Mrs A told HDC that she did not realise she was consenting to blood products when signing the form. However, on the "Patient health questionnaire" for Master A, she recorded: "I am a Jehovah's Witness, no blood [products], can use cell saver."

[8] RN D told HDC that it is usual practice for the doctor to write the weight on the medication chart at the time of prescribing, and that Dr B would have written Master A's weight on the medication chart at the time she prescribed the pre-medications. RN D said that she (RN D) did not write Master A's weight on his medication chart.

[9] The hospital's Medicines Management Policy, discussed further below, requires that a second nurse check prescriptions for all paediatric patients, all patients under 45kg, and all medications where mathematical calculations are required.

[10] RN C was allocated care of three patients at the time.

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the volume of syrup required to fulfil the prescribed amount of medication. According to the hospital's internal investigation, both nurses read the prescription for codeine as "85mg" and independently calculated that 21.25ml was required.

28. RN D told HDC that, while they were checking the medications:

> "I questioned the dose of Codeine as I know the adult dose is 30–60mg. [RN C] commented that the dose of Codeine was more than they usually give but gave me no impression that this was not [acceptable]. As I was not familiar with paediatric doses and as this was pre-anaesthetic I trusted my more experienced checker for this pre-med dosage.
>
> I was also aware that individual anaesthetists at this hospital had different standing/prescribing orders[11] and preferences that could be twice the usual dose for some medications. As paediatrics was still a new learning environment for me, including the whole pre-admission process at this hospital, regrettably at this time I felt it was not for me to question further."

29. Regarding the prescription itself, RN D told HDC:

> "When [Master A] was returned to the ward [following surgery] I was shown the medication chart by the [Clinical Nurse Manager] and I was surprised at how clear the charting was. There was a very clear decimal point, making the prescription unquestionably 8.5mg, which I believe had not been apparent prior to [surgery]."

RN C

30. RN C told HDC that the prescription was clearly written as 85mg. She stated that there may have been a dot on the 8, but that it looked as if it could have been an ink blot. According to RN C, the decimal point, which is now shown clearly on the prescription between the 8 and 5, was not there at the time the pre-medications were administered.

31. RN C stated that she asked RN D whether she was sure it was the dose the anaesthetist wanted, and that RN D confirmed that it was. RN C also told HDC that Master A's weight was not written on the medication chart, and she asked RN D whether he was a "big boy" to require so much codeine, and RN D replied that he was not. RN C told HDC that she advised RN D that the patient's weight is normally written on the medication chart, and that RN D told her that Master A weighed 17.1kg. RN C stated that she then considered that Master A might have "some absorption problems" that required a higher dose of codeine. Ultimately, however, RN C stated that she trusted RN D because RN D was an experienced nurse, and that she thought there must be a reason why such a large dose had been prescribed.

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[11] A standing order is a written instruction issued by a medical practitioner or dentist that authorises a specific person or class of people (eg, registered nurses), who do not have prescribing rights, to administer and/or supply specified medicines.

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32. The pre-medication part of Master A's medication chart is signed by both registered nurses.[12]

Medication administration

33. RN C then left to attend to her own patients, and RN D went back into Master A's room to administer the medication. She administered Master A the paracetamol and the codeine orally via syringe. RN D told HDC that she then picked up the medication chart for Master A's sister, Miss A, who was due to have surgery after Master A. She saw that Miss A had been charted 8mg of codeine, and was "instantly alarmed and concerned".

34. In her complaint to HDC, Mrs A stated that, prior to the administration, she questioned the dosage twice, but the nurse (RN D) continued to administer it and only seemed to question the dose later. Mrs A said that she noticed that RN D was using a "huge big" syringe, and asked RN D whether she was sure that was how much Master A should be given. According to Mrs A, RN D told her that it was the dose the anaesthetist has prescribed.

35. In contrast, RN D told HDC:

> "I am confused with the mother's statement in her complaint that she questioned the dosage for [Master A] twice and only after I had given it did I seem to question it. I deny this as I had noticed the error when looking at the sister's medication chart and immediately alerted the doctor."

Subsequent events

36. RN D told HDC that, when she realised the error, she immediately left the room and advised Dr B that Master A had been administered 85mg of codeine. RN D recalls that she and Dr B went to speak to Mrs A, and that Dr B then left and subsequently returned with the children's surgeon, Dr E.

37. Dr B told HDC that, while she was in the operating theatre drawing up medications for Master A's surgery, RN D came in and showed her the medication chart, saying, "Oh no, I have just administered too much." Dr B told HDC that she then consulted with her colleagues, including Dr E, and it was agreed that they would pump Master A's stomach and then proceed with the planned surgery.

38. Mrs A told HDC that a few minutes after the pre-medications were administered to Master A "everyone" appeared in the room and RN D "shoved" the prescription in her face and said, "See, the decimal point isn't there." Mrs A said that she could see that there was a decimal point on the prescription but that it "wasn't particularly clear".

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[12] RN D's signature appears in the "Checked By" boxes but should appear in the "Given By" boxes, which are empty. RN C's signature appears in the "Time" boxes but should appear in the "Checked By" boxes. RN C also wrote "0815" next to her signature, indicating that she checked the medications at 8.15am.

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39. RN C told HDC that, after she left the treatment room where she had checked the medications with RN D, she attended another patient, but was "not happy" and realised that an error had been made. She stated that she approached RN D to discuss the issue and that, at the time, RN D was on her way to inform Dr B of the error.

40. At approximately 9am Master A had his stomach washed out with one litre of saline, and activated charcoal[13] was instilled via a nasogastric tube (NGT). The operating team then proceeded to perform the planned tonsillectomy and adenoidectomy. The surgery was performed by Dr E, with RN F and RN G, Dr B, and an anaesthetic technician (AT), Mr I.

41. According to Drs E and B, the operation was successful and Master A showed no evidence of codeine overdose postoperatively.

Postoperative care

42. At 9.47am, following surgery, Master A was transferred to the Post Anaesthetic Care Unit (PACU).

43. The PACU nursing record states that, while in PACU, Master A was given 1mg intravenous (IV) morphine at 9.40am, 9.43am, 9.57am, 10.04am and 10.10am. At 10.20am Master A was given 300mg paracetamol. The PACU nursing record states: "Panadol given IV as oral analgesia will not be effective due to activated charcoal … Oral meds can resume approx 1115 as per anaesthetic instruction."

44. At 10.45am Master A was returned to the ward, where he was cared for by an RN until 3pm. The RN recorded in the clinical notes that when Master A arrived on the ward he was sleeping and appeared comfortable and settled. At 12.40pm Master A was restless and not tolerating oximetry.[14] At 1.30pm Dr E reviewed Master A and, according to the notes, was satisfied with Master A's progress and assured Mrs A that Master A's liver would not be affected by the medication error. At 2.40pm the RN recorded that Master A was settled and had been sleeping for most of the duty.

45. According to the clinical records, a second RN took over care of Master A at 3pm and, at 4.25pm, Master A was given 250mg paracetamol (it is not recorded whether this was given orally or intravenously).[15] At 6pm another RN took over care of Master A. The RN recorded that Master A was "not wanting to swallow" and, at 7pm, Dr B prescribed Master A IV fluids via a verbal order. He was administered IV Hartmann's solution[16] 50ml/hour overnight.

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[13] Activated charcoal is used as an antidote to poisoning and/or medication overdoses.
[14] A non-invasive means of monitoring a patient's oxygen saturation using a clip on the finger.
[15] Master A was charted post-operative paracetamol to be given orally by Dr B. The medication chart shows that this was amended by verbal order to be orally or by IV, but it is not clear when this occurred. The verbal order appears to be signed by the RN who took over care of Master A at 6pm.
[16] Electrolyte intravenous solution.

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46. During the night, Master A was cared for by a fourth RN. At 9.30pm he was administered a 12.5mg Voltaren (diclofenac) suppository[17] and, at 10.25pm and 5.30am, he was given 250mg paracetamol. The nursing notes record: "Panadol IV effective."

47. In the morning (the exact time is not recorded), another RN cared for Master A until he was discharged at approximately 12.45pm.[18] Master A was administered 130mg of Brufen (ibuprofen) at 8.12am, and 250mg of paracetamol at 12.45pm. Nursing notes record that "oral Panadol and oral Brufen effective".

48. Mrs A told HDC that she considered Master A's aftercare to have been "appalling", and said that she had to beg the nurses to give her son a suppository, and had to demand IV fluids because he was unable to swallow.

Incident Form

49. At 10am on 22 January 2014 RN C completed an "Incident/Complaints and Investigations Form" (Incident Form). On that form, she wrote:

> "I was asked to check codeine for a child at 3 years. Prescription looked like 85mg, was meant to be 8.5mg. Not clearly written decimal point. I knew the drug dose was wrong and asked the 1st nurse 3 times is this right. I double checked the calculation but the 1st nurse said she was … in the room as the doctor wrote the prescription. On checking out the dose I said it's a huge dose for a child as we only ever usually give up to 4mls. I should have stopped her and phoned the anaesthetist but by then it was given. I am partly to blame as I know the prescription was wrong and should have acted on it at the beginning.
>
> Contributing factors — Disheartened with myself as I failed ACLS [Advanced Cardiac Life Support] exam. That was in my mind. But I should have been proactive in double checking the order as I knew it was wrong and acting on it instead of just signing the order and taking the nurse's word for it. I even asked the child's weight as it wasn't on the prescription sheet."

Further information

RN D

50. As stated above, at the time of events, RN D had recently commenced employment at the hospital. According to RN D's curriculum vitae, she had had six years' postgraduate experience working for a district health board prior to being employed at the hospital. The hospital provided HDC with RN D's employment interview notes, which state that she applied for, and was offered, the role of "Cardiothoracic RN ward".[19]

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[17] Diclofenac was prescribed by Dr B via a verbal order at 9.25pm.

[18] The exact time of discharge is as advised to HDC by the hospital; the discharge time is not recorded on Master A's Discharge Form.

[19] In response to the provisional opinion, the hospital stated that RN D applied for the position of "ward cardiothoracic RN", which is advertised in such a way because, while the main function of the position is to care for a variety of surgical patients, there is also a requirement to care for cardiothoracic patients from time to time. The hospital stated that neither RN D's employment agreement nor her position description makes any mention of cardiothoracic responsibilities.

HDC

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51. At the time of these events, RN D had completed a four-week buddy period working alongside a preceptor[20] at the hospital, but had not completed the paediatric nursing component in her orientation booklet. Her four-week buddy period had been interrupted by the Christmas/New Year period.[21]

52. RN D told HDC that, when she started working at the hospital, she had had minimal paediatric experience, and that her four-week buddy period had not included any orientation in paediatrics. RN D further stated:

> "I have worked as a preceptor myself over the past few years and completed a level 7 preceptor course through [a tertiary institute]. Personally I feel my orientation to [the hospital] was inadequate, partly because [of] the timing pre and post the Xmas–New year shutdown, partly because it had a cardiac emphasis and also because it did not include any paediatric orientation. I feel I was placed in an unsafe position which resulted in a medication error and a near miss situation."

53. RN D also told HDC that she had advised her shift leader she was "feeling a bit anxious" about working her first shift without a buddy. RN D said she was "therefore quite dismayed to discover" that she was allocated to admit two young children for their tonsillectomy procedures. She stated that, when she questioned the allocation, she was "assured of the support and availability of [others] to help".

54. RN D further stated to HDC that following these events she spoke with a professional nursing advisor recommended by her manager at the hospital, and worked with a buddy for a further week. RN D told HDC that she has learnt a lot from this event, and "will always question more especially when uncertain in unfamiliar situations".

55. RN D stated:

> "I regret and apologise for my actions leading to the events of this day. As a nurse and parent myself I am distressed that it happened. I will never forget this experience on my first solo shift at [the hospital] and will use this example to educate others."

RN C

56. RN C's lawyer told HDC that RN C is an experienced registered nurse with approximately 16 years' postgraduate experience working in a variety of clinical settings. RN C had been an employee at the hospital since 2008.

57. RN C told HDC that she is aware that the usual dose of codeine for an adult is 30–60mg, that she has administered codeine to children in the past, and that she would not normally administer such a large dose. RN C further stated that she would normally check with the prescribing doctor if she was unsure about a prescription,

[20] A skilled registered nurse who supervises new staff in a clinical setting.
[21] The hospital's orientation programme is discussed further below.

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and that she cannot explain why she did not do so on this occasion. RN C told HDC that, generally, if she is unsure about a prescription, she feels able and comfortable to query it with the prescribing doctor.

58. RN C's lawyer told HDC that RN C has reflected on this incident, and resolved in future to raise with the prescriber any concerns in relation to apparently large dosages. RN C is confident that there will not be a repeat of the error, and apologises to Mr and Mrs A for her part in the events that occurred on 22 January 2013.

Dr B

59. Regarding her documentation of the conversation she had with Mrs A about blood products prior to Master A's surgery, Dr B stated:

> "I acknowledge that my notes could have been more detailed about my discussion with [Master A's] mother. However, I still noted the Jehovah's Witness status of the patient and I was fully aware, as was the surgeon responsible for the operation, of this status and would have sought the necessary consents from both [Master A's] mother and father, if a blood transfusion had been necessary, which was highly unlikely."

60. Regarding the medication error, Dr B told HDC that she considers herself approachable and expects nurses to check with her if they are unsure about a prescription. Dr B stated that it is quite common for nurses to check if they are unsure about a prescription, and that she does not believe there is anything in the working culture at the hospital that would have prevented that from occurring in Master A's case.

The hospital

61. The hospital told HDC that RN D's comment that individual anaesthetists at the hospital had standing/prescribing orders and preferences that could be twice the usual dose for some medications (above at paragraph 28) was "surprising". It further stated:

> "Checks have been made that confirmed [the hospital's] understanding that there are not anaesthetists who have different standing orders and preferences that could be twice the usual dose for some medications."

62. The hospital also told HDC that, in January 2013, there were five anaesthetists and one surgeon using standing orders for pre-medication prescriptions for paediatric patients, and seven anaesthetists using standing orders for pre-medication prescriptions for adult patients. The hospital told HDC that all of those standing orders were typical hospital pre-medication doses. The hospital further stated:

> "[A]ny prescription for twice the usual dose for a medication would raise concern among the staff who saw that prescription, and that event would be addressed by [the hospital's] Clinical Medical Committee and [the hospital's]

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National Clinical Medical Committee. There are no records of any such concerns being raised."

Altered prescription

63. During the course of HDC's investigation, the hospital provided HDC with a copy of a file note dated 22 January 2013 written by Hospital Manager Ms J, which states:

"I went to the operating suite at approximately 10.30am to check on the outcome of [Master A's] surgery and to speak to [Dr E] the surgeon. At this time [Dr E] showed me the medication chart and alerted me to the possibility that the decimal point for the codeine medication may have been altered [since it was originally written]. …

I then asked [Dr E] and the anaesthetist who prescribed the medication, [Dr B] if they could meet with me before leaving the hospital. They both came to see me in between operating cases … At this time … [Dr B] denied that she had altered the decimal point. [Dr E] did not comment."

64. Dr E, when asked to comment, told HDC:

"On being alerted to the overdose problem on the day of the surgery, I immediately went to the ward and saw the notes and confirmed that the prescription, despite being very neatly written, was easily read as being 85[mg] because the full stop was not clear, it being positioned partially overlapping the downstroke of the figure 8. Later on during the day, I again read the notes and noted that the full stop was now distinct so that it appeared that some person had altered the notes after the incident."

65. When first asked to provide a statement to HDC, Dr B stated:

"I strongly and emphatically deny that I made any alteration of my script for [Master A] after I wrote it prior to his operation. I would not do this. … I charted only 8.5mg of codeine for [Master A] as the chart shows."

66. On request from HDC, the hospital provided the original of Master A's medication chart. HDC asked the New Zealand Police Document Examination Service (NZPDES) to analyse the medication chart and provide a written report on its findings. NZPDES's report stated:

"The inks used to complete the entry '8.5mg' were examined using a variety of optical and selective wavelength techniques.

Differences in response were observed between the '8' and '5mg' entries and the decimal point.

The decimal point in the '8.5mg' entry has been completed in a liquid ink. The remainder of the entry has been completed in a black ballpoint pen ink. …

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No other black liquid ink entries were found on the questioned document."

67. When asked to comment, Dr B told HDC:

"I unequivocally placed a decimal point between the 8 and the 5 when I first wrote the script, but it has subsequently been enhanced, and not by me.

I cannot explain the findings in the document examination report … However, I can confirm that I absolutely deny that it was me who altered the decimal point and I absolutely deny that I altered [Master A's] premedication prescription after I wrote it. …

I also note that I do not typically use black pens because the charts are usually in black and I have always thought that a coloured pen stands out more. I typically use blue, green, purple and pink coloured pens … If I have written with a black pen it is most likely to have been borrowed from someone else."[22]

68. When asked to provide information regarding who had access to Master A's medication chart after it was written, the hospital provided the following table:[23]

Area	**Time**	**Personnel**	**Action**
Ward	0810	[Dr B]	Prescribed premedication
Ward	0815	[RNs D & C]	Checked & administered medication
OT [operating theatre]	0905	[Dr B]	Administered anaesthetic
OT	0915	[Dr B]	Administered activated charcoal via NGT
OT	0900–0946	[Dr E; Dr B; RNs F and G, Mr I]	All present in OT with access to chart
OT	0940	[Dr B]	Administered Morphine
OT	0943	[Dr B]	Administered Morphine
Transfer	0947		

[22] Hospital medication charts (including Master A's) are in blue.
[23] Relevant extracts quoted only. The entire table provided by the hospital includes the names of 14 other people who had access to Master A's medication chart after the alleged alteration was brought to Ms J's attention.

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PACU	0948	[Dr E] (surgeon); [Ms J] (Hospital Manager/HM)	Medication chart shown by surgeon to Hospital Manager

69. HDC obtained statements from each of the individuals listed above. RNs F and G and Mr I denied that they wrote on the medication chart or saw anyone else write on it. RN D stated that she did not write on the medication chart except to complete the "Allergies/Drug Reactions" and "Medical and Surgical History" sections, and initial that she had given the pre-medications. RN C told HDC that she did not write on the medication chart except to initial that she had checked the pre-medications. As stated above, the alleged alteration was brought to Ms J's attention by Dr E, and Dr B denies altering the prescription.

Internal investigation

70. In response to this incident, the hospital conducted an internal investigation, which identified the following "care delivery problems and contributory factors":

- RN D's orientation was not sufficiently comprehensive, in particular RN D had not undertaken a patient admission by herself previously or completed the component for paediatric nursing in her orientation booklet; her orientation had not included paediatric care and had focussed on cardiac care patients; and the formal orientation day "where medication resources were detailed" was not scheduled until after the incident occurred.
- Staff allocation did not take RN D's inexperience into account, in particular that it was RN D's first day out of the hospital's formal orientation/buddy period. In addition, she had discussed the fact that she was not familiar with paediatric nursing with the Ward Clinical Nurse Leader, who had "in turn offered her support and mentorship".
- The prescription was unclear and did not meet best practice standards, in particular the decimal point was unclear. The investigation report notes that RNs D and C "deny a decimal point was visible prior to medication administration" but that "[p]ost surgery there is a visible decimal point on the prescription". The investigation report also identified other issues to do with the clarity of the prescription.[24]
- Clarification of an "unusual" dose did not occur in accordance with the hospital's Medicines Management Policy (discussed further below), partly because the "culture of questioning [was] not 'hardwired' into the hospital's practice".
- There were time pressures to complete the admission process as Master A and Miss A were first and second on the list of theatre admissions, the admission process was "interrupted by a visit from the anaesthetist", and RN C had a heavy patient workload.

[24] The hospital held a meeting with Dr B to discuss these issues, which is recorded in a file note dated 23 April 2013.

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71. Regarding RN D's patient allocation, the hospital told HDC that "[RN D's] allocation was made in accordance with [the hospital's] safe staffing guidelines … and [the hospital's] acuity tool …".

72. The internal investigation identified an action plan, which recommended the following actions be taken:

- Continue to facilitate open disclosure with Master A's family.
- Review paediatric nursing care orientation, and provide specific paediatric education for RNs D and C.
- Review staffing allocation guidelines.
- Investigate the implementation of the National Medication Chart and undertake quarterly audits of prescribing (including verbal/standing orders) to identify opportunities for improvement.
- "Hardwire" safe medication administration by reviewing staff certification, providing education and "management support for culture of 'questioning'", reviewing incidents monthly, and auditing prescribing.
- Share the internal investigation (which was anonymised) with all registered nurses, anaesthetic technicians hospital-wide.

73. The hospital further stated to HDC:

> "[The hospital] has not seen it as necessary to make any changes to its service following this incident. There were a number of actions identified through [the hospital's] review. Those actions involved reviewing its processes which were confirmed as appropriate, and reminding staff of existing requirements."

Relevant hospital policies

Medicines Management Policy

74. At the time of these events, the hospital had a Medicines Management Policy in place (the Medicines Policy). The Medicines Policy's stated purpose is "to ensure safe medicine management at [the hospital], which complies with legal, organisational, cultural, professional and clinical requirements" and "applies to all staff authorised to manage medicines in their particular practice settings". Relevant parts of the Medicines Policy are set out below.

> "**1.1. General principles**
>
> [The hospital] is committed to medication safety.
>
> - It is the responsibility of all clinical staff engaged in any aspect of the medication process to:
>   - — Take due care to ensure safe practice.
>   - — Alert any other colleague — inclusive of a different professional and/or different seniority level — of any impending error (ie if you

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see an error about to occur you are fully authorised to **STOP** the process. […]) […]

— Any member of staff involved should stop what they are doing and identify any potential for error. […]

2.6. Inpatient medication charts […]

- If the patient weighs less than 45 kilograms (kg) any medication must be individually double checked. […]

3.1. Safe administration practices

The following safety practices apply to **all** checking and administering of medicine.

- Every health professional that becomes aware of a potential medicine error about to occur has the responsibility of voicing that concern to ensure preventative action can be taken.
- Illegible prescriptions **must not** be administered. […]
- Every health professional has the right to; stop, think and be vigilant when checking and administering medicines […]
- The person administering must be aware of the actions, normal dose range, compatibilities, side-effects, adverse reactions, and monitoring requirements, of the prescribed medicine. […]

3.2. Requirements for checking medicines […]

Independent double checking medicines

- The following medicines must be independently checked by a second health professional to confirm that it is the correct medicine and dose according to the prescription: […]

  — medicines requiring a mathematical calculation to ascertain correct dose

  — medicines for paediatric patients […]"

Orientation process

75. The hospital told HDC that its orientation for new staff starts with the pre-employment assessment of prior experience and training, which is verified through the interview process.

76. The hospital's orientation process for newly employed registered nurses is detailed in its Orientation Programme Registered Nurse (OPRN) document. The OPRN sets out an orientation period comprised of three parts. From week one to four, the newly employed registered nurse works alongside a preceptor and is allocated a shared workload (the buddy period). From week four to 11, the newly employed registered nurse is allocated his/her own workload but can refer to his/her preceptor as needed. The registered nurse also has a mini assessment with his/her

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manager at six weeks. At week 12, the registered nurse completes a 12-week informal appraisal with his/her manager. According to the hospital, the completion of the entire orientation programme takes place over three to six months.

77. The hospital told HDC that staff also go through a one-day induction programme to cover specific features of the hospital, which is scheduled for a date as close to the end of the four-week "buddy period" as possible.

78. The OPRN includes a series of competency statements, made up of several components and organised by topic (eg, Admission, Technical skills, etc). The newly employed registered nurse is required to sign and date each component of the competency statements when she/he feels competent and aware of safety considerations in respect of each. The completion of each competency statement should also be reviewed by the preceptor. The Paediatric competency statement requires the newly employed registered nurse to demonstrate knowledge of common paediatric analgesic medications and their dosages. In response to the provisional opinion, the hospital told HDC that the competency statements form part of the initial familarisation of nurses employed at the hospital, and that failing to have a competency statement signed off is not intended to indicate that the relevant nurse lacks competency in a specific area.

79. The hospital told HDC:

> "An effort is made to familiarise the new staff member with as many features of the hospital as possible during [the buddy period]. However, it is impossible to cover every aspect of the hospital operations given the breadth of services offered, and the fact that what a person is exposed to is dependent on what procedures are booked by the independent medical practitioners during the orientation period. Staff members are provided with an orientation book to guide them through this period, so they are made aware of other issues even if they are not directly exposed to them."

80. The final page of the OPRN lists a series of educational sessions. The list includes a "Medicines Management" session and states that RN C is one of the facilitators for that session.

Response to provisional opinion

81. Mr and Mrs A were given an opportunity to comment on the "Information gathered during investigation" section of the provisional opinion. RNs D and C, Dr B and the hospital were given an opportunity to comment on parts of the provisional opinion relevant to the care they provided. All parties' comments have been incorporated into this opinion where appropriate, and their additional comments are set out below.

Mr and Mrs A

82. In response to the "Information gathered during investigation" section of the provisional opinion, Mr A re-iterated his and his wife's view that, contrary to what

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is stated in the clinical records, Master A was in discomfort post-operatively and did not receive adequate pain relief.

RNs D and C

83. RNs D and C accepted the findings made in the provisional opinion.

Dr B

84. Dr B accepted the findings made in the provisional opinion. She noted that, since this incident, she is very careful to:

- document that a patient is a Jehovah's Witness in the clinical records and discuss that a patient is a Jehovah's Witness with the rest of the treating team; and
- ensure that, when writing a medication chart or prescription, any decimal point is clearly marked.

85. Dr B also stated that, since this incident, she tends not to prescribe half-doses unless necessary.

The hospital

86. In relation to its internal investigation findings, the hospital told HDC:

> "The internal review is conducted by the hospital to determine whether there might be any factor, no matter how small, that might be learnt from the events to offer an opportunity for improvement … a process is adopted where the reports of those spoken to as part of the review are not tested, and are just accepted at face value. That process means that the resultant review report is likely to err on the side of finding issues, rather than missing issues. But some of those identified issues, may in fact not be issues at all."

87. The hospital stated that findings made in the internal investigation about RN D's orientation, staff allocation and time pressures faced by RN D (as set out at paragraph 70 of this report) were incorrect and that these factors are not considered to have adversely impacted the care provided to Master A.

88. The hospital stated that, contrary to the internal investigation's findings, "the culture of questioning is also firmly present" at the hospital. It cited a 2014 employee survey which found that 82% of respondents agreed that it was easy to speak up if they perceived a problem with patient care, and a 2008 employee engagement survey that found 84% of respondents said there was an open culture of admission of incidents.

89. Regarding the orientation process that RN D had undergone at the time of these events, the hospital stated that it "is tailored for an experienced nurse who is competent in a variety of patient care settings, simply getting accustomed to [the hospital] environment", and is different to the type of process implemented for a new graduate nurse.

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90. The hospital also submitted that, contrary to what is stated in its internal investigation and by RN D, her orientation included "very little cardiac focus". The hospital stated that RN D's exposure was to orthopaedics, gynaecology, general surgery, urology, neurology and cardiac patients (including an ENT (ear nose and throat) patient).

91. Regarding RN D's patient allocation on 22 January 2013, the hospital stated that she was allocated only one other patient apart from Master A and Miss A and that patient had an admission time of 8.30am, meaning that at the time RN D was treating Master A, she was only caring for two patients. The hospital stated that this is "an incredibly light patient load" that resulted from a combination of the patients booked for that day, together with consideration of the fact that RN D was working her first shift without a formal buddy.

92. The hospital added that, apart from RN C, there were two other senior nurses present on 22 January 2013 who had not been allocated patients so that they could complete administrative tasks and support other staff if required. The hospital also stated that RN D declined offers of support on 22 January 2013.

93. The hospital also stated that there was no significant time pressure on 22 January 2013 because both RNs D and C had very light patient loads and other staff were available to provide assistance.

94. The hospital further stated in response to the provisional opinion that it disputes that Master A's post-operative care was wanting in any way.

Opinion: Introduction

95. On 22 January 2013, three-year-old Master A was administered 85mg of codeine in error. This report considers the standard of care provided by the health providers involved in that medication error.

96. Following the medication error, it was suggested that Master A's prescription had been altered retrospectively. Analysis from NZPDES confirmed that the decimal point currently present on Master A's prescription was completed in a black liquid ink, whereas the "8" and "5mg" were written in a black ballpoint pen. Black liquid ink does not appear elsewhere on the prescription. On that basis, I conclude that Master A's prescription was altered retrospectively.

97. During the course of my investigation, my Office made a number of enquiries in an effort to establish who altered Master A's prescription retrospectively.

98. Each individual involved in Master A's preoperative care and surgery told HDC that he or she either did not write on the medication chart, or only did so in the usual course of events. Numerous others had access to the medication chart from

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the time it was written to the time it was provided to HDC, and the exact timeline and course of events with respect to the medication chart are unclear.[25] In the absence of further evidence I am not prepared to make a finding regarding who altered Master A's prescription retrospectively.

99. My consideration of the individual providers' involvement in the care provided to Master A is detailed below.

Opinion: RN D

100. RN D was Master A's allocated registered nurse on the morning of 22 January 2013, and was responsible for administering him his pre-medications, including codeine. She administered him 85mg of codeine, which was ten times the intended dose, and more than the recommended adult dose.

101. As required by the hospital's Medicines Policy, RN D asked a colleague to check Master A's pre-medications with her prior to administering them. When preparing Master A's pre-medications, both RNs D and C read the prescription for codeine as 85mg and independently calculated that 21.25ml of 20mg/5ml syrup was required.

102. RNs D and C had a conversation about the fact that 85mg was a large dose for a child. They have provided conflicting accounts about what exactly was said in that conversation. RN D told HDC that she questioned the dose but that RN C gave her no impression that it was not acceptable. In contrast, RN C told HDC that she asked RN D about the dose and RN D assured her that it was what the anaesthetist had prescribed. RN C's recollection is supported by the Incident Form she filled out later on 22 January 2013.

103. In the circumstances I do not consider it necessary to make a finding regarding exactly what was said between the two nurses. What is clear is that during the conversation, both turned their minds to the fact that the dosage was unusual, and they discussed this with each other. Having done so, neither queried the dosage with the prescriber, and RN D proceeded to administer Master A 85mg of codeine.

104. Mrs A told HDC that, prior to RN D administering Master A 85mg of codeine, she (Mrs A) questioned the dosage twice, but RN D continued to administer it and only seemed to question the dose later. Mrs A said that she noticed that RN D was using a "huge big" syringe and asked RN D whether she was sure that it was the amount Master A should be given. According to Mrs A, RN D told her that it was what the anaesthetist had prescribed.

[25] In particular, I note that Ms J's file note of 22 January 2013 indicates that she was alerted to the suspected alteration at 10.30am, whereas the table provided to HDC by the hospital suggests that this occurred at 9.48am.

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105. In contrast, RN D told HDC she was "confused" by Mrs A's statement that she questioned the dose twice prior to administration, and denies that this occurred.

106. Having been presented with two differing accounts, I will not make a finding regarding exactly what was said between RN D and Mrs A prior to the medication error.

107. In any event, I consider that, irrespective of whether Mrs A questioned the dosage, RN D demonstrated very poor judgement when she administered Master A 85mg of codeine. As stated by my in-house nursing advisor, Ms Dawn Carey, the safe administration of medications is a basic nursing competency with which all registered nurses are required to comply.[26] Codeine is a commonly prescribed analgesia, and RN D acknowledged that she was aware that the usual adult dose was 30–60mg.

108. RN D had had six years' experience as a registered nurse, but had only recently commenced employment at the hospital at the time of events. She told HDC that, prior to commencing work at the hospital, she had had minimal experience in paediatrics. The hospital's internal investigation identified that RN D's "buddy period" at the hospital had not included any orientation in paediatrics, and she had told her shift leader that she was feeling anxious about working her first shift alone.

109. RN D also told HDC that she believed some anaesthetists at the hospital had standing/prescribing orders and preferences that could be twice the usual dose for some medications. The hospital told HDC that it considers RN D's comment in this regard surprising. It stated that all standing orders in place in January 2013 were typical hospital pre-medication doses, and that there are no records of staff raising any concerns about high-dose prescriptions being part of any standing orders. RN D also said that, because she was in a new learning environment, she did not feel it was her place to question the dose further.

110. I acknowledge that RN D was anxious about working her first shift alone and had communicated her anxiety in this regard to senior colleagues. However, given the nature of the error, I do not consider her lack of experience at the hospital or in paediatrics to be significant mitigating factors in this case. My expert noted that registered nurses are expected to have the generic knowledge, skills and ability to work as a registered nurse across all patient age groups. In my view, RN D was sufficiently experienced to have appreciated the need to seek clarification from the prescriber before administering 85mg of codeine to a three-year-old child. I note that she turned her mind to the fact that the dosage was more than would usually be given to a child, and still did not check with the prescriber.

111. I do not accept RN D's submission that, because she was in a new learning environment, she felt she should not question the dose further. Ultimately, RN D is

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[26] Nursing Council of New Zealand, *Competencies for registered nurses* (Wellington: NCNZ, 2007), competencies 2.1.

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accountable for ensuring her nursing practice meets the standards of professional requirements.[27] Despite having had six years' experience as a registered nurse, RN D administered more than the recommended adult dose of a commonly prescribed analgesia to a three-year-old child. In my view, this is unacceptable. I note that RN Carey considered RN D's actions to be a moderate to severe departure from expected standards.

112. For the reasons set out above, I consider that, in administering Master A 85mg of codeine, RN D failed to provide him services with reasonable care and skill and breached Right 4(1) of the Code.

113. I acknowledge that, as required by professional standards, RN D notified the appropriate individuals and sought to minimise further harm to Master A when she realised that an error had occurred.[28]

Opinion: RN C

114. RN C was asked by RN D to act as the independent checker for Master A's pre-medications.

115. RN C, along with RN D, read the prescription as 85mg and independently calculated that 21.25ml of 20mg/5ml syrup was required. RN C acknowledged that she and RN D had a conversation about the fact that 85mg was a large dose for a child. RN C recorded details of that conversation on an Incident Form. While her account of what exactly was said differs from RN D's, it is clear that during the conversation both nurses turned their minds to the fact that the dosage was unusual.

116. RN C recorded on the Incident Form that she was partly to blame for the medication error and should have been proactive in double checking the dose, which she knew was wrong. RN C also wrote that a contributing factor was that she was feeling disheartened with herself due to recently failing an exam. She acknowledged to HDC that she was aware that the usual dose of codeine for an adult is 30–60mg, and said that she has administered codeine to children in the past, and would not normally administer such a large dose to a child. RN C further stated that she would normally check with the prescribing doctor if she was unsure about a prescription.

117. Ms Carey considered that RN C's actions are very troubling. I agree, and her actions concern me for several reasons. First, the magnitude of the error concerns me. 85mg of codeine is ten times the recommended dose for a child (ie, 0.5mg per

[27] Nursing Council of New Zealand, *Competencies for registered nurses* (Wellington: NCNZ, 2007), competencies 1.1.
[28] Nursing Council of New Zealand, *Code of conduct for nurses* (Wellington: NCNZ, June 2012), standards 7.3 and 7.4.

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kg, which in Master A's case was 8.5mg). RN C acknowledged on the Incident Form that she knew that the dose was wrong.

118. I am also concerned by RN C's statement that she deferred to her new colleague's prior experience. While I agree with RN Carey's advice that RNs D and C were each accountable for the care they provided to Master A, RN C was acting as an independent checker. The role of an independent checker, in the context of medication management, is to provide a safeguard against errors such as this occurring. As acknowledged by RN C on the Incident Form, she should have been proactive in checking the prescription. RN C failed in this regard and, as a result, her actions contributed to a medication error that, in the circumstances, could have been easily prevented. I note that RN Carey considered RN C's actions to be a moderate to severe departure from expected standards.

119. I acknowledge that RN C was acting as the independent checker in addition to her allocated patient workload; however, as stated by my expert, she should have refused that role if she felt unable to give it the attention required.

120. On the basis of the information set out above, I consider that RN C failed to provide services to Master A with appropriate care and skill and, in doing so, breached Right 4(1) of the Code.

Opinion: Dr B

121. Dr B was the anaesthetist responsible for prescribing Master A's pre-medications, including codeine. She was also responsible for providing anaesthetic care to Master A during his surgery and for prescribing his postoperative analgesia. My consideration of the care she provided is set out below.

Prescription legibility and intended dose — Adverse comment

122. A concern was raised during the hospital's internal investigation regarding the legibility of Master A's medication chart and, in particular, the dose of codeine Dr B intended to prescribe.

123. Both RNs D and C read Master A's prescription for codeine as 85mg. However, Dr B told HDC that she prescribed Master A 8.5mg of codeine. RN C told HDC that there may have been a dot on the 8, but that it looked as if it could have been an ink blot. Dr E told HDC that, while the prescription was easily read as 85mg, there was a "full stop", which was unclear because it was partially overlapping the 8.

124. Mrs A was in the room at the time Dr B wrote the pre-medications prescription for paracetamol and codeine. Mrs A told HDC that Dr B was reading out loud as she was writing the prescription, and that one of the dosages definitely had a decimal point in it. Mrs A could not recall which medication's dosage had a decimal point

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in it, but I note that the paracetamol dose prescribed was 30mg per kg (and therefore did not have a decimal point in it). Mrs A also told HDC that, when RN D showed her the prescription following the medication error, she could see that there was a decimal point between the 8 and the 5, but it was not particularly clear.

125. Having considered these facts, I think it is more likely than not that Dr B intended to prescribe Master A 8.5mg of codeine. 8.5mg is the equivalent of 0.5mg per kg for a 17.1kg child, which is the dose recommended by *MIMS* and Medsafe. I therefore do not consider that Dr B breached the Code in this regard.

126. Regarding the prescription's legibility, I am not able to determine exactly what the prescription looked like before it was altered. However, two nurses read the prescription as 85mg; Dr E told HDC that the prescription was easily read as 85mg; and, according to Mrs A, the decimal point was not particularly clear. On that basis I consider it more likely than not that the prescription was unclear. As stated in the Medical Council of New Zealand's "Good prescribing practice", prescriptions must be legible and unambiguous.[29] While I do not consider that Dr B's prescribing in this case amounts to a breach of the Code, I am critical that the prescription was unclear and played a part in the medication error that occurred.

Documentation of conversation concerning blood products — Adverse comment

127. In order to assist with my assessment of the care provided to Master A by Dr B, I obtained independent expert advice from anaesthetist Dr Andrew Love. Overall, Dr Love considered that the care provided by Dr B did not depart from accepted practice. However, he observed that the discussion that occurred between Dr B and Mrs A regarding the potential use of blood or blood products was not documented in sufficient detail. Dr B has acknowledged that her notes of this discussion could have been more detailed.

128. In respect of the conversation itself, Dr B's and Mrs A's recollections of the conversation are consistent and, on that basis, I am satisfied that the conversation was clear and well understood by both. In addition, Dr B was present during Master A's surgery. In the unlikely event of blood products having been required, she had a clear understanding of Mrs A's views with respect to blood products, and would have been in a position to provide care accordingly.

129. However, I agree with Dr Love that Dr B's documentation was suboptimal in this regard. As I have emphasised numerous times before, the importance of comprehensive clinical notes in order to ensure patient continuity of care cannot be overstated.[30] In this case, Dr B's documentation of Mrs A's position with respect to blood products was insufficiently detailed. As such, Dr B did not ensure

[29] Medical Council of New Zealand, "Good prescribing practice", April 2010.
[30] Opinions 10HDC00610, 12HDC01019 and 12HDC01483, available at www.hdc.org.nz; Hill, A., "Systems, Patients, and Recurring Themes", *New Zealand Doctor* (9 March 2011), available at www.hdc.org.nz.

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that important information regarding her patient was recorded and available to other clinicians providing care, should that information have been required.

Opinion: The hospital

Standard of care provided — Adverse comment

130. Primary responsibility for providing Master A with care of an appropriate standard lay with the hospital. My in-house nursing advisor, Ms Dawn Carey, advised me that she considers the hospital's Medicines Policy and OPRN to be comprehensive, sound, and clinically robust. I accept that advice. However, notwithstanding that the hospital had robust policies in place, a serious error occurred. A series of mistakes made by individuals working at the hospital led to Master A receiving suboptimal care. My comments on the care provided by the hospital are set out below.

RN D's patient allocation

131. I consider that RN D's patient allocation on 22 January was unwise and contributed to the possibility of errors generally occurring. The hospital's internal investigation identified that, while RN D had completed her "buddy period", she had not:

- completed the paediatric component of her orientation booklet;
- had any orientation in paediatric nursing at the hospital; or
- had a formal orientation day "where medication resources were detailed".

132. Although the hospital submitted in response to my provisional opinion that its internal investigation was incorrect in finding that RN D's orientation was not sufficiently comprehensive, it did not dispute any of the specific facts listed above.

133. The hospital's internal investigation also found that RN D had not completed a patient admission by herself before. In response to the provisional opinion the hospital stated that this finding was incorrect, but did not provide evidence that RN D had completed a patient admission by herself.

134. Despite these facts, on her first shift working alone at the hospital, RN D was allocated two paediatric patients to admit and provide care to. As such, RN D was required to:

- provide paediatric nursing care, having had no orientation in paediatrics at the hospital; and
- admit two patients at effectively the same time.

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135. The hospital's internal investigation also found that RN D was required to undertake these tasks under time pressure associated with admitting two patients who were first and second on the theatre admissions list. In response to my provisional opinion the hospital stated that its internal investigation was incorrect in this respect and that there was not any significant time pressure that day because both RNs D and C had light patient loads. However, the hospital did not dispute that RN D was responsible for admitting two patients who were first and second on the theatre admissions list.

136. Although RN D had only two patients to care for at the time of these events, given the factors outlined above I remain of the view that RN D's patient allocation on 22 January 2013 was unwise.

Culture of questioning

137. Two hospital nurses failed to take appropriate steps to assure themselves that a prescription, which they both recognised as unusual, was safe to administer. Both nurses deferred to the other, and neither queried the intended dose with the prescriber.

138. As noted by Ms Carey, a culture of nurses not questioning medical colleagues is a disservice to both professions and to the patients to whom they owe a duty of care. I have repeatedly emphasised that good cultures — cultures that facilitate safe and effective care — are ones that empower staff, and patients, to raise concerns and ask questions.[31]

139. Although RN C and Dr B both told HDC that nurses at the hospital usually query prescriptions they are unsure about with the prescriber, the hospital's internal investigation identified that the culture of questioning was not "hardwired" into the hospital's practice. In response to my provisional opinion, the hospital stated that its internal review was incorrect in this respect, and that the culture of questioning is "firmly present" at the hospital.

140. Notwithstanding the figures cited by the hospital from its 2014 and 2008 employee surveys, the fact remains that, in this case, two hospital nurses failed to question a drug dose that they both recognised as high with the prescriber. In my view, the nurses' failure to question Dr B and clarify the intended codeine dose for Master A led to an error that was easily preventable. I remain of the view that the hospital should reflect on the importance of ensuring that it fosters a culture where staff communicate openly and effectively with one another, in order to provide good care to consumers and minimise the chance of similar errors occurring in the future.

Altered prescription

141. It is very concerning that a staff member or clinician practising at the hospital retrospectively altered Master A's prescription without initialling it, and that the person has not come forward, either to the hospital or during the course of my investigation, to explain his or her actions.

[31] Anthony Hill, "Of Culture, Leadership and Quality", 2013, available at www.hdc.org.nz.

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Postoperative care — Other comment

142. Mrs A told HDC that she considered Master A's aftercare to have been "appalling", and that she had to beg nurses to give Master A a suppository, and had to demand IV fluids. In response to my provisional opinion, Mr A reiterated that Master A received inadequate pain relief postoperatively. The hospital stated that it disputes the postoperative care was wanting in any way.

143. I asked my nursing advisor to comment on the postoperative pain relief provided to Master A. Ms Carey noted that Master A received regular pain relief at the intervals prescribed, and considered that, on the basis of the available documentation, it appears that Master A's postoperative pain was adequately managed by the pain relief administered.

144. I accept Ms Carey's advice that Master A's postoperative pain relief was adequate. However, Mr and Mrs A were clearly distressed by their son's experience at the hospital. Mrs A felt that she had to beg for and demand adequate care for her son. Mr and Mrs A's trust in the health care their son was receiving had been broken by the medication error that had occurred. In the circumstances, I consider that good communication from clinical staff was essential. In my view, the hospital should remind its staff of the importance of clear, open and supportive communication with consumers and their families, particularly following an adverse event.

The hospital's Medicines Policy — Other comment

145. I note Ms Carey's comment that section 3.2 of the Medicines Policy, "Requirements for checking medicines", could be amended to better reflect the professional accountabilities of a registered nurse during medication management. In addition, I note that the requirement that medicines for patients weighing less than 45kg must be double checked independently is stated in section 2.6 of the Medicines Policy, "Inpatient medication charts", but is not included in the list of circumstances where medicines should be double checked independently, in section 3.2. I consider that, for the sake of consistency, clarity and ease of reference, all instances where an independent double check is required should be listed in the same place.

Recommendations

RN D

146. I recommend that RN D provide a written apology to Master A and his family for her breach of the Code. The apology should be sent to HDC within **one month** of the date of the final report, for forwarding to Master A's family.

147. I recommend that, should RN D return to practise, the Nursing Council of New Zealand consider whether a review of RN D's competence is warranted.

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RN C

148. I recommend that RN C provide a written apology to Master A and his family for her breach of the Code. The apology should be sent to HDC within **one month** of the date of the final report, for forwarding to Master A's family.

149. I recommend that the Nursing Council of New Zealand consider whether a review of RN C's competence is warranted.

The hospital

150. I recommend that the hospital provide a written apology to Master A and his family for the deficiencies in the care provided to Master A while he was a patient at the hospital. The apology should be sent to HDC within **one month** of the date of the final report, for forwarding to Master A's family.

151. I recommend that, within **three months** of the date of the final report, the hospital:

a) consider amending its Medication Management Policy in light of my report and report to HDC on the outcome of its consideration;

b) provide HDC with a copy of its last quarterly prescribing audit and copies of the last three months' medication administration incident reviews; and

c) use an anonymised version of the final report as a basis of staff training at the hospital, focussing particularly on the Code breaches identified as well as the importance of clear, open and supportive communication with consumers and their families.

Follow-up actions

152.
- A copy of this report with details identifying the parties removed, except the experts who advised on this case, will be sent to the Nursing Council of New Zealand and it will be advised of RN D's and RN C's names.
- A copy of this report with details identifying the parties removed, except the experts who advised on this case, will be sent to the Medical Council of New Zealand, and it will be advised of Dr B's name.
- A copy of this report with details identifying the parties removed, except the experts who advised on this case, will be sent to the Health Quality and Safety Commission and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

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Appendix A — Independent nursing advice to the Commissioner

The following expert advice was obtained from the Commissioner's in-house nursing advisor, registered nurse Ms Dawn Carey:

"1. Thank you for the request that I provide clinical advice in relation to the complaint from [Mr and Mrs A] about the care provided to their son, [Master A], by [the hospital]. In preparing the advice on this case to the best of my knowledge I have no personal or professional conflict of interest. I have read and agree to follow the Commissioner's Guidelines for Independent Advisors.

2. I have reviewed the information on file: complaint from [Mr and Mrs A]; responses from [the hospital], including [Master A's] clinical notes, operation note, intra operative record, medication treatment sheets, pain scale chart, fluid balance record, discharge documentation, Root Cause Analysis (RCA) investigation and findings, copies of staff interviews, RN orientation programme, medicine management policies, [RN D's] curriculum vitae and interview notes, [RN C's] education and orientation records, communications between [the hospital] and [the family]; response from [RN C]; statement from [RN D].

3. On 22 January 2013, [Master A] was electively admitted to [the hospital] for a tonsillectomy and adenoidectomy. He was administered 85 milligrams (mgs) of codeine phosphate as a pre-medication by [RN D]. [RN C] was involved in the checking of this medication prior to it being administered to [Master A]. Both RNs report that the dosage — 85mgs — was prescribed on [Master A's] medication treatment sheet. [Master A] required an emergent gastric lavage and instillation of activated charcoal due to receiving the wrong dose of pre-medication. He went on to have his elective surgery as planned and was discharged home the following day as expected.

As a RN peer, I have been asked to provide advice on whether the care provided to [Master A] met the expected standard of care overall and, if not, to what extent the care departed from expected standards. I have also been asked to provide advice regarding each of the nurses and [the hospital] individually. In addition I have been asked to address the following specific questions:

i. If the prescription was for 8.5mg of codeine, was it a departure from expected standards for [RN D] to administer 85mg and [RN C] to confirm that 85mg should be administered and if so, to what extent?

ii. If the prescription was for 85mg of codeine, was it a departure from expected standards for [RN D] to administer it and [RN C] to confirm that it should be administered and if so, to what extent?

iii. [RN D] states that her orientation was insufficient because it did not include paediatric training. Please comment on the extent to which you consider this to be the case, and the extent to which this would mitigate any departure from expected standards on her part.

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iv. [RN D] stated that she was feeling 'a bit anxious' about the relevant shift and immediately sought help before administering [Master A's] medication. Please comment on the extent to which this would mitigate any departure from expected standards on her part.
v. Do you consider that [the hospital's] orientation and training programme is robust in general.

4. **[The hospital's] response and RCA findings**
[The hospital has] submitted copies of their communications with [Master A's] parents. They acknowledge that [Master A] was subject to a serious medication error, which necessitated further invasive procedures. Throughout their communications they do seem quite sincere in their apologies for the distress and worry that [Mr and Mrs A] and their son experienced. As this error was quickly realised and disclosed to [Mrs A] and the relevant [hospital] anaesthetic, surgical, nursing and quality assurance staff; the required RCA was commenced promptly. This level of analysis is expected for errors that have a potential serious or sentinel outcome.

[The hospital's] RCA investigation found that

a) [RN D's] orientation was incomplete and was not sufficiently comprehensive
b) Nursing allocation on 22 January 2013, did not take into account [RN D's] inexperience
c) The pre-medication prescription for [Master A] was unclear and did not meet best practice standards
d) Whilst both RNs recognised the dose of codeine phosphate as 'unusual', they did not seek further clarification, which is a [hospital] policy requirement
e) There were time pressures to complete the admission process for [Master A] with speed

The investigation also identified other factors, which while not causative or contributory to this error, could also be improved upon. A time bound action plan to manage the RCA findings was enacted by [the hospital]. These included performance management, further orientation, education and development measures aimed at the two RNs and across the wider [hospital] nursing staff team.

5. **Review of submitted documentation and commentary**
   (i) [The hospital's] orientation programme
   Upon employment at [the hospital], a newly employed RN works alongside a preceptor for a four week period. Over these weeks the two RNs are allocated a clinical workload to share. This allows the newly employed RN to gain suitable exposure to policies, patient mix, breadth of procedures and organisational norms. The submitted Orientation Programme Registered Nurse (OPRN) is a comprehensive document. It requires the newly employed RN to demonstrate

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knowledge of [the hospital's] policies and procedures; to gain exposure and to demonstrate skill in delivering nursing care to [the hospital's] different patient groups. [The hospital] reports that the completion of the entire orientation programme takes place over three–six months.

Page 13 of the OPRN lists items and resources that the newly employed RN must locate and gain familiarity with. Included on this list are the MIMS[1] handbook and the medicine and IV related policies. MIMS is a medication resource.

I note that page 14 of the OPRN advises the newly employed RN to *arrange informal catch up with Manager for this week*. The submitted schedule advises that this should occur in week four, whilst the RN is still being 'buddied' with a RN preceptor. I am unaware whether [RN D] had this meeting during her fourth week or not. I view this meeting as an opportunity to evaluate progress and exposure to date, and to decide whether the preceptored shifts need to be further extended or not. I am of the opinion that outstanding learning objectives should be identified before the first non-preceptored shift — after four weeks — and should guide nursing allocation decisions.

Page 16 of OPRN advises that at approximately six weeks post commencement date there is an additional supernumerary day to allow for an informal review of the orientation period, to assess outstanding learning needs, and to make a plan for how to manage outstanding needs. Whilst informal the discussion and reflection of the delivered orientation programme is captured on pages 34–35. In my opinion, the timely evaluation of the orientation programme and identification of outstanding learning deficits is a crucial aspect of an effective orientation programme.

Page 29 of OPRN relates to management of the paediatric patient. It requires the newly employed RN to demonstrate knowledge of common paediatric analgesic medications and their dosages. This knowledge is demonstrated to the RN preceptor who 'signs off' against this requirement when appropriate. The OPRN also includes the requirement that the newly employed RN gains exposure to admitting, providing post-operative care and discharging patients following the various surgical procedures that [the hospital offers]. Ear, nose and throat (ENT) surgical procedures are listed as one such requirement. Whilst it has been identified by [the hospital] that [RN D] had not completed the paediatric component of her OPRN prior to 22 January 2013, I am unaware whether she had gained the necessary level of exposure to the Day Surgery Unit or to providing nursing care to patients having ENT procedures.

[1] Monthly Index of Medical Specialities http://www.mims.co.nz/

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In my opinion, the submitted OPRN is comprehensive, clear and provides a suitable clinical focus. However, like all policies its effectiveness is wholly reliant upon staff complying and valuing the rationales that underpin it. [The hospital] acknowledges that the breadth of exposure that the RN experiences during orientation is dependent upon external factors such as the range of booked surgical procedures. Unfortunately, due to the Christmas period [RN D's] orientation programme was broken rather than in an uninterrupted four week block and she reports that she did not gain exposure to nursing [the hospital's] paediatric population. I also note that her interview notes relate to a cardiothoracic position being applied for so I am somewhat puzzled as to why her first non-preceptored shift was in day surgery with a paediatric allocation. These issues have been identified as contributory error factors by [the hospital's] RCA and I agree with these findings. However, I do acknowledge that [RN D] is and was employed as an experienced RN. Also her nursing training and registration does mean that she has been assessed by Nursing Council of New Zealand (NCNZ) as having the expected generic knowledge, skills and ability to work as a RN across all age groups. She also had experience in the role of preceptor and had completed a Level 7 preceptor course prior to commencing at [the hospital]. Both these experiences would have made her very aware of the usual objectives and expectations for the orientation period.

(ii) Medicines Management Policy (MMP)
The MMP is also a very comprehensive and clear document. In keeping with legislative and professional requirements[2] it reports that *… the person administering must be aware of the actions, normal dose range, compatibilities, side-effects, adverse reactions, and monitoring requirements, of the prescribed medication …*

It authorises RNs to challenge poor prescription practices — 3.1 *illegible prescriptions **must not** be administered* — and draws attention to known factors such as inattention and interruptions that contribute to the incidence of medication errors. This policy is also very clear in the accountability of health professionals when they check medications; … *the health professionals checking medicines … and administering medicines are directly accountable if there is an error when the prescription is not clearly understood or followed and/or when the checking procedures have not been followed …*

[2] For example the Health Practitioner's Competence Assurance Act (2003); the Medicines Act (1981) and associated Regulations; the Misuse of Drugs Act (1975) and associated Regulations; Nursing Council of New Zealand (NCNZ), *Competencies for registered nurses* (Wellington: NCNZ, 2012); New Zealand Nurses Organisation (NZNO), *Guidelines for nurses on the administration of medicines* (Wellington: NZNO, 2007); Standards New Zealand (NZS), *8132:2008 Health and Disability (general) services standards* (Wellington, NZS, 2008).

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As highlighted in the RCA findings, both RNs did query the dosage of 85mgs with each other but still continued to complete the check and administer the medication to [Master A].

(iii) Medication Treatment Sheet (MTS)
The submitted for [Master A] is a colour photocopy of the original document. It is alleged that the MTS was altered after [RN D] and [RN C] checked and administered 85mgs of codeine phosphate. This is disputed by the anaesthetist who prescribed the medications. As I have been asked to provide advice to specific questions, which considers both scenarios, I will not address the alleged alteration further in my advice. The submitted colour photocopied MTS shows 8.5mgs codeine phosphate as the prescribed dose. [Master A's] weight is also recorded on the MTS as 17.1kgs.

(iv) [RN D]
[RN D's] submitted statement reports that she was feeling a bit anxious about doing a shift alone and had communicated this to her shift leader. She also reports that she questioned her patient allocation on 22 January 2013 and was assured of support. This offer of support is also acknowledged in [the hospital's] communications with the Commissioner. In my opinion, anxiety is a fairly typical emotion for a RN to experience when they start a new role or in a new organisation. Having experience does not prevent this; in fact it can be even more acutely experienced due to higher expectations. I do commend [RN D] for raising her concerns to the shift co-ordinator and acknowledge that whilst this is the expected behaviour of an experienced RN, it is not always easy to do or received well. Based on the submitted documentation I cannot definitively determine what level of concern was actually raised to the shift co-ordinator and whether re-allocation would have been an appropriate response or not. The intricacies of communication often mean that what one person thinks they are expressing is not necessarily what the receiver hears.

As the first patient on an operating list, [Master A] required prompt admission and processing so as not to delay his scheduled surgery. [RN D] reports that the anaesthetist handed her the MTS and requested that the pre-operative medication be administered immediately. As per [the hospital's] Medicines Management Policy (MMP), [RN D] sought a second RN — [RN C] — to act as an independent checker. A 'checker' of oral medications is required *if the patient weighs less than 45 kgs.* It needs to be acknowledged, that the requirement to have the medication double checked is a [hospital] policy requirement, not an additional step that [RN D] put in place because she was concerned about her lack of knowledge. The safe administration of medications is a basic nursing competency that all registered nurses are deemed to have achieved following successful completion of their undergraduate education, examinations and registration with NCNZ. Registered

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nurses are also 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. Safe medication administration is an indicator that sits within NCNZ competencies 1.1 and 2.1[3]. Whilst [RN D] was a new employee at [the hospital], she and [RN C] were peer colleagues on 22 January 2013. In my opinion, each were accountable and responsible for the care that they provided to [Master A].

[RN D] reports that she discussed and questioned the 85mgs codeine phosphate dose with [RN C] as she knew that the adult dose was less than this.

… She commented that the dose of codeine was more than they usually give but gave me no impression that this was not unacceptable … I trusted my more experienced checker …

Codeine phosphate is a commonly prescribed analgesia and [RN D] correctly identified the recommended dosage range for an adult, indicating familiarity with this medication. As an explanation for why she would think it appropriate or safe to dispense 85mgs in one dose when this is above the recommended dose for an adult, she reports being aware of individual Anaesthetists at [the hospital] prescribing medications at twice the usual dose. This disturbs me greatly as this type of prescribing practice undermines safety and the ability of a RN to deliver care in accordance with the expectations of NCNZ and relevant legislation. In my opinion, if there is a clinical rationale behind prescribing medications at doses higher than the relevant literature, Medsafe[4] or MIMS[5] recommend, then the organisation has a responsibility to provide specific guidelines detailing the authorisation of this practice and the specific circumstances of when it is authorised. If prescribing practices at [the hospital] were based on preferences and opinions rather than on best pharmacological evidence, I am of the opinion that it was a very significant contributing factor in this error.

There is a discrepancy in the accounts that relate to [Mrs A] questioning [RN D] twice about the amount of codeine phosphate elixir in the syringe prior to it being administered to her son. In the [the hospital] communications with the family, it is acknowledged as having occurred but [RN D's] statement reports no recollection. There is naturally no documentation that can confirm or deny at what stage

[3] Nursing Council of New Zealand (NCNZ), *Competencies for registered nurses* (Wellington: NCNZ, 2007).
[4] New Zealand Medicines and Medical Devices Safety Authority http://www.medsafe.govt.nz/profs/datasheet/dsform.asp
[5] Monthly Index of Medical Specialities http://www.mims.co.nz/

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the volume was queried. As such I am unable to resolve this issue within this advice.

[RN D] reports that she realised the error when she went to prepare the prescribed pre-medication for [Master A's] sibling, who was also having the same procedure. This patient also had codeine phosphate prescribed but at a lower dose — 8 mgs. This child's weight was 17.9kgs. [RN D] reports that she immediately went and notified the Anaesthetist of the fact that [Master A] had received 85mgs codeine phosphate. It was appropriate that [RN D] drew the immediate attention of the error to the anaesthetist so that [Master A] could receive the necessary level of assessment and treatment. Acting with honesty and integrity through open disclosure of errors is an expectation and a requirement of a RN. I also note that [RN D] apologised to [Mr and Mrs A] once the error was realised and seems quite sincere in her apology.

(v) [RN C]

[RN C] acted as the independent checker of [Master A's] codeine phosphate medication. She had her own allocation of patients on 22 January 2013 and responded to [RN D's] request for a medication check. She also reports that [Master A's] MTS had 85mgs as the prescribed dose, that both RNs were involved in calculating the volume of elixir required, and that a discussion did take place concerning this being a large dose. [RN C] sincerely apologises that this discussion did not result in the medication dose being queried with the anaesthetist. Her reflections on this incident have led to a resolve to raise any future concerns or queries with the prescriber before proceeding further.

As a RN peer, I am concerned and critical of the willingness of [RN C] to check 85mgs codeine phosphate as a medication. As a RN who had worked over five years at [the hospital], it is very troubling that she did not act on her concern about the dose and query it with the anaesthetist who had completed the MTS. Whilst I concede that she and [RN D] were peer colleagues on 22 January 2013, I am surprised that after identifying the dose as high, she was sufficiently reassured by a new colleague and proceeded with checking the medication. Based on the submitted MMP the requirement is … *medicines must be independently checked by a second health professional to confirm that it is the correct medicine and dose according to the prescription …*

In my opinion, the wording of the MMP in relation to the 'check', does not reduce [RN C's] responsibilities as a registered health practitioner. I would recommend that [the hospital] consider whether it would be appropriate to amend the wording under section 3.2 of the MMP to more accurately reflect the professional accountabilities of a RN during medication management.

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Whilst [RN C] was allocated a higher patient acuity than [RN D], I view this as reflective of her being more experienced as a [hospital] RN. I do appreciate that the 'checker' role was requested of her in addition to her patient allocated workload but am of the opinion that if she felt unable to give this role the attention required, she should have refused.

6. **Response to specific questions**

   i. If the prescription was for 8.5mg of codeine, was it a departure from expected standards for [RN D] to administer 85mg and [RN C] to confirm that 85mg should be administered and if so, to what extent?

   Yes, it was a departure and a moderate–severe departure. I am of the opinion that a RN is required and expected to use all available resources to check their knowledge or inform their knowledge when involved in medication administration or checking. From my understanding a MIMS handbook was a readily available resource. This would have informed either RN of the correct paediatric dose range of codeine phosphate should they have used it. In my opinion, to comply with expected professional standards, competencies and legislation, both [RN C] and [RN D] should not have been willing to check and administer 85mgs codeine phosphate in a single dose.

   ii. If the prescription was for 85mg of codeine, was it a departure from expected standards for [RN D] to administer it and [RN C] to confirm that it should be administered and if so, to what extent?

   Yes, it was a departure and a moderate–severe departure as this dose is too high for a child or an adult. The expected standard of care during medication administration and checking requires that there is knowledge about the medication, mode of action, appropriate dosage, known side effects etc. This knowledge should have informed both RNs that the prescription needed clarification and that they should not proceed with checking or administering the prescribed pre-medication.

   iii. [RN D] states that her orientation was insufficient because it did not include paediatric training. Please comment on the extent to which you consider this to be the case, and the extent to which this would mitigate any departure from expected standards on her part.

   [RN D's] own OPRN book has not been submitted for review so I am basing this opinion on the submitted statements and RCA findings. Whilst I agree that [RN D] should have completed her orientation to paediatric patients before being allocated as the primary nurse to two young children, I am of the opinion that her lack of exposure does not seriously mitigate her role in the error or the level of departure.

   As acknowledged by [RN D], administering 85mgs codeine phosphate to an adult would be a higher than recommended dosage to give. As

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discussed in this advice [RN D] had generic knowledge of the medication and had resources available to check her knowledge and inform her about paediatric specific doses. The failure to use the objective resource or to query this prescription with the shift co-ordinator or the prescriber constitutes the departure from the expected standard of nursing practice. I would view this as a medication error had the patient been an adult.

iv. [RN D] stated that she was feeling 'a bit anxious' about the relevant shift and immediately sought help before administering [Master A's] medication. Please comment on the extent to which this would mitigate any departure from expected standards on her part.

[RN D's] anxiety was understandable and in my experience normal and common. Whilst this does increase the risk of an error incidence, it cannot prevent all new to the organisation RNs being involved in medication administration. In relation to [RN D] requesting help before administering [Master A's] pre-medication, I view this as a requirement specified in [the hospital's] MMP rather than being sought in recognition of a knowledge deficit. In my opinion, I do not consider either issue as significant mitigating factors, which would alter my advice concerning the seriousness of the departure.

I will admit that I do have concerns about why both RNs did not question the prescription further and act in accordance with their concern. The fact that they were willing to knowingly — not through miscalculation or mathematical error — administer 85mgs codeine phosphate in one dose concerns me. I also have concerns about prescribing practices that are not aligned with the knowledge in the available pharmacology resources or without a suitable 'exemption licence' as these issues can contribute to a culture that is unsafe.

v. Do you consider that [the hospital's] orientation and training programme is robust in general.

Yes, I do. However, as discussed its robustness is dependent on other factors. Despite a robust and clinically focussed programme, [RN D's] orientation experience was not sufficiently comprehensive, which was a contributory factor in this error. I am of the opinion that [the hospital] should consider whether there is value in ensuring that outstanding learning objectives are captured during week four and used to inform allocation decisions.

7. **Clinical advice**

As a RN peer, I consider the practice of [RN C] and [RN D] to have moderately–severely departed from the expected standard of care expected of a RN when dispensing, checking and administering a medication.

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8. **Additional comments**
Within the relevant literature medication errors are unfortunately commonplace.

Distraction, unfamiliarity with the medication and lack of concentrated focus are all known 'human factors' that are recognised contributory issues in medication errors. Within healthcare these factors can have devastating results and a phenomenal impact on the continuing health of the individual and their trust in the system that is meant to care for them. The error within this complaint was serious and had it not been realised and managed as quickly as it was, it could have resulted in a very different outcome. It did necessitate [Master A] having to undergo an additional invasive procedure and cause his parents significantly increased levels of stress and anxiety. Despite the common nature of medication errors, they cannot ever be deemed an acceptable part of nursing practice. As a core competency that all registered nurses are deemed to have achieved, medication errors are a severe departure from the expected standard of nursing care.

Over the last thirty years error prevention management has worked on the principle of adding more protective layers to systems and policies; to analysing the components of the error, reinforcing the protective layers and sharing the knowledge; to increasing health practitioners' awareness of the role that 'human factors' have in errors; and of each practitioner's role, responsibilities and accountabilities when providing care. All this knowledge and safety components are negated in the presence of health practitioners blindly following orders. A culture of nurses not questioning a medical colleague is a disservice to both professions and to the patients that we both owe a duty of care to. I accept that this issue is not confined to [the hospital] and nor is there strong evidence that it exists at [the hospital], but it is alluded to and valid to this complaint. I would recommend that [the hospital] continue to highlight the learning involved in this complaint and to ensure that organisational practices support all health care practitioners to deliver care that meets the expected standards.

As previously noted the submitted documentation and policies are comprehensive, sound and clinically robust. The challenge to all healthcare organisations is how to ensure that policies and systems empower staff and guide an appropriate level of clinical decision making. I would recommend the inclusion of communication resources such as SBAR in the OPRN and highlighting such resources to [the hospital's] nursing staff. In my opinion, the adoption of communication tools benefit multidisciplinary and interdisciplinary communications such as a RN raising concerns about allocation or querying a medication prescription.

Dawn Carey (RN PG Dip)
Nursing Advisor
Health and Disability Commissioner
Auckland."

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Additional expert advice provided by RN Carey:

"I note that [Master A] received analgesia at regular intervals post operatively and in accordance with the frequency prescribed. It appears that the suppositories that his mother is referring to were only prescribed by [Dr B] 'verbally' over the phone. Nursing staff then administered a one off 'stat' dose. If [Master A] had pain in between the administered doses of Paracetamol and NSAIDs there were other analgesia prescribed. Having a range of analgesia is appropriate in post operative care and allows for prompt management of a patient's pain experience. Should a patient experience ongoing breakthrough pain, the expectation is that nursing staff will liaise appropriately and promptly with surgical/medical staff.

Based on the available documentation it appears that [Master A's] post operative pain was adequately managed by the analgesia administered."

Appendix B — Independent anaesthetic advice to the Commissioner

The following expert advice was obtained from anaesthetist Dr Andrew Love:

> "Thank you for the opportunity to comment on this case. My understanding is that you require an opinion on whether the care provided to [Master A] by [Dr B] was reasonable in the circumstances. I understand that at present [Dr B] is not under formal investigation.
>
> You specifically asked me to address the issues noted in the file note of the meeting between [Dr B] and [hospital] staff, [Ms J] and [the quality, safety and risk co-ordinator], dated 23rd April 2013.
>
> **Clinical narrative**
>
> [Master A] was at the time a three year old child who presented to [the hospital] for a tonsillectomy on the 22nd January 2013. [Dr B] was asked by the surgeon to administer the anaesthetic.
>
> [Master A] was given 85mg of Codeine rather than 8.5mg as premedication.
>
> The error was noticed soon afterwards, and this was communicated to [Dr B], who performed a gastric lavage while the child was anaesthetised for surgery, and administered activated charcoal.
>
> The surgery proceeded without incident.
>
> [Master A's] postoperative course was uncomplicated, but his mother felt that his pain relief was inadequate during the initial post-operative phase.
>
> Issues mentioned in the File Note.
>
> 1. The belief of the registered nurses that the premedication prescription was altered between the time of the administration and the child's return from theatre.
> 2. The dates recorded on the preoperative and postoperative prescriptions. In one case the year was not stated (22/01), in the other it was incorrectly stated (22/1/12)
> 3. The use of bracketing with regard to the date of two of the four items on the prescription chart. In terms of bracketing, I understand this to mean that instead of writing the date next to each item on the sheet, the date was written for the first and last items ('brufen' and 'cyclizine') and the middle two items were included in a bracket).
> 4. The use of trade names rather than generic names ('Brufen', 'codeine' and 'Panadol', and later 'Dynastat', 'Tramadol' and 'Voltaren').
> 5. The use of the abbreviation 'mg' for milligrams was unclear.
> 6. The use of the term 'q8h' was unclear.
> 7. The use of codeine phosphate for postoperative analgesia.
> 8. That the lighter child was prescribed codeine phosphate 8.5mg, while the heavier child was prescribed 8 mg.

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9. The documentation of the mother's objection to blood and blood products, including the failure to remove the agreement to blood products from the surgical consent, and the documentation of a plan of management in the event of significant bleeding.

To address the issues individually

1. The belief of the registered nurses that the premedication prescription was altered between the time of the administration and the child's return from theatre. There are two possible scenarios.
   a. That the nurses misread the prescription.
   b. That [Dr B] altered the prescription after the medicine was administered.

   I am clearly unable to comment on what actually happened.

   If the prescription was altered, I would regard this as a severe departure from normal practice.

2. The dates recorded on the preoperative and postoperative prescriptions. These were slips, which do occur, and while not ideal, are relatively common and would not represent a significant departure from practice.

3. The use of bracketing with regard to the date of two of the four items on the prescription chart. While this is not ideal, it would not place the patient at risk and I would not regard this as a departure from normal practice.

4. The use of trade names rather then generic names ('Brufen', 'codeine' and 'Panadol', and later 'Dynastat', 'Tramadol' and 'Voltaren').
   a. Tramadol is not a trade name, but the generic name of a drug originally marketed as 'Tramal'.
   b. Codeine is not a trade name. While the full chemical name is codeine phosphate, it is usual practice to refer to drugs by the name of the active component and omit the name of the salt. (1)
   c. The Health Quality and Safety Commission New Zealand guidance on 'Error prone abbreviations, symbols and dose designations' suggests that prescribers 'Prescribe generically unless you need to give a patient a specific brand of medicine'. (2)

   I would not regard this as a departure from normal practice.

5. The use of the abbreviation 'mg' for milligrams was unclear.
   a. The abbreviation 'mg' for milligrams if used commonly, and is not listed as an abbreviation to be avoided in The Health Quality and Safety Commission New Zealand guidance on 'Error prone abbreviations, symbols and dose designations' (2)

   I would not regard this as a departure from normal practice.

6. The use of the term 'q8h' was unclear.
   a. This is an accepted abbreviation and also not listed in the HQSC guidance (2).

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I would not regard this as a departure from normal practice.

7. The use of codeine phosphate for premedication and postoperative analgesia in children after tonsillectomy.
   a. The use of codeine in children has recently been questioned in an editorial in the paediatric literature. (1)
   b. It is however still used by anaesthetists for postoperative analgesia in children.
   c. Use in children over one year of age is not listed as a contra-indication in the Medsafe data sheet, but caution is advised because of the risk of over sedation in some children who convert codeine to morphine at a more rapid rate than the majority. (3)

   I would not regard this as a departure from normal practice.

8. The lighter child was prescribed codeine phosphate 8.5mg, while the heavier child was prescribed 8 mg.
   a. [Master A's] weight is recorded as 17.1kg, and that of [Miss A] as 17.9kg.
   b. [Dr B] has explained her logic for the slightly different doses in her letter dated 7th November 2013. Her clinical judgement and logic appears reasonable.

   I would not regard this as a departure from normal practice.

9. The documentation of the mother's objection to blood and blood products, including the failure to remove the agreement to blood products from the surgical consent, and the documentation of a plan of management in the event of significant bleeding.
   a. The section of the consent form where 'I agree to blood or blood products that may be required' was part of the surgical consent and I would consider this part of the surgeon's responsibility. I would not regard this as a departure from normal practice.
   b. On the anaesthetic consent it is noted 'Discussion with Mum. JW. Cell saver OK' indicated that a discussion of options had been had.
   c. [Dr B] indicates in her letter dated 7th November 2013 that she had a discussion of options with regard to blood and blood products, and her agreement to discuss again with [Mrs A] if she considered that therapy with blood products might become necessary.
   d. Besides the note mentioned above, none of this discussion was documented in the patient record supplied to me.

   I would regard this as a mild to moderate departure from normal practice based on the ANZCA Professional Documents PS 06, PS 07, PS 26. (4,5,6)

I am happy to discuss the matter further if required.

Yours sincerely

A J LOVE MB,BCh, FFA, FANZCA.
Specialist Anaesthetist

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Waitemata District Health Board

Documents referred to above

(1) 'Error-prone abbreviations, symbols and dose designations', National Medication Safety Expert Advisory Group, May 2012

(2) 'Is it farewell to codeine?', Brian J Anderson, *Arch Dis Child* December 2013 Vol 98 No 12, 986-988

(3) New Zealand Data Sheet, Codeine Phosphate

(4) PS6 (2006) *The Anaesthesia Record, Recommendations on the recording of an episode of anaesthetic care*, Australian and New Zealand College of Anaesthetists

(5) PS7 (2008) *Recommendations for the pre-anaesthesia consultation*, Australian and New Zealand College of Anaesthetists

(6) PS26 (2005) *Guidelines on consent for anaesthesia or sedation* Australian and New Zealand College of Anaesthetists"

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