Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

A Decision by the Deputy Health and Disability Commissioner

(Case 21HDC00463)

Introduction

1. This report is the opinion of Vanessa Caldwell, Deputy Health and Disability Commissioner, and is made in accordance with the power delegated to her by the Commissioner.

2. The report discusses the care provided to Ms A (aged in her teens at the time of these events) in 2020 by two ambulance services.

3. This Office received a complaint from the Nationwide Health and Disability Advocacy Service on behalf of Ms B, regarding concerns about the care provided to her daughter, Ms A. The complaint concerns the delay in dispatch of an ambulance to Ms A, who was experiencing an asthma attack and having trouble breathing. The ambulance arrived approximately 23 minutes after the initial call was made. Paramedics took over cardiopulmonary resuscitation (CPR) from the family, but, sadly, Ms A passed away.

Names have been removed to protect privacy. Identifying letters are assigned in alphabetical order and bear no relationship to the person's actual name.

4. The following issues were identified for investigation:

- *Whether Ambulance Service 1 provided Ms A with the appropriate standard of care in 2020.*
- *Whether Ambulance Service 2 provided Ms A with the appropriate standard of care in 2020.*
- *Whether Mr C provided Ms A with the appropriate standard of care in 2020.*
- *Whether Mr D provided Ms A with the appropriate standard of care in 2020.*
- *Whether Ms E provided Ms A with the appropriate standard of care in 2020.*

5. The parties directly involved in the investigation were:

Ms B	Complainant/consumer's mother
Ambulance Service 1	Provider/ambulance service
Ambulance Service 2	Provider/ambulance service
Mr C	Provider/Ambulance Service 2 call-handler
Mr D	Provider/Ambulance Service 1 dispatcher
Ms E	Provider/Ambulance Service 1 dispatcher

6. Mr F, CEO of Ambulance Service 2, is also mentioned in this report.

7. Further information was received from the Accident Compensation Corporation (ACC).

Summary of events

Introduction

8. Ms A (aged in her teens at the time of these events) suffered with asthma,[1] which she and her whānau had been managing for many years. Ms B told HDC that Ms A was in her bedroom when at 7.45pm Ms B received two text messages from Ms A that she needed prednisone[2] and that her nebuliser[3] was not working (in that it was not helping her). Ms B told HDC: 'Immediately I knew things were very bad as she wasn't showing any signs of concern earlier and the [nebuliser] almost always helped.' Ms B said that she gave Ms A her prednisone and then called 111 at 7.57pm.

Initial call to 111

9. Ms B's initial call was handled by Mr C, an Ambulance Service 2 call-handler. Ambulance Service 2 told HDC that the three national Clinical Communications Centres (in Auckland, Wellington, and Christchurch) take 111 calls from anywhere in the country.

[1] A condition in which the airways narrow and swell and may produce extra mucous. This can make breathing difficult and trigger coughing, a whistling sound (wheezing) when breathing out, and shortness of breath.
[2] A medication mostly used to suppress the immune system and decrease inflammation in conditions such as asthma.
[3] A device that works by turning liquid medication into a fine mist that can be breathed into the lungs.

10. Ambulance Service 2 told HDC that all call-handlers must complete the Emergency Medical Dispatcher (EMD) qualification. At the time of these events, Mr C was a member of the International Academies of Emergency Dispatch[4] and had the designation of EMD L2, which Ambulance Service 2 said 'indicates that the call taker is experienced (more than 1 year), has proven compliance levels when handling calls, and demonstrates a high level of expertise'.

11. Ambulance Service 1 and Ambulance Service 2 emergency communications centres use a software tool called ProQA.[5] Ambulance Service 1 said that the software supports call-handlers to use a structured set of protocols to ask a series of specific questions, with the answer to some of the questions determining what further questions will be asked. At the end of the call-taking process, the software tool automatically selects a determinant that best aligns with the person's chief complaint and how unwell the person is suspected to be — referencing the information provided during the call. The incident is then sent through to a virtual dispatch queue for ambulance dispatch.

12. HDC was provided with a transcript of the 111 call. In summary, Ms B told Mr C that Ms A was having an asthma attack, to which Mr C replied: 'Just to confirm, when you say that she's having an asthma attack, do you mean she's having trouble breathing or something else?' Ms B responded: 'Correct, yeah.' Mr C then asked Ms B whether Ms A was breathing, to which Ms B responded: 'Yip, probably 25% maybe, yeah.' Mr C did not clarify what Ms B meant by 25%. The options available in the ProQA software included 'yes', 'no', 'unknown', 'uncertain', and 'ineffective breathing'. Mr C told HDC that he considered that the options of 'unknown' and 'no' were inappropriate options, and that the option of 'ineffective breathing' was difficult to assess. ProQA categorises 'ineffective breathing' as meaning that the patient is 'barely breathing', 'turning blue', or other 'reasonable equivalents'.

13. Mr C said that having been given a numerical value to describe Ms A's breathing, 'it was hard for [him] to understand the severity of the situation'. Mr C said that the choices on the ProQA questioning sequence related to whether the patient was a) breathing or b) breathing ineffectively (or not at all). He said that the first choice relies on statements from the caller essentially stating that the patient is displaying abnormal breathing of some sort, and the second choice relies on statements indicating that the patient is displaying close to no breathing. Mr C said that there is no specific advice as to 'where the line is between the two'. Mr C told HDC:

> 'Thinking hypothetically, breathing at 25% while obviously not pleasant or ideal, seemed to me to express breathing less than 100% rather than that the breathing was

[4] The IAED website states: 'The IAED is the standard-setting organisation for emergency dispatch and response services worldwide, and is the leading body of emergency dispatch experts. Our various boards and councils work on behalf of the membership — and in coordination with other influential public safety organisations — to ensure that the comprehensive system of emergency dispatching is as safe, fast, effective, and up to date as possible.'

[5] ProQA 'reduces human error by recording every answer input by the calltaker. ProQA intelligently analyzes this information using time-proven expert logic to quickly determine the appropriate response determinants and Pre-Arrival Instructions for the case.'

> ineffective or close to agonal (agonal breathing is seen when a patient is near death, and ineffectively gasping for air; this is a reflex from the brain rather than a conscious effort to breathe). I could hear [Ms A's] mother asking her questions during the call, which led me to understand that [Ms A] was able to talk at that time. At the time I felt clarifying the 25% information was unnecessary, as the response had established that the patient was breathing, and further clarification would come from the later key question "Do they have difficulty speaking between breaths?"'

14. Accordingly, Mr C selected the answer (to whether Ms A was breathing) as 'yes'. Mr C told HDC that on reflection he accepted that with the rarity of the phrase and the amount of thought required to interpret it, 'it should have sparked further clarification'. Mr C stated: 'Call takers are trained to be proficient in the use of the ProQA triage system, rather than in the call handling for specific conditions.'

15. In response to the provisional report, Ms B told HDC:

> 'I responded that [Ms A] was only breathing at 25%, and to hear that this did not alarm [Mr C] is devastating to me as a mother. This figure should have set off immediate alarm bells for anyone involved, whether they were trained or not. The failure to recognise the severity of [Ms A's] condition and act swiftly is something I cannot comprehend.'

16. Mr C then asked Ms B: 'Does [Ms A] have any difficulty speaking between breaths?' Ms B turned to Ms A and asked, 'Can you talk in between your breaths?', and then Ms B told Mr C, 'No, no.' However, Mr C interpreted this to mean that Ms A was able to speak between breaths, and he categorised it as 'no' in the ProQA system.

17. Mr C said that he recorded this answer incorrectly due to his own 'human error'. He told HDC that during training about how and when to clarify a response, call-handlers are taught that 'no is a clear no' and 'yes is a clear yes'. He said that clarifying these answers 'is considered an over clarification causing delays and potential stress to the caller/patient'. Mr C said that he took the 'no' response as an 'absolute' but did not note the fact that the question had been rephrased in a manner that led to a reversal of yes/no meanings in Ms B's response.

18. In response to the provisional opinion, Ms B told HDC:

> 'When [Ms A's] ability to speak was questioned, I vividly remember the desperation in my voice as I asked her amidst her breaths. It's excruciating to recall hearing her struggle and knowing she couldn't respond, I replied to [Mr C] "No, No". The fact that [Mr C] recorded her ability to speak incorrectly due to his own "human error" only adds to the anguish.'

19. Towards the end of the call, Mr C said to Ms B: 'If she gets worse in any way though [Ms B] you call us back immediately for further instructions okay? … The help's all been arranged, I'll let you go.'

Initial call dispatching

20. At 7.59pm, the incident was moved to the dispatch[6] queue and triaged as ORANGE1. The New Zealand Ambulance Guidelines for Determining the Priority of Emergency Calls defines priority ORANGE1 as being '[u]rgent/serious but an extra 12 minute response time is unlikely to decrease the patient outcome'. Ambulance Service 1 told HDC that it does not have a contracted response time with the Ministry of Health and the National Ambulance Sector Office (NASO) for incidents prioritised for an ORANGE response. Ambulance Service 1 said that it has an internal recommended standard of 20 minutes for an urban response to ORANGE1 calls and 40 minutes for a rural response from the time of the 111 call until the arrival of an ambulance.[7] Ambulance Service 1 stated that as the incident had been prioritised as ORANGE1, the incident met the criteria for immediate dispatch of an ambulance.

21. In response to the provisional report, Ms B said that it is 'incomprehensible' that an asthma attack in a child would be prioritised as ORANGE rather than RED. She said: 'This decision delayed the urgent response [Ms A] desperately needed.'

22. Emergency dispatchers dispatch the emergency vehicles once the information and prioritisation has been entered into the system by the call handler. Ambulance Service 1 told HDC that the dispatcher on duty at the time of Ms B's initial 111 call was Ms E (employed by Ambulance Service 1). Ms E told HDC that at 7.57pm (prior to Ms B's call arriving in the dispatch queue) she handed the dispatch of the channel to Mr D (who was to be the relief dispatcher while Ms E went on a short break).

23. Ms E said that the usual 'handover process' includes the dispatcher alerting the relief dispatcher that they require a break. Ms E told HDC:

> 'At that point he would open on his screen so he can see exactly what I can see on my screen. If there is anything significant happening with the jobs on the screen, I would discuss those jobs with him before I left. Similarly, if he saw a job that he thought could be significant he would ask me about it. Given the passage of time I cannot recall exactly what we would have discussed at the time I started my break.'

24. Mr D told HDC that his role was that of relief dispatcher, and that included covering the dispatch area of other dispatchers while they had their meal breaks. Mr D had the channel for a period of approximately seven minutes. While Ms E was away from the channel a call appeared in the pending queue for Ms B coded ORANGE1. Mr D said that at 7.58.31pm he received notification through the Message Room (a window that shows Mobile Data Terminal — MDT updates) that the Ambulance U day shift officers were logging off and the ambulance was clearing the hospital (making it available for dispatch).

25. Mr D said that at 8.03.20pm he read the pending incident and launched the Initial Assign (IA) tool, which recommended ambulance units Ambulance U and Ambulance V. One

[6] The call went to the Ambulance Service 1 dispatch queue for dispatch because of the location of the event.
[7] Ambulance Service 1 told HDC that currently it is not meeting its targets for Orange and Red response times and is actively working with its funders to address ongoing resource levels.

ambulance unit was unable to be dispatched as its shift finished at 8.00pm. Mr D said that he considered Ambulance V for dispatch but said that 'in [his] experience the estimated time of arrival from IA was incorrect and they had an ETA of approximately 30 minutes to the scene'. Mr D said that accordingly, he did not accept Ambulance V, as both the next vehicles, Ambulance W and Ambulance X, were not available in their area. Mr D stated: 'This would leave a large area uncovered if [Ambulance V] were dispatched for potential priority incidents.'

26. Mr D said that he did not immediately assign Ambulance U as he did not deem it to be the most appropriate for the incident. He said that at the time, Ambulance U's area was uncovered and did not have any ambulance vehicles available to respond to any urgent incidents that might have arisen within that area. Mr D stated that it is a rural priority 2 cover station based on the Ambulance Service 1 Patient Centred Deployment Plan (PCD), and one of the considerations that dispatchers are always to apply is whether there is sufficient cover for an area. He said: '[T]he PCD supplied the priority for coverage in the area. Coverage is highlighted as a point for us to follow in the training and is what I applied in this case.'

27. In addition, Mr D said that he considered several other factors when deciding not to dispatch Ambulance U to the incident, including that the local ambulances (Ambulance Z and Ambulance Y) were soon to become available; the call in the queue relating to Ms A stated that she was conscious and breathing and had used nebulisers; and the call had been coded at a dispatch level of 06D04 with a response level of ORANGE1. Mr D stated: 'Based on [Ambulance Service 1's] prioritisation framework, 85% of these calls coded as Orange 1 will be a status 3 or 4 which are the least critical calls that [Ambulance Service 1] responds to.'

28. Accordingly, Mr D made the decision to allow Ambulance U to return to station as he expected Ambulance Y and Ambulance Z would clear 'in the next 30 minutes'. Mr D said that the crew of Ambulance U was not stood down for a meal break, 'instead told that their meal break would be at 21.00 (9pm) when on station which is the beginning of their meal break window'. Mr D told HDC that unfortunately it was regularly the case that ORANGE1 calls would not be dispatched for well over half an hour (due to resource constraints). However, he said that in this case he anticipated that the wait time for one of the local units to become available would be less than 30 minutes.

29. Mr D said that on the night in question, as was commonly the case, the dispatch area was short staffed. He stated that as the manager of the service, this meant that he was the only one available for relief. Mr D told HDC: 'That means that there is not another person who can easily be defaulted to in order to check your judgement on certain things.' In summary, Mr D told HDC:

> 'It is difficult to dispatch incidents as they come into queue as the workload is so dynamic … On occasions, dispatchers do have to make decisions based on something that is likely to happen in the future i.e crews becoming clear on other jobs.'

30. Ms E told HDC that when she returned from her break (at 8.04pm) the same handover process (as discussed above at paragraph 23) occurred and she took over control of the channel. Ms E said that as per usual handover process, she would have looked over the screen for any new jobs or changes in jobs.

31. Regarding whether or not she should have dispatched Ambulance U to the incident following her meal break, Ms E said:

> '[A]nother dispatcher had already made a decision just a few minutes previously not to dispatch [Ambulance U] so that it could return to cover an area in case a RED or PURPLE call came in from that area; and the information that was available to me about this ORANGE1 call did not suggest that a delay to allow another ambulance to clear soon would compromise the outcome. As dispatchers we have to weigh what is available and the areas needing coverage against what we know about the urgency of the situation requiring an ambulance.'

Second 111 call

32. Ms B said that following the first 111 call, Ms A's condition deteriorated, and her breaths were getting shallow and short. Ms B told HDC:

> '[Ms A's] breathing was getting even worse, she was getting so scared that she couldn't get much air in now, she started to panic more. I looked at my watch and realised then that 15 minutes had already passed since I called and that the ambulance should have already arrived by now. I was alone with [Ms A] in her bedroom … I screamed for [Ms B's partner] to call the ambulance again.'

33. At 8.15pm, Ms B's younger daughter phoned 111 again to advise that Ms A's condition had deteriorated further. An Ambulance Service 1 call-taker answered the second 111 call. Ambulance Service 1 told HDC that the 111 call was appended to the original call, re-triaged and upgraded to be prioritised as a RED1 response. The Ambulance Service 1 call-handler stayed on the phone with the caller, and as further information was provided regarding Ms A's deteriorating condition, the call was upgraded again and prioritised as a PURPLE response (at 8.21pm). An ambulance was dispatched at 8.22pm crewed by a paramedic and an emergency medical technician (EMT). The ambulance arrived at Ms A's location at 8.25pm. A further ambulance was dispatched at 8.22pm, crewed by an intensive care paramedic (ICP) and a paramedic, and arrived at Ms A's location at 8.33pm. Fire and Emergency New Zealand (FENZ) assistance was requested at 8.24pm, arriving at 8.30pm.

34. On arrival of the ambulance crews, Ms A was positioned on the floor, unresponsive and not breathing. CPR had been initiated by family with further resuscitation attempts continued by ambulance and FENZ personnel. Sadly, despite a lengthy resuscitation, Ms A was declared deceased at 9.38pm.

Further information

ProQA call-handling software

35. As noted above at paragraph 11, Ambulance Service 1 and Ambulance Service 2 emergency communications centres use a software tool called ProQA. The software supports call-handlers to use a structured set of protocols to ask a series of specific questions, with the answer to some of the questions determining what further questions will be asked. At the end of the call-taking process, the software tool automatically selects a determinant that best aligns with the person's chief complaint and how unwell the person is suspected to be — referencing the information provided during the call. With allocation of a determinant, the incident is sent through to a virtual dispatch queue for ambulance dispatch, with each determinant having the priority for dispatch assigned.

36. In relation to questions about breathing, the ProQA criteria indicates that the following criteria would need to be met in order for the answer to be classified as 'Ineffective breathing':

> 'The following, or reasonable equivalents, when volunteered at any point during Case Entry …
>
> - "Barely breathing"
> - "Can't breathe at all"
> - "Gasping for air" (Agonal breathing)
> - "Just a little" (Agonal breathing)
> - "Not breathing"
> - "Turning blue" or "Turning purple"'

Medical Priority Dispatch System (MPDS)

37. The priority of a call is determined by a clinical triage tool called the MPDS. A code is assigned following structured questions that are asked by the call-handler (as discussed above). The code is made up of three elements. The first is the main complaint, the second is the priority and is associated with colour response priorities, and the last is additional clinical information that may be useful.

Ambulance Service 1 Standard Operating Procedure (SOP) Dispatch Guidelines

38. Ambulance Service 1 provided HDC with its dispatch guidelines that were in place at the time of the events. Relevant information from the SOP is contained in Appendix A.

Incident review

39. Ambulance Service 1 conducted a Patient Safety Incident (PSI) review with input from Ambulance Service 2. The incident received an initial and final severity assessment score (SAC) of 1[8] (meaning that death or severe loss of function had occurred). The PSI review

[8] Te Tāhū Hauora|the Health Quality and Safety Commission (HQSC) SAC rating and triage tool classifies an SAC rating of 1 as: 'Death or permanent severe loss of function not related to the natural course of the illness, differs from the immediate expected outcome of the care management, can be sensory, motor, physiological, psychological, or intellectual.'

assessed both the call-handling and dispatching aspects of the care provided to Ms A. Ambulance Service 1 told HDC that its Clinical Director was consulted regarding this incident. Ambulance Service 1 said that the following medical opinion was received from the Clinical Director:

> 'The delay in an ambulance reaching [Ms A] was potentially preventable. In my opinion the delay did not cause her death, but it did reduce the chance that we could save her life, and on that basis, it is my opinion that [Ms A's] death was potentially preventable.'

40. In response to the provisional report, Ms B told HDC:

> 'The errors that occurred were not just potentially preventable; they were preventable, and they cost [Ms A] her life. As a mother who knew [Ms A's] medical history and the severity of the situation, I [trusted] the 111 system to provide the necessary assistance. The fact that it failed us in the most tragic way possible is something I will never come to terms with.'

Call-handling

41. The PSI review identified the following in relation to the handling of the initial 111 call:

- The handling of the initial call was compliant with the Medical Priority Dispatch System (MPDS) standards;
- However, when Mr C asked whether Ms A had difficulty speaking between breaths, further clarification was required to confidently record the answer as 'yes' or 'no'. Had Mr C determined Ms A as having difficulty speaking between breaths (and correctly recorded the answer as 'yes') then the call would have been allocated a priority response of RED1.
- The seriousness of Ms A's breathing difficulties could have been determined earlier in the call process when Mr C asked Ms B whether Ms A was breathing, to which Ms B responded that Ms A was breathing at 25%. Although not one of the phrases included in the definition for 'ineffective breathing', the reference to Ms A breathing at 25% would be considered a 'reasonable equivalent'. Had this been considered during the initial 111 call, it is likely that the incident would have been assigned a code response of RED1.
- The error in the incident being prioritised as ORANGE1 was identified as an adverse event.

Dispatch review

42. The PSI review identified the following in relation to the dispatch decisions made for the initial 111 call:

- While the initial call-handling could have prioritised the ambulance response RED1 (if the issues around breathing had been further explored), allocation of ORANGE1 priority supported the immediate dispatch of an ambulance.

- Ambulance U was available to be dispatched to the incident, and it is estimated that had the unit been dispatched (and not re-diverted) it could have arrived at the incident at approximately 8.05pm (approximately eight minutes from the time of the first 111 call).
- Dispatch protocols referencing ORANGE1 incidents allow for the completion of meal breaks (if already being taken) before an ambulance is dispatched. At the start and completion of rostered shifts, ORANGE1 incidents may also have delayed responses to ensure compliance with land transport regulations.
- At the time of the incident, it was determined that there was a change of dispatchers (to enable dispatch personnel to complete meal breaks) and this further contributed to the non-awareness of a high-priority incident awaiting dispatch.
- While an ambulance was immediately available to be dispatched to this incident, it was assigned to its first mandatory shift break (despite having only commenced operational duties two hours earlier).
- The decision to re-divert Ambulance U was determined to be an error in judgement and the available ambulance 'should have been dispatched immediately'.
- The failure to assign Ambulance U to attend the incident was identified as an adverse event.

Mr C

43. Mr C told HDC that he is no longer employed by Ambulance Service 2.

Mr D

44. Mr D told HDC that he is no longer employed by Ambulance Service 1.

Responses to provisional opinion

Ms B

45. Ms B was provided with a copy of the 'summary of events' section of the provisional report. Where relevant, Ms B's comments have been incorporated into this report. Ms B said that Ms A was still conscious and breathing when the first and second 111 calls were made. Ms B stated: 'I firmly believe that had they arrived promptly after the initial 111 call, [Ms A] would still be alive today, and that thought torments me.'

46. In addition, Ms B told HDC:

> 'I appreciate the thoroughness with which you have gathered the information related to my complaint and your commitment to reaching a final decision … [Ms A's] tragic passing has shattered our world, and the errors in the emergency response have only deepened our grief. The failure to recognise the severity of [Ms A's] condition and respond accordingly is a wound that will never heal. I hope that the findings of this report will lead to necessary changes that could potentially save lives and spare other families from the agony we endure. While nothing can bring [Ms A] back, ensuring accountability and improvements in the emergency response system is essential in honouring her memory and preventing further loss. This is [Ms A's] legacy.'

Ambulance Service 1

47. Ambulance Service 1 was provided with relevant sections of the provisional report for comment. Ambulance Service 1 accepted the findings in the provisional report and agreed with the proposed recommendations.

Ms E

48. Ms E was provided with relevant sections of the provisional report for comment and advised that she accepted the outcome of the investigation.

Mr D

49. Mr D was provided with relevant sections of the provisional report for comment and advised that he had no further comment to make.

Ambulance Service 2 & Mr C

50. Ambulance Service 2 and Mr C were provided with relevant sections of the provisional report for comment. Where relevant, their comments have been incorporated into this report. In addition, the Chief Executive of Ambulance Service 2, Mr F, told HDC:

> 'Please convey my sincerest condolences to [Ms B] and her family on the loss of [Ms A]. I can assure you, and the family, that the events of that day have resonated with all concerned at [Ambulance Service 2], myself included. No-one who has been involved in the initial review of the case, or subsequently with the HDC response process has been left unmoved by the loss felt by [Ms A's] family. In addition I would like to apologise to [Ms A's] family for the tragic outcome of the delayed response to [Ms B's] call. As an emergency service, [Ambulance Service 2] has at its core the welfare of our community and staff, and any failure in either of these areas affects us all.'

51. Ambulance Service 2 accepted the proposed recommendations.

52. Regarding the proposed findings for Mr C, Mr F asked that the proposed breach of Right 4(2) of the Code be reconsidered. He said: 'I make this request based on my knowledge of the pressure on emergency call takers to make crucial decisions based on a wide variety of information, given by callers who are almost always in a stressful situation.'

53. Mr F said that while he acknowledges that every call is unique and regardless of workload pressure all calls should be listened to and have their information interpreted and recorded accurately, 'the unrelenting pressure that the volume of calls places on call takers cannot be underestimated'. Mr F said that the decisions made by Mr C were not a matter of non-compliance to the requirements of ProQA triage, but rather an acceptance of Ms B's responses at face value. Mr F said that Mr C has cooperated with each stage of review, accepted that with reflection, clarification of the two responses in question 'would have resulted in a higher response priority', and immediately took steps to educate himself and others further. Mr F submitted:

> 'The decisions to record the responses as heard did not stem from carelessness, lack of application or deliberate wrongdoing, but reflect the continuing high pressure environment that emergency call takers operate in on a daily basis.'

Opinion: Mr C (call-handler) — breach

54. Mr C was the call-handler who managed Ms B's initial 111 call. The Ambulance Service 1 PSI review identified two aspects of Mr C's call-handling as adverse events.

55. First, when Mr C asked Ms B whether Ms A was breathing (to which Ms B responded that Ms A was breathing at 25%), Mr C did not clarify what Ms B meant by 25%. The ProQA software included the options 'yes', 'no', 'unknown', 'uncertain', and 'ineffective breathing'. The ProQA criteria for 'ineffective breathing' outlines the following:

> 'The following, or reasonable equivalents, when volunteered at any point during Case Entry …
>
> "Barely breathing"
> "Can't breathe at all"
> "Gasping for air" (Agonal breathing)
> "Just a little" (Agonal breathing)
> "Not breathing"
> "Turning blue" or "Turning purple"'

56. Mr C said that it was difficult to assess whether breathing at 25% was a 'reasonable equivalent' of any of the above options. Accordingly, he selected the answer 'yes' in response to that question.

57. The Ambulance Service 1 PSI review identified that even though 25% is not one of the phrases included in the definition for 'ineffective breathing', it would have been considered a 'reasonable equivalent'. The PSI review concluded that had this been considered during the initial 111 call it is likely that the incident would have been assigned as an ECHO (06E04) with a code response of RED1, and the error in this incident being prioritised as ORANGE1 is considered to be an adverse event.

58. The issue is that Mr C did not record Ms A as experiencing 'ineffective breathing' when the consensus from the PSI review is that this was the appropriate course of action. Although I acknowledge that breathing at '25%' was an answer that Mr C was not familiar with, according to the ProQA criteria, breathing at 25% would be considered impaired and 'ineffective' breathing based on the plain English meaning of 'ineffective'. I also consider that reasonable equivalents to 25% breathing capacity as defined by the ProQA criteria could include barely breathing, gasping for air, or breathing just a little.

59. Following this, Mr C asked Ms B if Ms A had difficulty speaking between breaths. Ms B asked Ms A, 'Can you talk in between your breaths?' and relayed the answer to Mr C as 'no'. Mr C interpreted this to mean that Ms A was able to speak between breaths (as he considered the answer 'no' was in response to the question of whether Ms A had difficulty speaking between breaths). Accordingly, Mr C recorded the answer as 'no'. Mr C said that when taught during training 'how and when to clarify a response', call-handlers are taught that 'no' is a clear no, and 'yes' is a clear yes'. He said that to clarify these questions further is considered an 'over clarification causing delays and potential stress to the caller/patient'.

Mr C said that in this case, he did not note that the question had been rephrased (by Ms B to Ms A) in a manner that led to a reversal of yes/no meanings. He advised HDC that he incorrectly recorded this answer due to his own 'human error'.

60. The Ambulance Service 1 PSI review noted that when Mr C asked Ms B if Ms A had difficulty speaking between breaths (and Ms B responded with 'no' after asking Ms A a different version of the same question), further clarification was required to confidently record the answer as 'yes' or 'no'. The PSI review found that had Mr C correctly determined that Ms A was having difficulty speaking between breaths and recorded the answer (correctly) as 'yes', the call would have been allocated a priority response of RED1.

61. Right 4(2) of the Code of Health and Disability Services Consumers' Rights (the Code) provides that every consumer has the right to have services provided that comply with professional and other relevant standards.

62. I consider that the ProQA and MPDS systems are a reasonable equivalent of 'national standards' for call-handlers. In this case, although Mr C asked the correct questions according to the ProQA software, he failed to correctly record and classify the answers to two questions regarding Ms A's breathing and failed to clarify the answers with Ms B. These failures resulted in the categorisation of the call as priority ORANGE1 instead of RED1. I acknowledge that both ORANGE1 and RED1 priorities necessitate the immediate dispatch of an ambulance, but I consider that the incorrect categorisation meant that the seriousness of Ms A's condition was not fully appreciated, and this affected the subsequent dispatch of an ambulance to her location. In my view, Mr C should have sought and recorded accurate incident details to prioritise/categorise Ms B's call for emergency assistance. However, Mr C failed to obtain, clarify, understand, and record accurate information about Ms A's breathing status. Accordingly, I find that Mr C breached Right 4(2) of the Code.

63. I acknowledge Ambulance Service 2's comments that Mr C has cooperated at all stages of review and with the HDC investigation process, and that the errors stemmed from the high-pressure environment in which call handlers operate. I commend Mr C for his cooperation and reflection, and I agree with Ambulance Service 2 that these roles are inherently stressful. As with all emergency sector roles, these often involve rapid decision-making without the benefit of all the information. In this case, as Mr C and the review have determined, it was human error that resulted in Mr C's failure to accurately interpret and record some of the information given by Ms B. As such, the standard of service that Ms B and her family received fell short of the standard expected, and the breach decision reflects this.

Opinion: Mr D (dispatcher) — adverse comment

64. Mr D was the Ambulance Service 1 dispatcher who managed Ms B's initial 111 call. As Ms B's call was prioritised as ORANGE1, it met the criteria for the urgent dispatch of an ambulance.

65. Ambulance Service 1 provided its Standard Operating Procedure (SOP) to HDC, including its 'dispatch guidelines' that were in place at the time of the events. The SOP notes that it is the dispatcher's responsibility to dispatch incidents, considering the notes, time in the queue, and resource availability.

66. At approximately 7.57pm, Mr D took over the dispatch of the Channel from dispatcher Ms E (who had gone on a brief meal break). Mr D had the channel for a period of approximately seven minutes. At 7.58.28, Ms B's call, coded as priority ORANGE1, appeared in the pending queue.

67. Mr D told HDC that at 8.03.20 he read the pending incident and launched the IA, which recommended ambulance units Ambulance U and Ambulance V. Mr D said that he considered Ambulance V, but the estimated arrival time generated by the IA was incorrect and Ambulance V had an ETA of approximately 30 minutes to the scene. In addition, he advised that as the next vehicles (Ambulance W and Ambulance X) were not available in their area, he considered that dispatching Ambulance V to the incident would not be appropriate as it would have left the area uncovered.

68. Mr D said that he considered Ambulance U but made a decision to allow the unit to return to the station and begin its mandatory meal break at 9.00pm. He said that at that time, Ambulance U's station (a rural priority 2 station based on the Ambulance Service 1 Patient Centred Deployment Plan) was 'uncovered' and did not have any available ambulances to respond to urgent incidents in the area. Mr D said that dispatchers are always expected to consider whether there is sufficient cover for an area. He stated: 'The PCD supplied the priority for coverage in the area. Coverage is highlighted as a point for us to follow in the training and is what I applied in this case.'

69. Mr D said that several other factors led him not to dispatch Ambulance U, including that local ambulances were soon to become available (within the next 30 minutes); the call in the queue stated that Ms A was conscious and breathing and had used nebulisers; and the call was coded as a dispatch level of 06D04 with a priority of ORANGE1. Mr D told HDC that the Ambulance U crew was not stood down for a meal break, 'instead told that their meal break would be at 21.00 when on station which is the beginning of their meal break window'.

70. Mr D also told HDC that at the time of the events, the dispatch area was short staffed. He said that as the manager of the service, he was the only one available for relief, and there was not another person who could easily be defaulted to in order to check judgement. In summary, Mr D told HDC:

> 'It is difficult to dispatch incidents as they come into queue as the workload is so dynamic … On occasions, dispatchers do have to make decisions based on something that is likely to happen in the future i.e. crews becoming clear on other jobs.'

71. Ambulance Service 1 found that had Ambulance U been dispatched (and not re-diverted) it could have arrived at Ms A's location at approximately 8.05pm (8 minutes from the time of the first 111 call). In its PSI review, Ambulance Service 1 stated:

> 'On this occasion, while the nearest available ambulance was put on a break (with a view to dispatching the next available ambulance upon completion of their current job) — this has been determined as an error in judgement and the available ambulance should have been dispatched immediately.'

72. The Ambulance Service 1 dispatch guidelines state that the dispatcher should send the most appropriate resource and the closest unit. In this case, the closest unit was not available to be dispatched. The next available unit, Ambulance U, was available to be dispatched but Mr D made the decision to return the unit to its base and for a meal break to commence at 9.00pm.

73. I acknowledge Mr D's comments about the dispatch workload being dynamic, and that decisions sometimes need to be made based on 'something that is likely to happen in the future'. I also note that Mr D said that he made a decision to return Ambulance U to its base to ensure that the area had adequate cover for any urgent incidents with a view to dispatching the next available ambulance. However, I note that the findings of the PSI review identified that this decision was an error in judgement. It is clear from the information provided to HDC by Ambulance Service 1 that a priority of ORANGE1 supported the immediate dispatch of an ambulance. However, in considering whether Mr D's error meets the threshold for a breach of the Code, I have considered the dispatch guidelines, and Mr D's comments that the department was understaffed at the time of Ms B's call. I also accept that it is more likely than not that Mr D's decision not to dispatch Ambulance U was made to ensure that the area had adequate cover in case of an urgent priority incident, in light of the fact that the crew were assigned a meal break at 9pm (the beginning of its meal break window) as opposed to immediately.

74. In addition, I have considered that Mr D was of the view that local ambulances would become available within 30 minutes, that Ms A had been noted to be conscious and breathing during the initial 111 call, and that the call had been triaged as ORANGE1. Accordingly, I do not consider that Mr D's error amounts to a breach of the Code. However, I encourage Mr D to reflect on my comments.

Opinion: Ambulance Service 1 — adverse comment

75. At the time of the events, both Mr D and Ms E were employed by Ambulance Service 1. Accordingly, Ambulance Service 1 had a responsibility to ensure that both Mr D and Ms E were supported adequately to carry out their duties as emergency dispatchers. In addition, at an organisational level, Ambulance Service 1 had a duty to provide services to Ms A with reasonable care and skill.

76. While the PSI review identified that Mr D should have dispatched Ambulance U immediately in response to Ms B's initial 111 call, Mr D told HDC that Ambulance U's station is a rural priority 2 cover station based on the PCD, and dispatchers are advised to ensure that there is always adequate cover for an area. He said: '[T]he PCD supplied the priority for coverage in the area. Coverage is highlighted as a point for us to follow in the training and is what I applied in this case.' However, the dispatch guidelines provided to HDC by Ambulance

Service 1 did not include any guidance on what to do in a situation where the only available unit is a rural priority unit, or what factors should be considered in such a situation.

77. Mr D also told HDC that it was not unusual for the dispatching area to be understaffed, and, on the night in question, he was the only manager available to cover meal breaks, which meant that no one was available for the escalation of decisions. I am concerned by Mr D's comments that no one was available for him to escalate any concerns to. I consider that in a high-pressure and fast-paced environment, staff should be supported adequately to make informed decisions and to escalate to other staff members for guidance when required. I have also considered the findings of the PSI review, which stated:

> '[I]t has been further determined that there was a change of dispatchers (to enable dispatch personnel to complete meal breaks) and this further contributed to the non-awareness of a high-priority incident awaiting dispatch.'

78. In my view, it is the responsibility of Ambulance Service 1 to ensure that dispatch personnel staffing levels are adequate to ensure that effective communication and informed dispatching decisions can occur when staff are handing over for meal breaks.

79. I encourage Ambulance Service 1 to reflect on my criticisms and the findings of its PSI review, and to ensure that appropriate changes are made in order to ensure that staff are supported adequately to make informed dispatching decisions.

Opinion: Ambulance Service 2 — no breach

80. At the time of the events, senior call-handler Mr C was employed by Ambulance Service 2. Ambulance Service 2 had a responsibility to provide Ms A with an appropriate standard of care, and to ensure that Mr C was trained and supported adequately to carry out his duties as a call-handler.

81. As I have found above, Mr C made two errors in his handling of Ms B's initial 111 call, which in my view amount to a breach of the Code. I have considered the circumstances in which those errors were made, and whether the errors can be attributed solely to Mr C or whether some responsibility lies with Ambulance Service 2.

82. Mr C has accepted that one of the errors was 'human error' and that the other was a failure to consider that breathing at 25% was a 'reasonable equivalent' to 'ineffective breathing'. I also note that Mr C is a qualified EMD and a member of the International Academies of Emergency Dispatch, and he had the designation of EMD L2, which Ambulance Service 2 said 'indicates that the call taker is experienced (more than 1 year), has proven compliance levels when handling calls, and demonstrates a high level of expertise'. Therefore, it is my view that there was a reasonable expectation that Ambulance Service 2 could rely on Mr C's skill and expertise. I have not identified any systemic issues within Ambulance Service 2 that may have impacted on Mr C's ability to fulfil his role and provide an acceptable standard of care.

83. I consider that these were individual rather than organisational errors, for which Mr C holds ultimate responsibility. Accordingly, I find that Ambulance Service 2 did not breach the Code.

Opinion: Ms E (dispatcher) — no breach

84. Ms E was the dispatcher covering the Channel on the night of Ms B's call to 111. Prior to Ms B's call arriving in the pending dispatch queue, Ms E went on a meal break and the channel was covered by Mr D (discussed above).

85. Ms E told HDC that when she returned from her break (at 8.04pm) the channel was handed over to her from Mr D. Ms E said that as per usual handover process, she would have looked over the screen for any new jobs or changes in jobs. Ms E stated that as Mr D had already made a decision not to dispatch Ambulance U to Ms A, and the information that was available to her regarding the ORANGE1 call did not suggest that a delay to allow another local ambulance to become available would compromise the outcome, she did not dispatch Ambulance U. Ms E told HDC: 'As dispatchers we have to weigh what is available and the areas needing coverage against what we know about the urgency of the situation requiring an ambulance.'

86. Following this, a further 111 call was made advising that Ms A's condition had deteriorated, and the incident was re-prioritised as RED1 and later PURPLE. Appropriate units were then dispatched to Ms A.

87. In light of the fact that the initial decision not to dispatch Ambulance U was made by Mr D, and that no further information regarding Ms A's condition had been received by the time Ms E returned from her meal break, I accept that Ms E's decision not to dispatch Ambulance U was reasonable in the circumstances. In reaching this decision, I have also considered the findings of the PSI review, which did not identify any concerns with the dispatching decisions made by Ms E. Accordingly, I find that Ms E did not breach the Code.

Changes made since events

Ambulance Service 1

88. Ambulance Service 1 identified the following recommendations in its Patient Safety Incident Review:

- To arrange a formal face-to-face meeting with Ms A's whānau and advocacy support to 'enable the findings from the investigation to be conveyed in person'.
- To de-brief the dispatcher (Mr D) 'with reference to this incident to review the dispatch decisions and rationale for non-dispatch of an ambulance when [the] incident [was] identified ORANGE1'.
- To ensure communication about risks to dispatch delays associated with dispatcher changes (ie, meal breaks).
- To share Ms A's whānau's 'impact summary' across the call-handler and dispatch teams for general awareness and learning.
- To provide personal feedback to the call-handlers and dispatchers involved, to 'reduce the chance of a similar delay occurring for another patient'.

Ambulance Service 2

89. Ambulance Service 2 told HDC that the following actions were taken as a result of these events:

- Ambulance Service 2 approached the International Academies of Emergency Dispatch (IAED) for an opinion on the questioning and response to the question regarding difficulty speaking between breaths — in particular, whether or not the question needs to be reframed to eliminate the possibility of the caller inverting the question (as happened in this case).
- The call was brought to the attention of all call-handlers and has been used in role playing during mentoring of new call-handlers.
- Information was provided about how to frame questions (such as 'does she have difficulty speaking between breaths') and how to interpret 'yes/no' answers to such questions, and call-handlers were reminded to seek further information/clarification from the caller when the answers to certain questions are unclear.
- The Ambulance Service 1 Patient Safety Incident Review noted that the Ambulance Service 2 call-handler (Mr C) was to be de-briefed with reference to the incident.

Mr C

90. Mr C told HDC that he made the following changes as a result of these events:

- He extensively revised the handling of all calls involving patients with asthma. He said that during this process, he familiarised himself with the call, ensuring that he understood where he went wrong and how to avoid a similar situation in the future.
- Information on the handling of such calls was put out to the Ambulance Service 2 call-takers through the following channels: The 'tips and tricks' board; newsletters and individual talks with call-handlers to ensure understanding of the event and what had led to the error.

Ms E

91. Ms E told HDC that while she is confident that she dispatched vehicles for this incident within the current SOPs and guidelines, she continues to review job notes regularly as they are updated and reconsider deployment of resources based on updated information. Ms E said that she also ensures that the handover with the relief dispatcher is thorough and communicated accurately, and that there is greater scrutiny over whether it is appropriate to hold a vehicle for area cover over sending to a pending job regardless of time waiting.

Recommendations

Ambulance Service 2

92. I recommend that Ambulance Service 2 report back to HDC on the outcome of its conversation with IAED about ProQA breathing questions, within three months of the date of this report.

93. I also recommend that Ambulance Service 2 use an anonymised version of this report to conduct a training session for call-handlers with particular focus on managing calls where a patient is experiencing an asthma attack. Ambulance Service 2 is to report back to HDC within six months of the date of this report.

Ambulance Service 1

94. I recommend that Ambulance Service 1:

- Update its dispatching guidelines to include information about how to prioritise dispatch when the only available units are rural priority cover units. This updated guideline is to be provided to HDC within six months of the date of this report.
- Consider the adequacy of its dispatch staffing levels and advise HDC on how it will ensure that relief dispatchers are able to escalate any concerns regarding dispatching decisions when required. This information is to be provided to HDC within three months of the date of this report.

Mr C

95. I recommend that Mr C provide a written apology to Ms A's whānau. The apology is to be provided to HDC within three weeks of the date of this report, for forwarding to Ms A's whānau.

96. I have considered that Mr C contributed to and led service improvments directly related to these events and is no longer working as a call-handler at Ambulance Service 2. Accordingly, I have no further recommendations for Mr C.

Mr D

97. I have considered that Mr D is no longer working as a dispatcher at Ambulance Service 1. Accordingly, I have no recommendations for Mr D at this stage. However, should Mr D return to work as a dispatcher, I recommend that he undertake further training in the areas of concern identified in this report and provide HDC with evidence of this, within three months of returning to work as a dispatcher.

Follow-up actions

98. A copy of this report with details identifying the parties removed will be sent to Ambulance New Zealand and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

Appendix A: Relevant sections of Ambulance Service 1 Dispatch Guideline

The guidelines state that it is the dispatcher's responsibility to dispatch incidents, considering the notes, time in the queue, and resource availability.

The EAS Prioritisation Framework contained within the SOP outlines the appropriate response to ORANGE1 incidents where the incident 'appears serious but not immediately life threatening', including:

> 'Most appropriate resource, closest FRU (First Response Unit)[1]/FRG (First Response Group), consider consultation with CSO (Clinical Support Officer) for PRIME (Primary Response in Medical Emergencies[2]), consider Fire First Response, do not break rest break.'

Section 3.21.2 of the SOP outlines the general guidelines for dispatching to ORANGE incidents, including:

> '1. Rest breaks must not be broken for ORANGE incidents, 2. Crew should elect to respond under lights if doing so will save clinically significant time, 3. Unit must not be allocated if it is likely the job cycle will take the crew over their working hours or past their finishing time, 4. Dispatch ORANGE1 before ORANGE2 incidents.'

[1] Designed to first-respond to incidents and must be backed up by a transporting ambulance as soon as practical. A double crewed ambulance where both crew are First Responders is considered an FRU. First responders may stand back-up down if they hold ATP of EMT or above or by consultation with the Clinical Desk.

[2] Units crewed by General Practitioners and/or Registered Nurses who have attended training to Paramedic Scope of Practice. These units are not transport capable.