District Health Board
(now Te Whatu Ora)

Radiologist, Dr B

A Report by the
Deputy Health and Disability Commissioner

(Case 22HDC01141)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Contents

Executive summary

1. This report concerns the care provided by a radiologist at a district health board (DHB). In particular, it concerns the quality and reading of a man's chest X-rays in September 2018 and May 2019 and the delay in diagnosing lung cancer.

Findings

2. The Deputy Commissioner found the radiologist in breach of Right 4(1) of the Code for failing to identify a mass in the chest X-rays in September 2018 and May 2019.

3. The Deputy Commissioner reminded the DHB about its obligation to ensure that consumers have services provided with reasonable care and skill, and that employees have the conditions necessary to perform their work to an appropriate standard.

Recommendations

4. The Deputy Commissioner recommended that the radiologist provide a written apology to the man, and that should the radiologist return to practice, the Medical Council of New Zealand consider his fitness to practise, and whether a review of his competence is required in light of this report. The Deputy Commissioner referred the radiologist to the Director of Proceedings.

5. The Deputy Commissioner recommended that Te Whatu Ora conduct an audit of the radiologist's plain X-ray images between 1 July 2018 and 1 July 2020 to determine whether they have been reported correctly.

Complaint and investigation

6. The Health and Disability Commissioner (HDC) received a complaint from Mr A about the care provided to him by radiologist Dr B at a district health board (now Te Whatu Ora).[1] The following issues were identified for investigation:

- *Whether the DHB provided Mr A with an appropriate standard of care in 2018 and 2019.*
- *Whether Dr B provided Mr A with an appropriate standard of care in 2018 and 2019.*

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

8. The parties directly involved in the investigation were:

Mrs A	Complainant/consumer's wife

[1] On 1 July 2022, the Pae Ora (Healthy Futures) Act 2022 came into force, which disestablished all district health boards. Their functions and liabilities were merged into Te Whatu Ora|Health New Zealand. All references in this report to the DHB now refer to Te Whatu Ora.

Dr B	Radiologist/provider
DHB	Provider

9. Independent advice was obtained from a radiologist, Dr David Milne (Appendix A).

Information gathered during investigation

Background

10. This report discusses the care provided to Mr A (aged in his seventies at the time of events) prior to his diagnosis of lung cancer, in particular errors that occurred during the reporting of chest X-rays in September 2018 and May 2019.

September 2018

11. On 10 September 2018, Mr A presented to his general practitioner (GP) with a four-day history of gastroenteritis, a 6kg weight loss, and dehydration. His GP sent a referral for Mr A to be seen in the Emergency Department (ED) at the public hospital, and Mr A presented to the ED that day.

12. While in hospital, Mr A underwent a chest X-ray. The indication for the X-ray was documented as "Atrial fibrillation.[2] Gastroenteritis". On 11 September 2018, radiologist Dr B[3] reported the X-ray findings as showing chronic obstructive pulmonary disease (COPD)[4] without "acute findings[5]". Dr B reported:

> "Heart size is normal, and the aorta[6] is mildly tortuous. Flat hemidiaphragm[7] and increased A[nterior] P[osterior] dimension[8] suggests emphysema,[9] but there is no pleural effusion,[10] pneumothorax,[11] or lobar parenchymal [lung tissue] activity. Mild dorsal spondylosis is present.[12] Impression: CPOD, without acute findings."

13. However, as discussed below, a mass in the anterior segment of Mr A's right upper lobe[13] was visible on this X-ray.

[2] An irregular and often very rapid heart rhythm.
[3] Dr B was employed as a consultant radiologist.
[4] A lung disease.
[5] Findings that are new or could have occurred recently.
[6] The main artery that carries blood away from the heart to the rest of the body.
[7] One of the two lateral halves of the diaphragm separating the chest and abdominal cavities.
[8] The distance between the middle of the pubic symphysis and the upper border of the third sacral vertebra.
[9] A condition in which the air sacs of the lungs are damaged and enlarged, causing breathlessness.
[10] An abnormal collection of fluid between the thin layers of tissue (pleura) lining the lung and the wall of the chest cavity.
[11] The presence of air or gas in the cavity between the lungs and the chest wall.
[12] Degeneration in the spine.
[13] The right lung has two fissures, oblique fissure and horizontal fissure, which separate the lung into three lobes — upper, middle, and lower.

14. Dr B did not recommend referring Mr A for any follow-up. Dr B told HDC that he does not recall anything specific about the day. He stated that Mr A's admitting diagnosis was gastroenteritis and atrial fibrillation, and there was no specific complaint or history provided referencing lung disease, and the referral notes did not indicate that Mr A was a smoker.

15. Mr A's condition improved, and he was discharged on 14 September 2018.

May 2019

16. On 14 May 2019, Mr A presented to the public hospital as he had fallen from a height and had pain in his right shoulder and chest. A chest X-ray indicated: "Fell from [a height], pain in left chest, sore right shoulder." On 15 May 2019, Dr B reported the X-ray as follows:

> "Normal cardiomediastinal silhou[e]t[t]e.[14] No pleural effusion, pneumothorax or parenchymal opacity. Aorta unremarkable, No displaced rib fractures. Dorsal spondylosis … adjacent lung unremarkable."

17. Dr B's report concluded with an impression of "minor degenerative changes at the right shoulder, without fracture. No displaced rib fractures", and did not recommend follow-up. However, the mass in Mr A's right upper lobe was also visible on this chest X-ray.

18. Dr B told HDC that as with the September 2018 reporting, he does not recall anything specific about the service on that day. He stated that Mr A's admitting diagnosis was of pain in the left chest and a sore right shoulder after a fall, and there was no specific complaint or history of lung disease, and the referral notes did not indicate that Mr A was a smoker.

Subsequent events

19. On 18 October 2021, Mr A presented again to the public hospital with shortness of breath and right-sided chest pain. A chest X-ray indicated either a lung infection or malignancy. That same day, Mr A underwent a computerised tomography (CT) scan[15] of the chest, abdomen and pelvis, which found a "[l]arge right upper lobe mass highly suggestive of a non-benign lesion".

20. Mr A was discharged from hospital with an urgent CT-guided lung biopsy planned for 2 November 2021. The biopsy confirmed lung cancer that had spread to his mediastinal nodes and was considered inoperable.

Further information

DHB

21. The DHB told HDC that in 2016, the DHB identified significant challenges with staffing, equipment and capacity. The DHB stated that a service review in 2020 devised a robust strategy for improvement of the department.

[14] Normal outline of the heart.

[15] A series of X-rays used to produce detailed images of the inside of the body.

22. The DHB told HDC that in September 2019, its Morbidity and Mortality Committee[16] became aware of a renal tumour that Dr B had not reported on a CT scan. The DHB stated that in June 2020, one of Dr B's colleagues raised concerns about his performance and provided a report on 16 cases in which they considered there had been reporting discrepancies made by Dr B.

23. At that time, the DHB determined that there might be reason for concern about Dr B's competence, and the Chief Medical Officer commissioned a senior radiologist to review the 16 cases identified by Dr B's colleague, and 102 images comprised of plain X-rays, CT, MRI and ultrasounds previously reported by Dr B over the period 1 July 2018 to 1 July 2020 (which included the period when Dr B reviewed Mr A's X-rays in September 2018 and May 2019). The review showed that Dr B's discrepancy rate was higher than is expected for a radiologist. In response to the provisional opinion, Dr B stated that the 16 identified cases were included in the 102 images reviewed and that this produced an excessive discrepancy rate. Dr B also stated that minor or clinically insignificant errors were combined to produce a high discrepancy rate, and no reference from medical literature to provide a rationale for doing so was provided. Dr B also stated that the degree of discrepancy that the external reviewer found in some of the cases should have been downgraded, and that the DHB denied his request for a third-party peer reviewer to arbitrate the difference in opinion he had with the external reviewer.

24. Following the review, the DHB took steps to determine whether there were other patients who required follow-up investigations or treatment. The DHB appointed a review group that engaged an external radiologist to conduct a retrospective review of the cases reported by Dr B. The DHB considered a blanket review of all studies reported by Dr B, but decided that such a review "was not feasible".

25. Instead, the DHB undertook a targeted review based on a risk management approach recommended by the review group of senior medical consultants who provided clinical advice on the review process. The review focused on CT and ultrasound scans reported by Dr B in 2020, as the initial external review considered these to be of most concern.

26. The DHB told HDC that it considered whether it was necessary to conduct a wider review of Dr B's reports. To inform this decision, the DHB took advice from a second external radiologist (different from the external radiologist who conducted the reviews) and determined that given the time that had elapsed, it was likely that any issues arising from the period prior to that covered in the review (ie, 2020) would have come to light. The DHB therefore decided not to undertake a wider review of Dr B's reports, in particular relating to plain X-ray reporting.

27. The DHB told HDC that it unreservedly apologises to Mr and Mrs A that this process did not identify that Dr B had not identified Mr A's lung cancer.

[16] Meetings where adverse incidents are discussed so that learning can take place.

28. In relation to the care provided to Mr A, the DHB undertook a serious incident review. The review report concluded that contributing factors included the following:

a) The use of older computed radiography technology in the Radiology Department, resulting in lower quality imaging.

b) The DHB was aware that there were concerns about Dr B's practice, and these were investigated.

c) No "team factors" were identified, but the report commented generally that radiology services in New Zealand are chronically understaffed, with a significant shortage of radiologists.

d) There was no formal policy to manage departmental audit meetings, although meetings were held regularly.

29. The review report concluded that the errors were due to "human error". In response to the provisional opinion, Dr B said that administrative staff and the office of the chief operating officer were "well aware of complaints of bullying and poor morale in the department at the time of the retrospective review". Dr B stated:

> "[The] primary condition upon accepting my appointment as head of department, beginning in September 2019, was that [DHB] admin[istration] would assist me in improving poor morale which had existed in the Radiology Department for years."

Staffing

30. Dr B told HDC that at the time of events, the radiology consultant staff were severely under-resourced. He stated that during the week of 10 September 2018, three radiologists were absent, and during the week of 13 May 2019, two radiologists were absent.

31. Dr B was involved in seven reporting sessions for the week starting 10 September 2018, and nine reporting sessions starting the week of 13 May 2019. In response to the provisional opinion, Dr B stated that without access to rosters he is unable to determine whether any radiologist was double booked as a result of leave absences. Dr B said that whilst the seven- or nine-session roster assignments would not be considered excessive, he does not recall whether he, along with others, had been doing "after-hours" work for the DHB to catch up with work not reported during the daytime hours.

32. The DHB told HDC that the Radiology Department was fully staffed on 11 September 2018 and 15 May 2019. The DHB provided staffing rosters for both of these days, which note that while staff were on leave for these weeks, there were no gaps in the rosters.

33. The DHB told HDC that an interim part-time Clinical Director was established, and a full-time Head of Department commenced in 2021 and improved radiologist and technician staffing.

Dr B

34. Dr B expressed his sincere regret that a possible early diagnosis of cancer was missed. He stated that at all times he seeks perfection and strives to carry out tasks with professionalism

and without error. However, this is not always possible, and mistakes do occur, especially when interpreting and reviewing imaging. Dr B stated that comparable types of errors made by his colleagues were highlighted when the external review of his department took place.

35. Dr B's legal counsel stated that in the radiology field of healthcare, errors that otherwise would be assessed objectively as serious departures are commonplace, and committed by otherwise competent radiologists. Dr B said that he accepts his error and is regretful of the consequences that have arisen. However, he considers that this is clearly an error that is common amongst competent colleagues, and therefore it is difficult to understand how HDC's independent advisor, Dr David Milne, could assess it as a serious departure from normal standards. Dr B's legal counsel also questioned whether holding competent radiologists in breach of the Code is meeting the objectives of the Health and Disability Commissioner Act 1994 and will protect patients in the future.

36. Dr B stated that the "misses" were both unnecessary, and in retrospect he can see the findings clearly. He said that the contributing factors were likely to be distraction, interruption, excessive workload, and his "unfortunate susceptibility to be influenced by a toxic work environment" and the after-effects of a personal issue.

37. Dr B told HDC that in the Radiology Department at the time of the events, the morale was poor and there was a long history of dysfunctional interpersonal relationships among staff. Dr B stated that he believes these factors contributed to a very stressful environment, which had made his concentration, efficiency and reporting accuracy challenging. In response to the provisional opinion, Dr B stated that the appropriate steps at the time would have been to seek professional advice for stress-related health issues and obtain medical leave, regardless of the effects on the severely under-resourced Radiology Department and his removal as one of the more productive staff radiologists. Dr B said that "soldiering on" was indeed a poor choice, which he has come to regret.

38. Dr B told HDC that he agrees with the findings of ACC and HDC's advisor, Dr Milne (whose advice is discussed below). However, Dr B stated that any blind review undertaken on the request of HDC inevitably raises the issue that something has been missed, and the context is entirely different from the circumstances that existed at the time he reviewed the imaging in 2018 and 2019. Dr B's legal counsel stated that as such, the review undertaken by Dr Milne is "in no way analogous to that undertaken by [Dr B]", and noted that as it was undertaken with the benefit of hindsight, Dr Milne was able to identify the error immediately.

39. In response to the provisional opinion, Dr B stated that there remains a consistent pattern of opinion that the "bad misses" must be considered, and that such opinion should be heavily weighted, as though the mistakes were made in the context either of a retrospective review, or a qualifying exam setting. Dr B acknowledged that these were indeed "bad misses" but disagreed that, in and of itself, and, in the context of nearly 40 years of otherwise successful medical practice in respiratory medicine, critical care and radiology, these errors represent irrefutable evidence of incompetence, or more specifically,

irremediable circumstances. Dr B stated that the matter of competence is much more nuanced than whether an obvious miss or even several obvious misses have occurred.

Mrs A

40. Mrs A also raised her concerns that the DHB was aware of Dr B's "questionable reporting" and bears partial responsibility for Mr A's misdiagnosis. Mrs A pointed out that it was surprising that the DHB's review did not catch Mr A and "his cancer was still growing unacknowledged".

Responses to provisional opinion

Te Whatu Ora

41. Te Whatu Ora was given the opportunity to respond to the provisional opinion. Where appropriate, these comments have been incorporated into the report.

Mr and Mrs A

42. Mr and Mrs A were given an opportunity to respond to the "information gathered" section of the provisional opinion. Mrs A said that their family have been devastated by Mr A's cancer diagnosis. She stated:

> "We do realise that no amount of complaining will change the outcome of [Mr A's] cancer but consideration should be given to the fact that at his initial diagnosis his oncologist informed him that had it been picked up in September 2018 it was at a stage to be curable. [Dr B's] complete abdication of his duty as a medical professional (twice) took that opportunity from my husband (and who knows how many others). We feel his list of excuses are just that; excuses with little justification. Things like poor morale at [the DHB] and dysfunctional interpersonal relationships among staff should not diminish his responsibility as a professional. He just failed to do the job he was employed to do."

43. Mrs A said that Dr B admits that he can see the findings clearly, and then "lists a litany of excuses". Mrs A stated:

> "As far as [Dr B] is concerned we would be extremely wary of his continued practice in this department or any other medical field owing to the extent of his discrepancies in reporting."

Dr B

44. Dr B was given the opportunity to respond to the provisional opinion. Where appropriate, his comments have been incorporated into the report.

45. Dr B stated that looking at Mr A's 2018 or 2019 imaging in the context of a candidacy exam is taking the case out of the context of a busy work session with multiple interruptions in a hospital setting, and is not comparable. Dr B said that he is certain that he would have made the finding in the context of the examination setting, just as he would have in the context of a peer review of a "problem case". He stated that he believes that Dr Milne's advice is not applicable, nor should it be accepted prima facie, unless HDC considers that the case has occurred in the context of a qualifying exam setting.

Opinion: Dr B — breach

Introduction

46. On 10 September 2018, Dr B reported the findings of Mr A's chest X-ray and concluded that Mr A had COPD without acute findings. Subsequently, on 15 May 2019, Dr B reported that a further chest X-ray showed no significant findings.

47. In considering whether Dr B provided services to Mr A with reasonable care and skill, I have drawn on the advice provided to this Office and ACC by chest radiologist Dr Milne.

Reporting of September 2018 and May 2019 X-rays

48. Dr Milne undertook a blind review (ie, he was not aware of the context of the complaint, or Mr A's diagnosis) of Mr A's chest X-ray undertaken on 10 September 2018, and identified a 28mm mass in the anterior segment of the right upper lobe, which he considered most likely to be a primary lung cancer.

49. Dr Milne's blind review of the X-ray taken on 15 May 2019 identified that the mass in the anterior segment of the right upper lobe had increased slightly in size to 32mm in diameter. Dr Milne also identified a 10mm nodule in the right upper lobe, most likely a metastasis. For both X-rays, Dr Milne recommended urgent respiratory opinion for further imaging and management. As I have outlined above, Dr B did not pick up on any lung masses in either X-ray at the time of reporting.

50. As part of his review for ACC, Dr Milne asked five radiologist colleagues to review the images from the above X-rays, and gave them the same clinical history as was supplied to Dr B at the time. All five clinicians identified that there was a suspicious lung mass on both X-ray images, and four out of the five noted the need for further imaging. Dr Milne told HDC that the five radiologists who were asked to review the images were all relatively junior in their careers (within six years of their specialist qualifications in radiology).

51. Dr Milne advised that there was an opportunity to diagnose lung cancer on the chest X-rays in 2018 and 2019 prior to Mr A's later presentation in 2021. Dr Milne stated that the radiograph of 2019 suggests that the malignancy was metastatic at this time. He advised that while the missed finding in 2018 could be described as a "bad miss", the abnormality is more obvious on the 2019 X-ray. He stated:

> "Although errors of observation and interpretation are common in clinical radiology, I consider that the failure to identify probable lung cancer on the chest radiographs of 2018 and 2019 to be a serious departure from the expected standard of care by a New Zealand practicing radiologist."

52. Dr B told HDC that he agrees with the findings of ACC and Dr Milne. However, Dr B stated that any blind review undertaken at the request of HDC inevitably raises the issue that something has been missed, and the context is entirely different from the circumstances that existed at the time he reviewed the imaging in 2018 and 2019. Dr B's legal counsel stated that as such, the review undertaken by Dr Milne is "in no way analogous to that

undertaken by [Dr B]", and as it was undertaken with the benefit of hindsight, Dr Milne was able to identify the error immediately.

53. Dr B told HDC that at the time of events, the radiology consultant staff were severely under-resourced, and he was influenced by a toxic work environment, which he considered were contributing factors to the errors he made.

54. I acknowledge Dr B's submissions, particularly those related to perception errors and workload issues. Previously this Office has noted[17] that just because it is accepted that errors of perception (such that a radiologist misses an apparent abnormality that would have been detected by most of his or her peers in similar circumstances) occur in a small but persistent number of radiology interpretations, that is not determinative in assessing whether the standard of care has been met in a particular case. Whether the standard of care has been met will be assessed on a range of factors, including the clinical history of the patient and how obvious the abnormality is.

55. When providing his advice, Dr Milne acknowledged that observation and interpretation errors do occur, but nevertheless he considered that Dr B's failure to identify probable lung cancer in both the 2018 and 2019 chest radiographs was a serious departure. In substantiating this departure, he noted that five relatively junior radiologists were all able to identify the suspicious masses evident on the X-ray scans. Dr Milne further commented that if a radiology candidate seeking to pass Part 2 of their examinations was shown Mr A's 2018 imaging and did not identify the right upper lobe lesion and reach the correct recommendations, then "they would have totally failed this case". He further commented that unlike Dr B, these are radiologists in training who have not completed their qualifications to practise. I accept Dr Milne's advice.

56. Dr B stated that the misses were both unnecessary, and in retrospect he can see the findings clearly. However, he also argued that one of the contributing factors was an "excessive workload" and a "toxic work environment".

57. The DHB's serious incident report concluded that the errors that occurred in this case were due to human error, and the report did not identify any "team factors" that may have contributed. The DHB also supplied HDC with work rosters on the relevant dates and confirmed that on both occasions the Radiology Department was fully staffed. Dr Milne commented that seven clinical sessions per week would not be excessive, with several of his colleagues working 10 sessions. The rosters supplied by the DHB show that Dr B worked seven clinical sessions in the week starting 10 September 2018, and nine clinical sessions in the week starting 13 May 2019. Accordingly, although cognitive overload can occur progressively, I am satisfied that on the relevant dates, Dr B's workload was not "excessive".

58. I acknowledge Dr B's submissions regarding a toxic workplace environment. Irrespective of the state of the workplace environment, I agree with Dr Milne's comment that as a medical

[17] See opinions 15HDC00685, 17HDC00415 and 19HDC01960.

practitioner, Dr B was responsible for his standards of practice and the quality of that output.

Conclusion

59. Having considered Dr B's submissions, Dr Milne's advice alongside the reviews of his more junior peers, and the fact that Dr B had two opportunities to identify the mass, I consider that an ordinary radiologist in these circumstances exercising reasonable care and skill would have detected the mass in both the 2018 and 2019 X-rays.

60. For failing to identify the mass in Mr A's chest X-rays on 11 September 2018 and 15 May 2019, I find that Dr B failed to provide Mr A with an appropriate standard of care, in breach of Right 4(1) of the Code of Health and Disability Services Consumers' Rights (the Code).[18]

61. While my role is not to determine whether earlier detection of the lung cancer would have changed Mr A's long-term prognosis, I note that later detection has meant that Mr A was denied the chance for earlier treatment.

Opinion: District Health Board (now Te Whatu Ora) — adverse comment

62. As a healthcare provider, the DHB's radiology service was responsible for providing services in accordance with the Code. Dr B stated that the "misses" were both unnecessary, and that in retrospect he can see the findings clearly. However, he also argued that one of the contributing factors was an "excessive workload" and a "toxic work environment".

63. In his response to this Office, Dr B raised concerns that the Radiology Department was severely under-resourced. He stated that during the week of 10 September 2018, three radiologists were absent, and during the week of 13 May 2019, two radiologists were absent.

64. The DHB's serious incident report concluded that the errors that occurred in this case were due to "human error", and the report did not identify any "team factors" that may have contributed. The DHB also supplied HDC with work rosters for the relevant dates, and confirmed that on both occasions the Radiology Department was fully staffed. HDC's independent advisor, Dr Milne, commented that seven clinical sessions per week would not be excessive, with several of his colleagues working ten sessions. The rosters supplied by the DHB show that Dr B worked seven clinical sessions in the week starting 10 September 2018, and nine clinical sessions in the week starting 13 May 2019.

65. Accordingly, I am satisfied that on the relevant dates, Dr B's workload was not "excessive". However, I also acknowledge that since these events the DHB has established a part-time Clinical Director role and recruited a new Head of Department and additional radiology and technical staff members. I remind the DHB of its obligation to ensure that consumers have

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

services provided with reasonable care and skill, and that employees have the conditions necessary to perform their work to an appropriate standard.

66. After a careful review of the evidence before me, I am satisfied that the errors in this case were individual errors, and I consider that the DHB has not breached the Code.

67. However, I note that in June 2020, the DHB determined that there might be reason for concern about Dr B's competence, and commissioned a senior external radiologist to review the 16 cases identified by Dr B's colleague, and 102 images comprised of plain X-rays, CT, MRI and ultrasounds previously reported by Dr B over the period 1 July 2018 to 1 July 2020. This period covered the time Dr B reviewed Mr A's X-rays in September 2018 and May 2019, and the review showed that Dr B's discrepancy rate was higher than is expected for a radiologist.

68. The DHB told HDC that it considered undertaking a blanket review of all studies reported by Dr B, but such a review "was not feasible". Instead, it took a targeted risk management approach and commenced review focused on CT scans and ultrasounds reported on by Dr B in 2020, as these modalities were considered to be of most concern. Upon receipt of advice from another external radiologist, it was decided that any issues prior to 2020 would have come to light, and a decision was made not to review Dr B's plain X-ray reporting.

69. It is understandable that the DHB undertook a review of the images that were of most concern — namely CT scans and ultrasounds. However, sadly, Mr A's case demonstrates that the issues with Dr B's reporting also extended to plain X-ray reporting. In light of the initial external review, which included a review of plain X-rays and found that Dr B's discrepancy rate was higher than expected for a radiologist, it is disappointing that the DHB chose not to audit a sample of Dr B's X-ray reports. Mr A's case raises a salient question about whether further reporting errors have not been uncovered, and I have made recommendations regarding this below.

Changes made

70. The DHB told HDC that since the events:

a) New X-ray, CT and MRI scanning equipment has been installed.

b) A Clinical Director role has been established and filled by an external senior radiologist.

c) A new Head of Department has been employed.

d) Additional radiologist and technician staffing have been employed.

e) All radiologists are required to participate in the Royal Australian and New Zealand College of Radiology Continuing Professional Development programme.

f) The Radiology Department is audited and accredited yearly by International Accreditation New Zealand, most recently in 2022.

71. Dr B told HDC that he has undertaken an extensive review of the relevant scientific literature to try to understand what the correctable factors might be, and has engaged to review an educational lecture series on pitfalls, variants and pseudolesions (false lesions) and common misses in clinical practice.

Recommendations

72. I recommend that Dr B provide a written apology to Mr A. The apology is to be sent to HDC, for forwarding to Mr A, within three weeks of the date of this report.

73. I recommend that should Dr B return to practice, the Medical Council of New Zealand consider his fitness to practise, and whether a review of his competence is required in light of this report.

74. I recommend that Te Whatu Ora conduct an audit of Dr B's plain chest X-ray images between 1 July 2018 and 1 July 2020 where further X-rays have not been conducted, to determine whether they have been reported correctly. Te Whatu Ora is to report back to HDC on the findings of the audit within six months of the date of this report.

Follow-up actions

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

76. In response to the provisional opinion, Dr B asked that I reconsider my proposed referral to the Director of Proceedings, and made a number of submissions, which I considered carefully. In light of the seriousness of the departures identified in the care Dr B provided, I remain of the view it is in the public interest to make a referral.

77. A copy of this report with details identifying the parties removed, except the expert who advised on this case, will be sent to the Medical Council of New Zealand and the Australian and New Zealand College of Radiologists, and they will be advised of Dr B's name.

78. A copy of this report with details identifying the parties removed, except the expert who advised on this case, will be sent to the Health Quality & Safety Commission and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

Addendum

79. The Director of Proceedings decided not to issue proceedings.

Appendix A: Independent clinical advice to ACC and Commissioner

The following clinical advice was obtained by ACC from Dr David Milne, a chest radiologist, dated 16 March 2022:

> "I have been asked by ACC to facilitate a blind review of chest imaging performed on [Mr A] to determine whether an earlier diagnosis of lung cancer could have been made.
>
> **Background** [Mr A] had a presentation to the public hospital with gastroenteritis due to salmonella complicated by acute kidney injury, hypokalaemia and hypophosphataemia. He had a chest radiograph as part of this 4 day medical admission which was reported as showing COPD without acute findings.
>
> He represented to the Emergency Department [at the public hospital] on 14/5/2019 after falling from [a height] and falling on his right side. He had pain in his right shoulder and left lateral chest. A chest radiograph performed that day was reported as showing no significant findings. On 18/10/2021 he presented again to [the public hospital] with shortness of breath and right sided chest pain. A chest radiograph at this time demonstrated a large right pleural effusion and upper zone opacity. The provisional clinical diagnosis was either lung infection or malignancy. A CT examination performed concurrently confirmed appearances favouring lung malignancy and this was confirmed on subsequent CT guided biopsy. [Mr A] was presented at the regional lung cancer multi-disciplinary meeting where he was considered inoperable due to disease extent and referred to Medical Oncology for chemotherapy. A question has been raised whether there was significant abnormality on the chest radiographs performed in 2018 and 2019 and whether an earlier diagnosis of lung cancer could have been reached.
>
> **My review of the imaging** CXR 10/9/2018. There is a 28mm mass in the anterior segment of the right upper lobe. This is most likely a primary lung cancer. No further pulmonary lesion is seen and there is no adenopathy. Urgent respiratory opinion recommended for further imaging and management. CXR 14/5/2019. The mass in the anterior segment of the right upper lobe has increased slightly in size now being 32mm in diameter. There is a 10mm nodule in the right upper lobe, most likely a metastasis. Widening of the right paratracheal region is likely due to mediastinal adenopathy. Suspect metastatic lung cancer with primary in the right upper lobe. Urgent respiratory opinion recommended for further imaging and management.
>
> **How the imaging was reported**
>
> The chest radiograph of 10/9/2018 was reported by [Dr B]. His report is as follows:
>
> *Indication: Atrial fibrillation. Gastroenteritis Comparison: 6/9/2010*
>
> *Findings: Heart size is normal, and the aorta is mildly tortuous. Flat hemidiaphragms and increased AP dimensions suggest emphysema, but there is no pleural effusion, pneumothorax or lobar parenchymal opacity. Mild dorsal spondylosis is present.*

Impression: COPD, without acute findings.

The chest radiograph of 14/5/2019 was reported by [Dr B]. His report is as follows:

Indication: Fell from [a height], pain left chest, sore right shoulder. Comparison: Chest 2/9/2018

Chest: Normal cardiomediastinal silhouette. No pleural effusion, pneumothorax or parenchymal opacity. Aorta unremarkable, No displaced rib fractures. Dorsal spondylosis.

How the imaging was reviewed by others

I had the chest radiographs of 10/9/2018 and 14/5/2019 uploaded onto ADHB PACS and asked 5 radiologists to review the imaging [Radiologists 1-5]). I asked for a short report highlighting significant findings.

The history that I gave them for the radiographs was the same supplied at the time of imaging.

10/9/2018 Atrial fibrillation. Gastroenteritis

2/9/2019. Fell from ladder, pain left chest. Sore right shoulder.

Their replies as follows:

[Radiologist 1]: Perihilar midzone density of the right lung, appears located within the anterior right upper lobe on the lateral. Suspect right hilar lymphadenopathy. The pulmonary lesion appears enlarged on the lateral on the subsequent radiograph. Lung cancer suspected, further assess with CT. The pulmonary abnormality is fairly obvious as it is projected over the right upper pulmonary vein on the AP view, and fairly circumscribed on the lateral.

[Radiologist 2]: Right perihilar mass on PA CXR 2018, with something more anterior in the RUL region on the lateral. Enlarging slowly in between the two more recent radiographs and is new since 2010; I would be concerned about lung primary +/- LN on this. Comparing the lateral films makes it most obvious, as it's more subtle on the PA. Needs CT.

On the 2019 CXR there is also a new smaller nodule projecting over the right 6th rib and the right hilum gets denser. Needs CT.

[Radiologist 3]: 2018: right upper lobe anterior mass presumably cancer. 2019: increasing in size with right hilar nodes.

[Radiologist 4]: Enlarging lesion at right mid zone/upper hilum since 2018. Seen on both axial and lateral. Likely lung cancer. Needs CT

[Radiologist 5]: Mass superior to the right hilum, can see on both the PA and lateral CXR, getting bigger. Lung cancer.

Wasn't present on original CXR from 2010.

On the most recent x-ray from 2019, may also have another nodule more superiorly in the RUL.

Summary of reviewer's comments

The chest radiographs of 10/9/2018 and 2/9/2019 demonstrate a right upper lobe lesion concerning for malignancy. The radiograph of 2019 suggests that the malignancy is metastatic at this time. Further imaging and work up required according to the lung cancer tumour pathway.

Conclusion

There was an opportunity to diagnose lung cancer on the chest radiographs of 2018 and 2019 prior to [Mr A's] later presentation in 2021 when his cancer was considered inoperable. The abnormalities seen on these radiographs were identified and characterised correctly by all reviewing radiologists.

Although errors of observation and interpretation are common in clinical radiology, I consider that the failure to identify probable lung cancer on the chest radiographs of 2018 and 2019 to be a serious departure from the expected standard of care by a New Zealand practising radiologist.

I would be happy to provide further advice on this case if required

Yours sincerely

Dr David Milne
Chest Radiologist"

HDC obtained the following supplemental clinical advice from Dr David Milne, dated 25 October 2022:

"RE: Complaint [Mr A] [Dr B] Ref 22HDC01141

I have received from your office a request for review of my expert advice previously submitted to your office 16 March 2022 regarding [Dr B's] failure to diagnose lung cancer on chest radiographs performed at [the DHB] on [Mr A] on 10/9/2018 and 14/5/2019. In my advice, I reported that I had requested colleagues to review the imaging in question and all had identified the lesion in the right upper lobe that had been overlooked by [Dr B] on both occasions. I concluded that failure to identify the abnormality present on chest radiographs represented a serious departure from the expected standard of care by a New Zealand practising radiologist.

In support of a review of my opinion, I have now been provided a response from [Dr B] to my advice, a summary cover letter from [Dr B's] legal counsel on my advice and [Dr B's] response along with further documentation regarding staff rostering and [the] DHB policy on Radiology Quality Improvement Meetings and Radiological Communication Risk Management for unexpected findings.

Specifically, I have been asked to advise and outline:

1. My rationale for the severe departure finding in my report dated 16/3/2022
2. Whether the further information provided by [the DHB] and [Dr B] causes me to change the conclusion in my advice
3. The adequacy of the systems in place at [the DHB] at the time of these events (including policies and processes, staffing and support provided to its radiologists)
4. Any other matters in this case that I consider warrant comment or any recommendations I may have in relation to the incident in question.

My rationale for the severe departure finding in my report dated 16/3/2022

As mentioned in my advice, I had the chest radiographs of 10/9/2018 and 14/5/2019 uploaded to ADHB PACS to facilitate review. I requested 3 radiologists working at […] DHB ([Radiologist 1], [Radiologist 3], [Radiologist 4]) and 2 radiologists working at […] DHB ([Radiologist 2], [Radiologist 5]) to review the imaging and provided them with the clinical indications for the examinations at the time.

These 5 radiologists are all relatively junior in their careers, being within 6 years of their specialist qualifications in radiology. All but one of the radiologists ([Radiologist 1], [Radiologist 2], [Radiologist 3], [Radiologist 5]) held the qualification of FRANZCR completed through [a NZ] Training Program. One Radiologist ([Radiologist 4]) held [an overseas qualification] and is therefore an International Medical Graduate, as is [Dr B].

I have been a senior examiner for the College in Chest and Cardiovascular Imaging for 15 years. For the Part 2 examinations, which are typically sat in the 4th and/or 5th years of training, the candidates sit a number of 25 minute oral examinations, including an oral in Chest and Cardiovascular imaging, where they are shown and judged on cases involving observation and interpretation. A chest radiograph similar to [Mr A's] would be a typical inclusion in such an examination and I have shown similar cases to this when I lead the oral examination of a candidate. If the candidate was shown the imaging of [Mr A] from 2018 as an exam case and did not identify the right upper lobe lesion and reach the correct recommendations then they would have totally failed this case. And these are radiologists in training who have not completed their qualification to practise.

As a prior convener of the Radiology Quality Assurance meeting at ADHB where cases are presented with findings overlooked by other radiologists, I would expect that had the imaging from 2018 been presented the colleagues in the room at the time they would have considered the failure to identify the right upper lobe lesion a 'bad miss'.

The abnormality is more obvious on the subsequent radiographs of 2019.

It is in light of these above comments that I advised that the failure by [Dr B] to observe the right upper lobe lung cancer on the radiographs of 10/9/2018 or on the subsequent radiographs of 14/5/2019 fell below the standard of care expected of a NZ practising Radiologist. However, to reuse my examination analogy, [Dr B] would have failed this particular case if presented it in an oral exam but if he successfully reviewed most of the other cases he was shown in his Chest and Cardiovasular examination then he would have passed this section of the examination as a whole. For the benefit of [Dr B's] legal counsel this is why reporting of a single radiology examination can be considered a serious departure from the standard of care but yet not indicate that the Radiologist is unfit to practise if such a departure is an isolated occurrence.

Whether the further information provided by [the DHB] and [Dr B] causes me to change the conclusion in my advice

I have read [Dr B's] description of his difficulties at work, particularly regarding the staffing levels and difficult interpersonal relations with a member of the Radiologist staffing at [the DHB]. Major domestic challenges are also alluded to. I can acknowledge that these would contribute to a challenging work environment for [Dr B].

I am also of the opinion though, that as a medical practitioner you are responsible for your standards of practice and that quality of output is paramount. More so than volume.

The listed mitigations do not change the conclusion in my advice.

The adequacy of the systems in place at [the DHB] at the time of these events (including policies and processes, staffing and support provided to its radiologists)

I have not visited the Radiology Department at [the DHB] so cannot comment on the physical quality of the environment. Additionally, I cannot comment on whether the radiology report demand exceeds capacity as no information is provided on reported volumes of cases for each session. What are the expectations for how many plain films are to be reported in a plain film session or CTs in a CT reporting session? Do these expectations satisfy radiology reporting volume guidelines that exist (eg those of RCR)?

The rosters show that [Dr B] was involved in 7 reporting sessions for the week starting 10 September 2018. I am uncertain whether he was working privately as well to account for the 3 sessions per week not rostered, however 7 clinical sessions per week would not seem excessive to me. Most of my colleagues at ADHB work this volume of clinical work across public and private practice, several working 10 clinical sessions.

The provided policies for case inclusion in the QA meeting and the communication of unexpected findings are pretty standard and similar to those used at ADHB. The communication of unexpected findings policy is not particularly relevant as the finding was not observed in this particular case so there was nothing to communicate.

Any other matters in this case that I consider warrant comment or any recommendations I may have in relation to the incident in question.

I note that [the DHB] has undertaken a more thorough review of [Dr B's] reporting and concluded that his discrepancy rate was 'higher than is expected for a radiologist'. External review led to [Dr B] having CT and MR reporting being exclusions of practice. As chair of the New Zealand Vocational Education Advisory Body for Radiology for more than 10 years, I can say with confidence that an International Medical Graduate (IMG) Radiologist requiring this type of practice exclusion would not be suitable for either the supervision or assessment pathway to Vocational Registration in New Zealand. It is concerning to me that this IMG most likely passed through the committee that I chair with recommendation of suitability for Vocational registration based on American Board Radiology qualification yet clearly having underlying deficiencies in practice which were not recognized at the time. I will be reviewing my opinion of ABR certified Radiologists and looking to move away from the supervision pathway and more to the assessment pathway for Vocational registration with recommendation for an audit of reported work within the first 12 months of supervised practice in New Zealand.

I would be happy to provide further advice on this case if required.

Yours sincerely,

Dr David Milne FRANZCR, FFPMI (FRCPA)
Radiologist"