Waikato District Health Board

A Report by the

Health and Disability Commissioner

(Case 14HDC00988)

Health and Disability Commissioner

Te Toihau Hauora, Hauātanga

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Executive summary

1. On 18 May 2009 Mrs A presented to a public hospital with abdominal pain. On 19 May 2009 she underwent an appendectomy performed by locum general surgeon Dr B. Mrs A's appendix was acutely inflamed, and the perforated appendix was removed. Histology from the appendix showed that Mrs A had an adenocarcinoid tumour of the appendix.

2. In 2009 Waikato District Health Board (WDHB) had no system to review pathology results electronically, and no backup system. The histology report was acknowledged by a junior doctor, who initialled the report and underlined the reference to adenocarcinoid tumour. Dr B did not see the report, and the junior doctor concerned did not discuss it with her. No follow-up treatment was arranged, and neither Mrs A nor her general practitioner (GP) was informed of the result.

3. In Month1[1] 2012 Mrs A complained to her GP that she had lower abdominal pain, and her GP referred her to the public hospital and suggested that a colonoscopy was indicated.

4. On 27 Month5, general surgeon Dr D reviewed Mrs A. He considered that her symptoms might be caused by gynaecological pathology, and referred her to the gynaecological team for review. Dr D did not review the 2009 histology result.

5. On 20 Month8, Mrs A saw obstetrics and gynaecology registrar Dr E. Dr E noted that Mrs A was experiencing painful menstruation, and later performed an MRI, which indicated that Mrs A had diffuse abnormality in the pelvis affecting multiple organs, and that while most of the changes could be explained by endometriosis, malignancy could not be excluded.

6. Mrs A continued to deteriorate. She developed vomiting and diarrhoea, was unable to eat, and was losing weight. On 5 Month13 she was reviewed by obstetrician/gynaecologist Dr F in the gynaecology clinic. Dr F requested a CT scan of Mrs A's "chest abdo pelvis", the report of which stated: "[S]uspicious for malignancy and atypical for endometriosis given the extent and bowel involvement." A gynaecological multidisciplinary meeting (MDM) recommended that Mrs A be referred to the gastrointestinal MDM.

7. On 19 Month13, Dr F requested a general surgery review of Mrs A. During the review, a registrar noted that previous histology of Mrs A's appendix had indicated that it was carcinoid (the missed 2009 pathology result). There is no evidence that this was escalated to Dr F, and Dr F was not made aware of the finding.

8. Mrs A was discharged that day. The discharge summary did not mention the missed 2009 pathology result, and Mrs A was not told about it. Neither did the discharge summary mention the CT report recording the likelihood of malignancy. However, a couple of days later a referral was made for a colonoscopy, which recorded Mrs A's carcinoid histology, and queried recurrence of this.

9. On 24 Month13, Mrs A's case was discussed at a gastrointestinal MDM, and her 2009 result was noted at the meeting, as was the CT scan result. It was recognised that Mrs A would require surgery, and it was decided that her case would be taken over by the surgical team.

[1] Relevant months are referred to as Months 1-15 in order to protect privacy.

On 30 Month13, Dr G (a general surgeon) performed a colonoscopy, which reported a diagnosis of rectal polyps.

10. On 14 Month14, Mrs A was seen in the general surgical outpatient clinic by general surgeon Dr H. Dr H reviewed Mrs A's notes and noted that in 2009 there had been an incidental finding of an adenocarcinoid tumour. This was the first time it was identified that the appendix pathology had not been followed up in 2009. Dr H said that he did not tell Mrs A about the missed 2009 pathology result at that appointment because more information was needed, as both ovarian cancer and adenocarcinoid tumour can result in a similar clinical picture.

11. On 15 Month14, a staging laparoscopy and peritoneal biopsy were carried out. The findings were of widespread metastases. However, according to Mrs A's family, Mrs A still thought that she had endometriosis, and was unaware of the missed result from 2009. On 26 Month14 Dr H received the formal pathology from the biopsy and on 28 Month14 Mrs A was informed of her prognosis. Mr A told HDC that this was the first time anyone from WDHB had told Mrs A of the tumour identified in 2009.

Findings

12. It was found that WDHB holds primary responsibility for the pattern of errors in this case, which raises concerns about the systems in place during the period in which Mrs A received care.

13. WDHB had sufficient information to provide Mrs A with appropriate care. However, a series of failures meant that it did not do so. Unfortunately, the effect of these was that Mrs A remained unaware of a potentially lethal tumour until after it had metastasised, and did not receive the care she required. The entire system let down Mrs A and her family.

14. WDHB should have ensured that appropriate systems were in place so that abnormal results were escalated appropriately, that missed results were identified promptly, and that errors were disclosed in a timely and appropriate manner. It is very concerning that this did not occur in this case.

15. The failures by WDHB resulted in a pattern of seriously suboptimal care and, accordingly, it was found that WDHB failed to provide services to Mrs A with reasonable care and skill and breached Right 4(1) of the Code.

16. Adverse comment is made that Dr D, having made additional findings that would warrant review of any previous pathology, did not do so, and that Dr H did not inform Mrs A of the missed 2009 pathology result when he became aware of this.

17. Adverse comment is also made that WDHB has been unable to identify the junior doctor who acknowledged Mrs A's abnormal result in 2009.

Recommendations

18. It is recommended that WDHB perform a randomised audit of patient records for the past 12 months to assess the effectiveness of its Electronic Acknowledgement of Results system. The audit is to ensure that the system complies with good practice with regard to test reporting,

acknowledgment of results, and follow-up of results. WDHB is to report to HDC on the outcome of the audit.

19. It is recommended that WDHB use an anonymised version of this report as a basis for staff training, focusing in particular on the deficiencies identified in the report, including regarding open disclosure. WDHB is to provide HDC with evidence of training having occurred.

20. It is recommended that WDHB consider conducting regular surgical/pathology meetings, and report back to HDC on the outcome of the consideration.

21. It is recommended that WDHB perform an audit evaluating the current access to MRIs, in particular regarding timeframes. WDHB is to report to HDC on the outcome of the audit.

22. It is recommended that WDHB provide a written apology to Mrs A's family for the failings identified in this report. The apology is to be sent to HDC for forwarding.

Complaint and investigation

23. The Commissioner received a complaint from Mr A about the services provided by the public hospital to his wife, Mrs A (dec), from May 2009. The following issue was identified for investigation:

- *Whether Waikato District Health Board provided Mrs A with an appropriate standard of care between May 2009 and her death in 2013.*

24. An investigation was commenced on 15 December 2014.

25. The parties directly involved in the investigation were:

Mr A	Complainant
Waikato District Health Board	Provider

Also mentioned in this report:

Dr B	Locum general surgeon
Dr D	General surgeon
Dr E	Obstetrics and gynaecology registrar
Dr F	Obstetrician/gynaecologist
Dr G	General surgeon
Dr H	General surgeon
Dr I	Colorectal and laparoscopic surgeon

26. Information was also reviewed from:

Dr C
ACC

27. Independent expert advice was obtained from general surgeon Dr Patrick Alley (**Appendix A**).

Information gathered during investigation

Appendectomy and receipt of pathology result

28. On 18 May 2009, Mrs A (who was 46 years old at the time) was referred by her general practitioner (GP), Dr C, to the Emergency Department (ED) with suspected appendicitis.[2] She was admitted under the care of locum general surgeon Dr B, and diagnosed with acute appendicitis.

29. On 19 May 2009, Dr B performed an appendectomy[3] on Mrs A. A general surgical registrar dictated the operation report, documenting: "Acute suppurative[4] perforated appendicitis with an inflammatory mass." Dr B requested histology from the appendix. On 22 May 2009, Mrs A was discharged. Dr B told HDC that she "did not make any arrangements to follow [Mrs A] up in out-patients as there was no indication for this on clinical grounds".

30. On 28 May 2009, a pathologist produced the histology report. This documented:

> "APPENDIX, APPENDICECTOMY: ACUTE SUPPURATIVE APPENDICITIS WITH ADENOCARCINOMA/ADENOCARCINOID TUMOUR, IMMUNOSTAINS[5] PENDING."

31. On 3 June 2009, the histology report was updated, stating that the immunostain panel showed appearances consistent with an adenocarcinoid tumour.[6]

32. No follow-up treatment was arranged, and Mrs A and her GP were not informed of the result. WDHB's Serious Incident Review Report[7] (the review) records that at that time there was no system to review pathology results electronically. It further records that the histology report, indicating a tumour, was acknowledged by a junior doctor. The histology report was initialled, and the reference to adenocarcinoid tumour was underlined, but the initials were not dated. WDHB's review records that WDHB cannot confirm the name of the doctor, as the medical rosters from the time do not have allocated to the area any staff with the same initials as those that appear on the pathology report. WDHB noted: "It is possible that the initials match a doctor who was from the relieving pool."

33. The review records that the discharge in 2009 was coded as adenocarcinoma of the appendix. However, the clinical coding was not reviewed by consultants and signed off "unless they participate[d] in clinical coding audits which are not mandatory". WDHB said that there is no

[2] Appendicitis is an inflammation of the appendix (a tube of tissue that extends from the large intestine).
[3] A surgical operation to remove the appendix.
[4] Producing pus.
[5] Use of an antibody-based method to detect a specific protein in a sample.
[6] A rare type of tumour that occurs in the gastrointestinal tract and tends to metastasise (spread to other areas). The symptoms are determined by the location of the tumour.
[7] A Serious Incident Review was carried out in 2014.

evidence that the result was escalated to Dr B, and in 2009 there was no back-up system in place.

34. Dr B told HDC that she did not see the histology report, and there was no conversation with her about it. She said that her expectation was that all pathology results would be seen by her for acknowledgment. Dr B stated:

> "There was no mechanism in place for me to identify those results that I had not personally seen … All of the junior doctors working under my supervision had been informed of [my expectation that all pathology results would be seen by me for acknowledgment], and were aware of the need to escalate any abnormal results to me."

35. Dr B said that all relieving doctors had been through departmental based orientation, which included the expectations about escalating results.

36. WDHB said that Dr B's usual practice was to follow up every patient who had complicated surgery or an abnormal result. It said that until receipt of the pathology result, there was no other indication that follow-up was required in Mrs A's case.

37. Dr B stated:

> "If I had seen the pathology report, I would have arranged follow up in the surgical clinic for [Mrs A]. This would have been to inform her of this finding, and to arrange further investigations. I would also have referred her to the next Gastrointestinal Multidisciplinary Team Meeting for discussion of further management."

38. Dr B said that subsequently she was not informed of the result of the biopsy, and she did not receive any update on Mrs A's condition until she became aware of Mr A's complaint to HDC.

39. In 2009 WDHB had in place a policy called "Delegated Responsibilities of Resident Medical Officers (RMOs) — When to call the Consultant", which stated that the RMO must contact the consultant in the following circumstances:

> "Any patient for whom the diagnosis or management is unclear, and for whom delay of management until the next ward round would be inappropriate.
>
> …
>
> If a patient appears to have had a complication following a procedure with which the RMO is not familiar."

40. The policy does not specifically refer to the responsibilities of RMOs when reviewing pathology results.

Decline in Mrs A's health during 2012

41. On 26 Month1, Mrs A had an appointment with Dr C, during which she complained of lower abdominal pain. Dr C made a surgical referral, suggesting that a colonoscopy was indicated. On 8 Month2, the public hospital wrote to Mrs A to advise her that it had received the referral, and that she had been added to the General Surgical Outpatient wait list with a

waiting time of two to six months. Subsequently Mrs A developed nausea and a decrease in appetite, and her pain became much worse during menstruation and when she had bowel motions. Mrs A was given an appointment to be seen on 27 Month5.

42. On 27 Month5, general surgeon Dr D saw Mrs A. He did not review the missed 2009 pathology result. He told HDC that Mrs A's past medical history did include an appendectomy three and a half years earlier, but that this was not mentioned in the referral letter. He noted that the lifetime risk of a woman having undergone an appendectomy is approximately 20% and, as it is so common, it does not influence the normal treatment of patients. He noted that only 0.2% of appendectomy specimens reveal unexpected malignancy requiring further surgery. He stated:

> "Therefore it is not normal clinical practice in the outpatient setting to check old histology reports as finding a cancer missed from an earlier error is such an extraordinarily rare event."

43. Dr D felt that Mrs A's symptoms might be caused by gynaecological pathology, and decided that there was no need to perform a colonoscopy at that stage. Dr D referred Mrs A to the gynaecological team for review and treatment, and informed Dr C of this by letter. Dr D also told Dr C: "Abdominal examination today revealed some lower abdominal tenderness and I wondered if there was in fact a pelvic mass present. Rectal examination revealed at least an enlarged uterus but this might also be the lower aspect of a mass." Dr D ordered an urgent pelvic ultrasound scan to look at Mrs A's uterus and ovaries.

44. WDHB said that Mrs A's reported symptoms were "more indicative of [a] gynaecological rather than gastrointestinal origin", and so the appendix pathology was not reviewed by the gastrointestinal team.

45. On 7 Month7, Mrs A had the pelvic ultrasound. The radiology report states:

> "[The] left ovary appears enlarged and part of a solid complex cystic and solid area … Possibilities … include a tubo ovarian abscess[8] and hydrosalpinx.[9] Other possibilities however would include a mixed cystic and solid tumour."

46. It was recommended that Mrs A undergo a repeat scan in six weeks' time.

47. On 15 Month7, Dr D wrote to Dr C and advised that the scan had shown "a complex pelvic abnormality". Dr D referred Mrs A to the gynaecological clinic and stated in his letter to Dr C that there was no need for her to be followed up in the surgical clinic.

Gynaecology care

48. On 11 Month8, Mrs A was given an appointment with the gynaecology service for 20 Month8. On 20 Month8, obstetrics and gynaecology registrar Dr E saw Mrs A, made a plan for "tumour markers" and "an MRI to further evaluate the mass", and noted that Mrs A's last two or three menstrual periods had been painful, which was new, as prior to this she had not

[8] A swollen area within body tissue, containing an accumulation of pus.
[9] A hydrosalpinx is a blocked fallopian tube filled with serous (bodily fluids that are typically pale yellow and transparent) or clear fluid.

had painful periods. Examination revealed "right adnexal[10] tenderness", but no other abnormalities were noted.

49. In the interim, Dr E advised Dr C to refer Mrs A back to the gynaecological clinic should her symptoms get worse.

50. On 26 Month9, Mrs A had an appointment with Dr C and told him that the pain was worse. Dr C noted: "[C]an get severe about twice daily." On 28 Month9, Dr C re-referred Mrs A to the gynaecological clinic, stating that Mrs A's symptoms were worse and asking whether they could bring forward the MRI. Dr C documented in the referral letter: "High Suspicion of Cancer … I do worry this woman may turn out to have ovarian cancer."

51. On 4 Month12 an MRI of Mrs A's pelvis was performed. The report documented:

> "[D]iffuse abnormality in the pelvis affecting multiple organs …
>
> The appearances are most in keeping with severe extensive infiltrative endometriosis …
>
> Although most of the changes can be explained by endometriosis, a superadded malignancy cannot be excluded …"

52. The report suggested that a CT scan of Mrs A's abdomen and pelvis be performed. WDHB stated that, as the gynaecological team thought that the symptoms indicated gynaecological pathology, the team did not review the missed 2009 pathology result.

53. Mrs A's symptoms continued to get worse. She had vomiting and diarrhoea, was unable to eat, and lost weight. On 5 Month13 Mrs A was reviewed by obstetrician/gynaecologist Dr F in the gynaecology clinic. He told HDC that because endometriosis or a malignancy was suspected, he arranged for Mrs A to be admitted to the Gynaecology Ward on 8 Month13. Dr F requested that a CT scan of Mrs A's "chest abdo pelvis" be carried out, and a blood test and a nutritional assessment be performed.

54. On 12 Month13 the CT scan was performed. The report by a radiology registrar stated that there was marked hydronephrosis[11] of the left kidney and ureter, a moderate to large volume of free fluid within the abdomen and pelvis, a mass in the left side of the pelvis, and ill-defined soft tissue between the uterus and right pelvic bowel loops. The report noted: "No convincing evidence of distant disease[12] is seen to suggest malignancy."

55. On 12 Month13 Mrs A was discharged. Her discharge summary stated that the CT was carried out "to check for distant organ involvement/calcification and to look for any ? malignancy", and that it gave the impression of an "Ovarian Mass".

56. On 16 Month13, the CT report from 12 Month13 was reviewed by a radiologist, and amended to state: "[S]uspicious for malignancy and atypical for endometriosis given the extent and bowel involvement. Peritoneal fluid cytology and peritoneal biopsy are recommended." Also on this date Mrs A's case was discussed at a Gynaecology

[10] The adnexa of the uterus are the structures most closely related structurally and functionally to the uterus.
[11] Hydronephrosis is the swelling of a kidney owing to a build-up of urine.
[12] Refers to cancer that has spread from the original (primary) tumour to distant organs or distant lymph nodes.

Multidisciplinary meeting (MDM) at the public hospital. Notes from this meeting record that it was recommended that Mrs A be referred to the Gastrointestinal MDM and ascitic fluid[13] be obtained for cytology. The MRI from 4 Month12 and the CT report (from 12 Month13), including the amended report, were referred to.

57. On 18 Month13, an ascitic tap, to drain the fluid, was carried out under ultrasound guidance. The fluid was sent for cytology.[14] The cytology report identified: "Occasional cells appear atypical however these are in keeping with degenerative changes … CELL BLOCK PENDING." On receipt of the final cell results, the cytology report was updated to record "reactive mesothelial cells"[15] only.

58. On 19 Month13, Dr F requested a general surgery review of Mrs A. The review was conducted by a colorectal registrar,[16] who discovered the missed 2009 pathology result indicating adenocarcinoma. The registrar recorded in the clinical records at 3pm: "Noted previous appendectomy histology — carcinoid." However, there is no record that the registrar discussed this with Mrs A.

59. WDHB said that the carcinoid histology entry "was made by a general surgery registrar who was asked to provide a pre-discharge consultation". The entry does not specify whether the finding was escalated or discussed with anyone. WDHB said that there is no evidence that the finding was escalated to Dr F. Dr F said that he was not made aware of the finding.

60. WDHB said that its "[d]iscussion with [Dr F] indicates that this was a handover of care to general surgery and follow up on this documentation would not be expected by the gynaecological team".

61. Mrs A was discharged at 3.52pm that day. The discharge summary prepared by a house officer documents that the plan was that Mrs A would be booked in for a colonoscopy, and that her case would be discussed at the next MDM. It is also noted: "Both specialties will be keeping in touch with one another for a multidisciplinary approach." The discharge summary states: "No convincing evidence of distant disease is seen to suggest malignancy." The summary does not mention the carcinoid appendix diagnosis, and Mrs A was not told about the 2009 pathology result. The discharge summary also does not mention the updated CT report of 16 Month13 stating that the scan was suspicious for malignancy. WDHB said that this information was omitted from the discharge summary.

62. On 22 Month13, a referral was made for Mrs A to have a colonoscopy. The referring clinicians were documented as being Dr F and the colorectal registrar. The referral records Mrs A's previous history of an appendectomy and the carcinoid histology, and queries "RECURRENCE".

[13] Ascites is an accumulation of fluid in the peritoneal cavity.
[14] Study of the cells.
[15] Reactive mesothelial cells can be found when there is an infection or an inflammatory response present in a body cavity. The condition can be due to the presence of a bacterial, viral or fungal infection. It can also be the result of trauma or the presence of metastatic tumour.
[16] The colorectal registrar is no longer registered as a doctor in New Zealand.

Surgical care

63. On 24 Month13 Mrs A's case was discussed at a Gastrointestinal MDM. At the meeting, Mrs A's previous histology from 2009 recording the adenocarcinoid tumour was noted, as was the recent scan result suggesting the likelihood of malignancy. It was recognised at the meeting that Mrs A would require surgery, and so it was decided that her case would be taken over by the surgical team.[17] At that stage no possible diagnoses other than endometriosis had been discussed with Mrs A.

64. On 30 Month13, Mrs A had a colonoscopy performed by Dr G. It is recorded on the colonoscopy report that Mrs A had an appendectomy in 2009, and that the colonoscopy was indicated for a "[p]revious small appendiceal carcinoid. Now has left ovarian mass." The report documented that the diagnosis was "Rectal Polyp(s)[18]". It stated that histology had been ordered, and that the GP was to check the histology.[19]

65. WDHB said that at that time the previous appendiceal carcinoid finding was not identified as being a missed diagnostic error, because it was not known by the clinicians that the pathology result had not been followed up in 2009. As a result, the 2013 findings were referred for investigation as a possible "recurrence" from 2009. WDHB said that this was also why the error was not communicated to Mrs A until further investigations had been completed.

66. On 14 Month14, Mrs A was seen in the general surgical (colorectal) outpatient clinic. General surgeon Dr H told HDC that when he saw Mrs A in the clinic, he reviewed her notes and noted that "back in 2009 when she had the appendectomy there was an incidental finding of an adenocarcinoid tumour with a histology report stating that the tumour was 7mm in diameter". Dr H also reviewed and noted the recent CT and MRI scan reports. He advised that he felt that it was necessary to admit her acutely on the day for further investigation, and to optimise her nutrition. He stated to HDC:

> "This was due to the fact that the appearance on the scans could be secondary to a primary ovarian cancer with peritoneal metastasis, or an appendiceal adenocarcinoid with metastasis. I felt that it would be necessary to obtain tissue sample and to stage the disease via a laparoscopy."

67. That day, Dr H wrote to Dr C[20] noting: "[P]revious perforated appendix with an adenocarcinoid tumour in there. This was not formally followed up." WDHB said that this was the first time that the appendix pathology was identified as not having been followed up in 2009.

[17] The information from the MDM recording the previously diagnosed adenocarcinoid tumour of the appendix was sent to Dr C's practice (received on 25 Month13). However, Dr C was on leave from 23 Month12 until 6 Month14. Dr C stated that he may have become aware of Mrs A's previous tumour finding when he returned from leave on 6 Month14 but, as it took him a few weeks to "come 'up to speed' with happenings in the practice" from while he had been away, it is more likely that he learnt about it from mid to late Month14.

[18] A nonspecific term to describe a growth on the inner surface of the colon. Polyps are often non-cancerous growths but some can develop into cancer.

[19] Again, a copy of this report was sent to Dr C but he was away on leave.

[20] This letter was stamped as having been received by Dr C on 28 Month14. I note that by this date Mrs A was aware of her prognosis, but not about the missed result.

68. Dr H told HDC that he did not tell Mrs A about the missed 2009 pathology result at the clinic appointment because more information was needed first, "as both ovarian cancer and adenocarcinoid tumour can result in [a] similar clinical picture".

69. On 15 Month14, a staging laparoscopy and peritoneal biopsy were carried out. The operation report dictated by Dr H notes that the findings were "[w]idespread peritoneal mets" (metastases). On 16 Month14 Mrs A was discharged by colorectal and laparoscopic surgeon Dr I. The discharge summary notes that the findings were: "Gross ascites, widespread peritoneal carcinomatosis[21] — involving all areas + small bowel serosa,[22] mesentery.[23]" It also noted: "We will see you in clinic in about 3 weeks time to discuss the results of the biopsy and further plans."

70. Although Mrs A's discharge summary documented the carcinoma, there is no record that this was discussed with Mrs A and, according to her family, she still thought she had endometriosis and remained unaware of the finding from May 2009.

71. On 26 Month14 the formal pathology for the peritoneal biopsy was reported. The report confirmed metastases. It concluded:

> "FEATURES IN KEEPING WITH AN ADENOCARCINOID TUMOUR. IT IS NOTED THAT THIS PATIENT HAS HAD A PREVIOUSLY DIAGNOSED ADENOCARCINOID TUMOUR OF THE APPENDIX."

72. On 28 Month14, Dr H documented in Mrs A's clinical notes: "Understandably devastated with prognosis today, daughter & husband also angry at perceived delay in diagnosis/[treatment]."

73. At this appointment, Mrs A and her family were told about the history of the appendicitis and the subsequent tumour found at histology. This was the first time Mrs A learnt of the tumour found in 2009.

74. On 4 Month15, Dr I told Mrs A and her family that she could not have surgery as "she would not tolerate the surgery". Mrs A was referred to oncology for consideration of palliative chemotherapy.

75. Mrs A was referred to palliative care, and sadly, died.

Open disclosure policy

76. During the time of these events, WDHB's Open Disclosure Policy stated the following:

> "1.2 When a patient is harmed while receiving clinical treatment, it is important that the health practitioner team respond in a manner that meets the patient's needs and fulfils the professional ethical and legal responsibilities of health practitioners. It is expected that the

[21] Widespread dissemination of carcinoma.
[22] A smooth membrane consisting of two layers of epithelial cells (as membranes), which secrete serous fluid.
[23] A mesentery is a fold of tissue that attaches organs to the body wall. Usually "mesentery" refers to the small bowel mesentery, which anchors the small intestines to the back of the abdominal wall. Blood vessels, nerves, and lymphatics branch through the mesentery to supply the intestine.

> senior clinician responsible for the care of the patient discloses the situation that has arisen, in an open honest and accountable manner.
>
> …
>
> 1.3 Expectation of Open Disclosure
>
> … Disclosure may occur in stages that allow the provider to address the issues in a way that allows the patient and their family to understand and process the information without being overwhelmed. This should not be a reason to withhold information.
>
> Patients and their families are usually concerned about what and how the harm occurred, why it happened, and what the long term consequences for care are. …
>
> 2.1 Initial contact
>
> Contact should be made in a timely manner. It is expected that there will be contact with the patient and their family as soon as possible after the event i.e. at least within 24 hours of the event becoming known."

Further information

Systems in place during 2009

77. WDHB told HDC:

> "Systems in place in 2009 were woefully inadequate at facilitating review of patient results … with multiple results being generated under [consultants'] name[s] in multiple settings … [F]ollowing these results as an individual consultant is next to impossible where there is no supporting system. … We rely on delegated authority but this failed in this case … [Dr B's] non-awareness of the result was a systems issue."

78. WDHB acknowledged that documentation in a patient's clinical record is not sufficient communication between teams to instigate the escalation of abnormal/unexpected findings, and said that documentation must be backed up by verbal communication.

79. WDHB stated: "It was well known that there were system failures." It said that in 2010, Procedure 3703 Electronic Acknowledgement (laboratory and radiology results) was released. As part of this, data reports were meant to be run in the first week of every month and distributed to the chief medical advisor, group managers, and clinical directors for action and follow-up with their staff. WDHB said that it has not found evidence of these reports having been run, although it also noted: "It is unlikely these reports would have assisted any consultant to identify that follow up for the [pathology] result had not occurred as this would have required a case review."

80. WDHB also said that the system introduced in 2010 for electronic acknowledgement of results did not include what follow-up was arranged, so that, even though the 2009 result was eventually acknowledged in Month13, that did not indicate whether or not there had been any follow-up in 2009.

81. On 26 November 2015, WDHB made an amendment to its 2013 Electronic Result Acknowledgement Guideline (1452) to ensure that only consultants can acknowledge histology results. WDHB said that all consultants/Senior Medical Officers (SMOs) have been

advised that they are responsible for reviewing results, and that this cannot be delegated to an RMO, and that this information is also included in the orientation information for new SMOs. To evaluate this, WDHB advised that a six-month post-implementation audit to review the outcome of 10 randomly selected results would be carried out.

82. One of the main principles of this policy is that electronic acknowledgement implies that any action required had been taken or is being organised. The expectation is that all results are acknowledged within 3 working days of being finalised. Any results not acknowledged within 10 days of being finalised will be considered non-compliant with acceptable clinical practice and will be investigated by the team management.

83. A further addition to the guideline is that in the event of an unexpected abnormal test result, pathology will "endeavour to liaise with the lead clinical consultant … but the ultimate responsibility will lie with the consultant whose team ordered the test".

84. In response to the provisional opinion, WDHB stated that the proportion of acknowledged laboratory results increased from 90% to 99.9% and for radiology results from 61% to 97%. It also stated that there has been an improved orientation to Electronic Acknowledgment.

Review of previous appendectomy pathology in 2012

85. In respect of Dr D not reviewing Mrs A's previous pathology result in 2012, WDHB told HDC:

> "Outpatient clinics in General Surgery are restrictive of time; we usually have no more than 10 minutes to assess each patient. Abdominal pain is perhaps the most common symptom we see, and a relatively large proportion of patients (perhaps 20%) have had appendicectomy in previous years. It is not routine practice to check the pathology of the appendices removed years prior. … In the event it was routine practice it would place significant time pressures on surgeons in already time restricted outpatient clinics for very little or no gain. …
>
> Even when subsequent tests showed an ovarian mass, this would not, in my (or my colleagues) practice necessarily mandate a review of old appendix pathology. The only exception would be if there was something particularly strange or unusual about the pelvic mass that just 'did not fit'. This was not the case here."

Response to provisional opinion

86. Mr A, Waikato District Health Board and the individual clinicians involved were asked to comment on the relevant sections of my provisional opinion.

87. Waikato District Health Board accepted the recommendations as stated in the provisional opinion. The individual clinicians had nothing further to add.

88. Mr A responded and his comments have been incorporated into the report where relevant.

Opinion: Breach — Waikato District Health Board

89. Mrs A was seen by multiple WDHB clinicians from May 2009, particularly between Month1 and Month15.

90. In my view, some aspects of the care received by Mrs A between May 2009 and Month15 were seriously suboptimal. WDHB and the staff involved in Mrs A's care had a responsibility to take all reasonable steps to ensure that services were provided to her with reasonable care and skill. As stated previously,[24] district health boards are responsible for the operation of clinical services within hospitals, and can be held responsible for any service failures. WDHB had an organisational duty to ensure that care was provided with adequate care and skill.

91. In this case, the individual health professionals who provided care to Mrs A bear some responsibility for the failures but, taking into account the pattern of errors and the number of doctors involved in Mrs A's suboptimal treatment, I am of the view that in this case the failures arose as a result of systems issues. I therefore consider that WDHB holds primary responsibility for the very poor standard of care provided.

May 2009

92. On 18 May 2009 Mrs A presented to the public hospital with abdominal pain. On 19 May 2009 she underwent an appendectomy performed by Dr B. Her appendix was acutely inflamed and the perforated appendix was removed. Mrs A was discharged on 22 May 2009 with no planned follow-up.

93. Histology from the appendix was requested which, in addition to an inflamed appendix, indicated the presence of an adenocarcinoid tumour. Following receipt of immunostains on 3 June 2009, it was confirmed that Mrs A had an adenocarcinoid tumour of the appendix.

94. In 2009 WDHB had no system to review pathology results electronically, and no backup system. While WDHB had a policy for when junior doctors should escalate matters to a consultant, this did not cover who had accountability regarding the acknowledgment of results, and who was able to acknowledge results, and did not make clear the circumstances in which abnormal results were to be escalated.

95. In Mrs A's case, the report was acknowledged by a junior doctor who initialled the report and underlined the reference to adenocarcinoid tumour. The initials are not dated. WDHB has been unable to confirm the doctor's name, as the initials do not match any staff allocated to the area, but suggested that "it is possible that the initials match a doctor who was from the relieving pool".

96. Dr B told HDC that she did not see the report, and said that the junior doctor concerned did not discuss it with her. Dr B said that her expectation was that all pathology results would be

[24] See, for example, opinion 13HDC00343, available at www.hdc.org.nz.

seen by her for acknowledgement, and that all junior doctors working under her supervision were informed of that expectation. Dr B stated that all relieving doctors had been through departmental based orientation, which included the expectation about escalating results. She said that there was no mechanism in place for her to identify that there were results she had not seen personally.

97. Unfortunately, no follow-up treatment was arranged, and neither Mrs A nor her GP, Dr C, was informed of the results.

98. My expert advisor, general surgeon Dr Patrick Alley, advised me that the system in existence at WDHB at that time had major defects, in that:

- It assumed clinical knowledge by relatively junior practitioners about the significance of results.
- There was no compulsion on junior staff to alert their seniors to abnormal results.
- WDHB was unable to identify who signed off the result.

99. Dr Alley advised: "This failure by an unidentified RMO to escalate the result of the histology on the appendix is the primary root cause of this serious adverse event."

100. I am highly critical of WDHB's approach to dealing with abnormal results at the time, which in this case did not ensure appropriate escalation of Mrs A's abnormal result. The system relied on junior doctors to escalate results, but lacked any clear policy outlining if or when results ought to be escalated, and provided no alternative mechanism through which consultants were able to identify results they had not seen personally. I note that the junior doctor underlined the reference to an adenocarcinoid tumour, and can be taken to have understood its significance.

101. DHBs rely on the ability of junior doctors to carry out certain tasks independently, and specialists should be able to expect a certain level of competence from junior staff. I accept that it is impracticable for a specialist to oversee every decision made by junior doctors, and tasks may be delegated where appropriate. As WDHB had no system to identify the junior doctor concerned, it is not possible for me to assess whether it was reasonable in the circumstances for that doctor to review Mrs A's pathology result. I am concerned that WDHB has been unable to identify the doctor.

102. While I am conscious that the ultimate responsibility for Mrs A's care rested with Dr B, I acknowledge that, in this regard, Dr B was dependent on an inadequate system, and note that WDHB told HDC that due to the system issues, it was "next to impossible" for individual consultants to follow up results.

103. I therefore consider that, in the circumstances, the primary cause of the error was a systems failure within WDHB.

Month1–2013

104. In Month1 Mrs A complained to her GP, Dr C, that she had lower abdominal pain. Dr C referred Mrs A to the public hospital, suggesting that a colonoscopy was indicated. An appointment was made to see Mrs A on 27 Month5 at the general surgical unit.

105. On 27 Month5 Dr D reviewed Mrs A and considered that her symptoms might be caused by gynaecological pathology, and decided that there was no need to perform a colonoscopy. Dr D referred Mrs A to the gynaecological team for review and ordered a pelvic ultrasound scan to look at Mrs A's uterus and ovaries.

106. Dr Alley advised me that it was not unreasonable to consider that Mrs A's symptoms were of gynaecological origin. In light of the history elicited by Dr D, Dr Alley advised that he would not regard the failure to carry out a colonoscopy as a departure from normal practice.

107. Dr D did not review the missed 2009 pathology result. He told HDC that Mrs A's past medical history included an appendectomy three and a half years earlier, but that this was not mentioned in the referral letter. He noted that the lifetime risk of a woman having undergone an appendectomy is approximately 20% and, as it is so common, it does not influence the normal treatment of patients. He noted that only 0.2% of appendectomy specimens reveal unexpected malignancy requiring further surgery. He stated that it is not normal clinical practice in the outpatient setting to check old histology reports, as finding a cancer missed from an earlier error is an extraordinarily rare event. I acknowledge WDHB's comments regarding routine practice and the time restrictions on outpatient clinics, including that usually there is no more than 10 minutes to assess each patient.

108. However, Dr Alley advised that he was moderately critical that Dr D did not review the missed 2009 pathology result. Dr Alley stated that although originally Mrs A had presented with abdominal pain, on examination Dr D had made additional findings (namely suspicion of an abdominal mass and a likely pelvic mass) that Dr Alley considered "would be a stimulus to review any previous pathology". I also note Dr Alley's concern with the indication that outpatients "slots" in General Surgery at WDHB are generally no more than 10 minutes.

109. As to time, I do not accept that senior clinicians are incapable of determining their ability to assess a patient appropriately in the time available to them. Suspicion of an abdominal mass and a likely pelvic mass should have been sufficient information to place Dr D on enquiry.

110. Taking into consideration the information available to me, while I acknowledge that a previously missed pathology result is a rare event, I am critical that Dr D, having made additional findings that would warrant review of any previous pathology, did not do so.

Gynaecology care

111. On 20 Month8 Mrs A saw obstetrics and gynaecology registrar Dr E. Dr E planned to perform an MRI to evaluate the mass, and noted that Mrs A was by then experiencing painful menstruation.

112. By 26 Month9, Mrs A's pain had worsened, and Dr C referred Mrs A back to the gynaecology clinic, stating that Mrs A's symptoms were worse and asking whether the MRI could be brought forward. Dr C documented in his referral letter: "High Suspicion of Cancer … I do worry this woman may turn out to have ovarian cancer." An MRI of Mrs A's pelvis was performed on 4 Month12.

113. WDHB said that the gynaecology team did not review the missed 2009 pathology result as they thought that the symptoms indicated a gynaecological pathology. Dr Alley noted that,

being unaware of Mrs A's past history, the gynaecologists managed Mrs A as though she was a de novo presentation. Dr Alley advised that if that had been correct, Mrs A would have been seen within a reasonable time.

114. I also note Dr Alley's view that "[t]he delay in getting the MRI done is significant and is independent of what [Mrs A's] history was". I agree.

115. The MRI report documented that Mrs A had "diffuse abnormality in the pelvis affecting multiple organs". It stated: "Although most of the changes can be explained by endometriosis, a superadded malignancy cannot be excluded." The report suggested that a CT scan of Mrs A's abdomen and pelvis be performed.

116. Mrs A continued to deteriorate. She developed vomiting and diarrhoea, was unable to eat, and was losing weight. On 5 Month13 she was reviewed by obstetrician/gynaecologist Dr F in the gynaecology clinic, and on 8 Month13 she was admitted to the gynaecology ward. Dr F requested a CT scan of Mrs A's "chest abdo pelvis".

117. Initially the CT scan report did not identify a potential malignancy. However, the report was reviewed by the radiologist four days later and amended to state: "[S]uspicious for malignancy and atypical for endometriosis given the extent and bowel involvement. Peritoneal fluid cytology and peritoneal biopsy are recommended."

118. The gynaecology MDM recommended that Mrs A be referred to the gastrointestinal MDM and that ascitic fluid be obtained for cytology, which was done later and did not identify malignant cells.

119. On 19 Month13, Dr F requested a general surgery review of Mrs A. The registrar who carried out the review noted the 2009 histology report of Mrs A's appendix, which indicated adenocarcinoma. There is no evidence that this was escalated to Dr F, and Dr F said that he was not made aware of the finding.

120. Mrs A was discharged that day, and the discharge summary prepared by a house officer records that she was to be booked in for a colonoscopy, and that her case would be discussed at the next gastrointestinal MDM. The discharge summary does not mention the missed 2009 pathology result, and Mrs A was not told about it. The discharge summary also does not mention the CT report, which recorded a likelihood of malignancy. However, a couple of days later a referral was made, which noted the previous carcinoid result and queried a recurrence.

121. On 24 Month13, Mrs A's case was discussed at a gastrointestinal MDM, and her 2009 result was noted at the meeting, as was the CT scan result suggesting the likelihood of malignancy. It was recognised that Mrs A would require surgery, and it was decided that her case would be taken over by the surgical team. On 30 Month13 Dr G performed a colonoscopy, which reported a diagnosis of rectal polyps.

122. WDHB stated that the missed 2009 pathology result was not identified as a missed diagnosis at that time because the clinicians were unaware that the missed 2009 pathology result had not been followed up in 2009. As a result, the recent scan result was referred for investigation as a possible "recurrence" of the 2009 cancer.

123. Dr Alley advised that it is not possible to cite a recurrence of a problem that has not been treated and is not in the consciousness of the clinicians caring for the patient. Dr Alley advised that the missed diagnosis should have been identified and communicated to Mrs A. I agree.

124. On 14 Month14 Mrs A was seen in the general surgical outpatient clinic by Dr H. Dr H reviewed her notes and noted that in 2009 there had been an incidental finding of an adenocarcinoid tumour. WDHB stated that this was the first time it was identified that the appendix pathology had not been followed up in 2009. Dr H said that he did not tell Mrs A about the missed appendix pathology at that appointment because more information was needed, "as both ovarian cancer and adenocarcinoid tumour can result in a similar clinical picture".

125. On 15 Month14 a staging laparoscopy and peritoneal biopsy were carried out. The findings were of widespread metastases. However, according to Mrs A's family, Mrs A still thought she had endometriosis, and was still not aware of the missed diagnosis from 2009. On 26 Month14, Dr H received the formal pathology from the biopsy, and on 28 Month14 he informed Mrs A of her prognosis. Mr A told HDC that this was the first time anyone from WDHB had told Mrs A of the tumour identified in 2009.

126. Early in his clinical management of Mrs A, Dr H was aware that a significant missed diagnosis had occurred. Dr Alley stated: "[H]e was, in my view appropriately cautious in waiting for a firm histological diagnosis to be sustained. While metastatic disease from the missed adenoid carcinoma was very likely, it could not be absolutely confirmed until the histology was available." I agree that the metastatic nature of the carcinoma could not be confirmed with Mrs A at this stage. However, I consider that Dr H should have had a frank conversation with Mrs A about the fact that there had been a missed 2009 pathology result, and the possible implications of this. I am critical that this did not occur.

127. Dr Alley advised me that WDHB should have conceded its error earlier than it did. He noted that there is some mitigation, as the pathology was uncertain, but he considers that there was delayed open disclosure. I agree, and I am concerned that while WDHB's Open Disclosure Policy places an emphasis on clinicians contacting the patient and his or her family as soon as possible when an adverse event has occurred, Mrs A was not informed of the missed result when this was discovered.

Conclusion

128. This is a complex case covering several years and involving many clinicians. In my opinion, in this case WDHB holds primary responsibility for the pattern of errors, which raises concerns about the systems in place during the period in which Mrs A received care.

129. WDHB had sufficient information to provide Mrs A with appropriate care. However, a series of failures meant that it did not do so. Unfortunately, the effect of this was that Mrs A remained unaware of a potentially lethal tumour until after it had metastasised, and did not receive the care she required. The entire system let down Mrs A and her family.

130. I consider that WDHB should have ensured that appropriate systems were in place so that abnormal results were escalated appropriately, missed results were identified promptly, and

errors were disclosed in a timely and appropriate manner. It is very concerning that this did not occur in this case.

131. In my view, the failures by WDHB resulted in a pattern of seriously suboptimal care and, accordingly, I find that WDHB failed to provide services to Mrs A with reasonable care and skill and breached Right 4(1) of the Code of Health and Disability Services Consumers' Rights (the Code).

132. In addition, I am critical that Dr D, having made additional findings that would warrant review of any previous pathology, did not do so. I am also critical that Dr H did not inform Mrs A of the missed 2009 pathology result when he became aware of this.

133. I am also concerned that WDHB has been unable to identify the junior doctor who acknowledged Mrs A's abnormal result in 2009.

Recommendations

134. I recommend that WDHB perform a randomised audit of patient records for the past 12 months to assess the effectiveness of its Electronic Acknowledgement of Results system. The audit is to ensure that the system complies with good practice with regard to test reporting, acknowledgment of results, and follow-up of results. WDHB is to report to HDC on the outcome of the audit within six months of the date of this report.

135. I recommend that WDHB use an anonymised version of this report as a basis for staff training, focusing in particular on the deficiencies identified in the report, including regarding open disclosure. WDHB is to provide evidence of training having occurred within six months of the date of this report.

136. I recommend that WDHB consider conducting regular surgical/pathology meetings, and report back to HDC on the outcome of the consideration within three months of the date of this report.

137. I recommend that WDHB perform an audit evaluating the current access to MRIs, in particular regarding timeframes. WDHB is to report to HDC on the outcome of the audit within six months of the date of this report.

138. I recommend that WDHB provide a written apology to Mrs A's family for the failings identified in this report. The apology is to be sent to HDC for forwarding within three weeks of the date of this report.

Follow-up actions

139. A copy of the final report with details identifying the parties removed, except the expert who advised on this case and WDHB, will be sent to the Medical Council of New Zealand, DHB Shared Services, and the Health Quality & Safety Commission, and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

Appendix A: Independent advice from Dr Patrick Alley

The following expert advice was obtained from Dr Patrick Alley, a vocationally registered general surgeon:

> "My name is Patrick Geoffrey Alley. I am a vocationally registered general surgeon. I qualified MBChB from the University of Otago in 1967 and was awarded fellowship of the Royal Australasian College of Surgeons in 1973. I have spent most of my professional life in clinical elective and acute general surgery, teaching, medical administration and research. In November of 2015 I retired from my position as Director of Clinical Training at Waitemata DHB. I am presently clinical director of surgery at Ormiston hospital in South Auckland and a member of the Southern Cross National Medical Committee. I am also on the Council of AUT University. I have formal qualifications in ethics from the University of Auckland (Diploma in Professional Ethics 1996). I declare no conflict of interest in this matter.
>
> **Clinical Narrative**
>
> This lady presented on the 18th of May 2009 to [the public hospital]. She gave an antecedent history of abdominal pain particularly in her lower abdomen. Clinical examination and further investigations concluded that she probably had appendicitis. The following day 19th May 2009 she underwent a laparoscopic appendicectomy. However this was too difficult to complete laparoscopically so the abdomen was opened. The appendix was found to be acutely inflamed and perforated. It was eventually removed. She made a surgically slow but steady recovery over the next few days and was discharged on 22nd May 2009 with no follow up planned. Her general practitioner (GP) was made aware of her admission and treatment and that she would not be followed up as an outpatient.
>
> The initial histology report on 28th of May (six days after her discharge) confirmed the clinical impression of acute appendicitis. However, and importantly, in addition to established acute appendicitis, the report also defined a carcinoid of the appendix. This was subject to further evaluation in the histology department. Special immunochemical stains confirmed a 7 mm adeno-carcinoid of the appendix. This diagnosis was confirmed on 3rd June 2009. Although the reports were seen and signed by unidentified Resident Medical Officers (RMOs) they did not escalate this information to the supervising consultant who remained unaware of the true nature of the pathology until a complaint was registered with the Health and Disability Commissioner's office four years after the appendicectomy. Neither was information about this tumour transmitted to the patient. There is a communication from the supervising surgeon on this matter to which I will allude later.
>
> An addendum to this report describes the characterisation of this tumour, its incidence and some of its behaviour.
>
> She remained well until [Month1] when she reported to her GP with an eight month history of low pelvic pain. A letter was sent to the general surgical outpatient's clinic at Waikato DHB asking for a surgical opinion. She was graded to be seen in 2 to 6 months. However her symptoms worsened, she began to lose weight and she developed nausea.

I am uncertain whether this deterioration prompted a more urgent review but she was seen by a general surgeon on 27 [Month5]. He had the benefit of a prior pelvic ultrasound. He elicited a history which emphasised a potential gynaecological element to her symptoms but no reference is made to the appendix pathology of three years previously. She was then referred to the gynaecology department. No follow-up in general surgical outpatients was arranged.

On 7th [Month7] she had another ultrasound which showed enlargement of the left ovary and a number of gynaecological diagnoses were postulated. Because of the history and the findings on ultrasound [Dr D] referred her to gynaecology outpatients.

Between [Month8] and [Month13] she attended gynaecology outpatients on a number of occasions to elucidate both the questions raised by the [Month7] ultrasound (and the diagnoses postulated by that examination) and to address her decline in health. An MRI scan ordered in [Month8] appears not to have been done until 4th [Month12]. Part of this report states '… diffuse abnormality in the pelvis … changes can be explained by endometriosis a superadded malignancy cannot be ruled out'. This signal went unnoticed and her previous pathology was not reviewed. Surprisingly, Waikato DHB postulated that because the changes were most likely gynaecological no review of the appendix pathology was indicated. Throughout this time she experienced further weight loss with diarrhoea and vomiting and anorexia.

These symptoms precipitated an admission on 8th [Month13] and a further CT scan was done on 12th [Month13]. This showed ascites (intraperitoneal fluid) and a hydro-nephrosis of the left kidney (in simple terms a blockage of the ureter leading from the kidney to the bladder). The radiologist's report in part reads '… no convincing evidence of distant disease is seen to suggest malignancy …'. On 16 [Month13] this report was amended to give a contrary view '… suspicious for malignancy and atypical for endometriosis …' is a phrase from that report.

A gynaecology multidisciplinary team meeting (MDM) on 16th [Month13] concluded that she be referred to the gastrointestinal MDM and that a peritoneal tap be arranged. This was done but showed only atypical epithelial cells. It appears that [Dr F], the gynaecologist, also asked for a general surgical opinion. As part of this consultation she had a preliminary consultation with a surgical registrar who on 19th [Month13] discovered the past history of appendiceal adeno-carcinoid tumour. However no mention of this important step in the process was made in the discharge summary of 19th [Month13] and the patient was not informed about the missed diagnosis.

At the gastrointestinal MDM on 24th [Month13] her previous history of adeno-carcinoid was finally discussed in an open forum and thereafter her care was directed to the general surgical department. On 30th [Month13] multiple rectal polyps were found at a colonoscopy. They were excised and histology showed no neoplasia.

She was seen by a general surgeon on the 14th of [Month14]. He found the previous histology. She had a staging laparoscopy and biopsies the following day. This confirmed the presence of metastatic disease involving the peritoneum. Biopsies showed a tumour consistent with adeno-carcinoid of the appendix.

At this stage the patient and her family were finally told the whole story. Up until this time they believed she was suffering from endometriosis. She underwent a course of chemotherapy but sadly did not survive and died […].

You have asked a number of questions which I will now address. Many of these questions are about the timeliness of the interventions by gynaecology and general surgical services. As a prelude to most of the questions it is important to recognise that up until [Month14] decisions were being made without the knowledge that she had had a significant appendiceal tumour in 2009. The principal error is that failure to recognise the early pathology. So one could prefix some of the questions with the statement 'Had clinicians been aware of the true diagnosis was this a reasonable course of action?' Or the prefix could be 'In the normal course of events (without a previous diagnosis of adeno-carcinoid of the appendix) was this a reasonable course?' I have attempted to make this distinction in some of the questions.

Please comment on the adequacy of [WDHB's] systems in place (2009) at the time regarding acknowledgement of test results.

Comment:
At this time seven years ago the normal course of action was for junior medical staff to receive these results and sign them off. The major defects inherent in this system include at least the following:-

- It assumes clinical knowledge by relatively junior practitioners about the significance of certain results.
- There appeared to be no compunction on those staff to alert their seniors in regard to any abnormal results.
- Whoever signed off this result was not able to be identified.

1. Please comment on the adequacy of [WDHB's] systems in place at the time regarding escalation of abnormal results to the requesting clinicians.

   Comment:
   It is clear that there was no system operating at that time which required staff to escalate information to their seniors. It is entirely dependent on the criteria stated in answer to question 1.

   This failure by an unidentified RMO to escalate the result of the histology on the appendix is the primary root cause of this serious adverse event.

2. Please comment on the adequacy of [WDHB's] proposed changes following these events.

   Comment:
   [WDHB] — as many other DHBs have done — have introduced a formal acknowledgment process for all results of tests and imaging done on their patients. As far as I can see these processes are aligned to other DHBs and there is — fortunately — little contemporary evidence of adverse events resulting from incorrect interpretation or non-acknowledgement of results. The system seems robust.

3. Please comment on the adequacy of [Dr B]'s care of [Mrs A] including but not limited to:

   - Her expectation that junior staff members would bring abnormal test results to her attention.
   - Her process of not personally following up on all test results.

   Comment:
   I feel some sympathy for [Dr B]'s position in that she was not made aware of the histology report. However, as is always the case, the ultimate responsibility for patient care rests with the consultant in charge of the case, in this case [Dr B]. It is an insufficient response to say that there was an expectation that junior staff should draw her attention to abnormal results. It was she who removed the appendix after all. Interestingly in 2014 [WDHB] changed the modus of acknowledging reports and essentially they formalised what had been standard and traditional specialist behaviour in regard to that process. The relevant quote is: 'SMOs are ultimately responsible for the management of patients in hospital under their care or seen in clinic under their name. Having responsibility for patients includes taking responsibility for acknowledging results and (the) actions required after tests performed on their patients'. In my view this failure to follow up a histology result is an accessory fact to the primary cause of non-escalation by the RMO.

4. Any other issues that you think require comment regarding the relevant systems in place regarding the standard of care provided to [Mrs A] in 2009.

   Comment:
   The simple fact of the matter is that a significant abnormality in a histological specimen was not reported to the people who could have made a difference to the outcome. From a surgical viewpoint one cannot know for certain what action might have been taken. The options would include a programme of surveillance with regular tumour marker assay. Or more likely given the uncertain prognosis with this type of tumour she would have gone on to a right hemi-colectomy with a very high chance of cure.

   However the surgical management is not the most important deficit occasioned by this lapse. The significant effect is that the patient remained unaware of a potentially lethal tumour until very late in the story when metastases had supervened. She was thus denied any say in her management and her autonomy severely compromised.

Standard of care in 2012–2013

5. Whether general surgeon [Dr D]'s standard of care was appropriate including but not limited to the following:

   - Concluding [Mrs A]'s symptoms were mostly likely gynaecological.

   Comment:
   Given that [Mrs A] complained of pelvic pain and this pain was related to her periods then it is not an unreasonable proposition that her symptoms were gynaecological. In the event the symptoms were truly gynaecological, but sadly as a result of a metastasis to her ovaries. I note a comment (I presume from an unidentified general

surgeon) that metastasis to the ovary is a rare event in this condition. This is wrong. My review of the literature shows convincingly that the ovary is a prime site for metastasis of adenoid carcinoma of the appendix. I include a quote from one of many references. His view would have been strengthened by the imaging which implicated the pelvis and ovary in a disease process.

- Not carrying out a colonoscopy.

Comment:
I would not regard this as a departure from normal practice, given the history that was elicited. This had distinct implications for a gynaecological cause for her pain. Had he been aware of her past history then colonoscopy might have had more priority. I do note the eventual colonoscopy was normal.

- Not reviewing appendix pathology from 2009.

Comment:
This clearly is a significant lapse in clinical performance. Given that the fundamental error in the management of this case was the non-recognition of adeno-carcinoid of the appendix, then by this time the lesion had undergone a metastasis. Hence, it is debatable whether review of the appendix pathology in 2012 made any material difference to the outcome. However, it is significant that failure to review the histology of 2009 did not alert [Dr D] to the potential for metastatic disease of adeno-carcinoid of the appendix to be causing [Mrs A]'s symptoms. This in effect contributed to a six month delay in securing a diagnosis. Also as previously mentioned it denied [Mrs A] any say in her management.

6. The adequacy of [Mrs A]'s grading for gynaecological review and the time spent waiting for an MRI.

   Comment:
   The gynaecologists managed this patient as though she was a de novo presentation and were unaware of her past history. As the introduction to these questions points out, this is a question that should be prefaced (in my view) by the statement: 'in the normal course of events'. Given that rider she was seen at an appropriate time. I believe it was the fault of the general surgeons in not researching her notes and defining the true nature of her appendiceal pathology. The delay in getting the MRI done is significant and is independent of what [Mrs A]'s history was. A four month delay for an MRI in a patient with these symptoms is unacceptable.

7. Whether it was acceptable for [obstetrician/gynaecologist] [Dr F] to audit a general surgery review but not expect it to be followed up by the gynaecological team.

   Comment:
   It was clear at this stage that whatever the pathology within [Mrs A]'s abdomen it was not appropriate for further gynaecological investigation and it is acceptable that the patient was referred back to general surgery.

8. Whether it was acceptable that the previous appendiceal carcinoid finding discovered in 19 [Month13] was according to [WDHB] not identified at this time as a missed

diagnostic error because it was not known by clinicians that the [pathology] result had not been followed up in 2009 and therefore was referred for a new investigation as a possible recurrence.

Comment:
There is an internal inconsistency in this question. It is not possible to cite a recurrence of a problem that has neither been treated or that is not in the consciousness of the clinicians caring for the patient. I have not found in the clinical records any allusions to the word 'recurrence' so I presume this is a statement from the Waikato DHB management. It is disingenuous and erroneous in that it implies a lesser lapse in clinical management than the more correct appellation for the event namely a missed diagnosis.

9. Whether it was acceptable that possible 'recurrence' was not communicated to [Mrs A] 'until further investigations were completed'.

Comment:
The use of the word 'recurrence' is inappropriate. Therefore it should not have been communicated to [Mrs A]. Recurrence implies that treatment had been offered. No such treatment occurred for [Mrs A]'s adenoid carcinoma. The lack of communication is at two levels. As mentioned in this answer the use of the term recurrence should not have been communicated to [Mrs A] but the missed diagnosis should have been. Dr H (see later) was aware of this missed diagnosis but reasonably could not communicate until the definitive pathology from the laparoscopy on 26 [Month14].

10. Whether it was acceptable that prior to 26 [Month14] no other diagnoses including possible malignancy had been discussed with [Mrs A] other than endometriosis (see later).

Comment:
It was clear from the laparoscopic findings that metastatic disease was known but the source was not. We know in hindsight that the most likely cause of this was the appendiceal carcinoid but at that time it could well have been a metastatic ovarian carcinoma for example. If it were the latter then there would have been an entirely different course of treatment. When it was realised that it was consistent with the missed diagnosis in 2009 then [Mrs A] was informed appropriately in my view.

11. The appropriateness of [Dr H's] response that he waited for the formal pathology for the biopsy available on 26 [Month14] until informing [Mrs A] of her prognosis.

Comment:
Early in his clinical management of [Mrs A] [Dr H] was aware that a significant missed diagnosis had occurred. Therefore he was, in my view appropriately cautious in waiting for a firm histological diagnosis to be sustained. While metastatic disease from the missed adenoid carcinoma was very likely it could not be absolutely confirmed until the histology was available.

12. Whether it was appropriate that [Mrs A] was not informed of the missed appendix pathology until 28 [Month14].

Comment:

Obviously this is a very important aspect of the case in that the patient was not informed of that misdiagnosis until 28 [Month14]. As always, earliest is best and [WDHB] should have conceded their error earlier than they did.

13. Any other comments you wish to make regarding [Dr H's] care of [Mrs A].

    Comment:
    No.

14. The adequacy of [WDHB's] policy in place at the time regarding open disclosure and whether it was followed appropriately in this case.

    Comment:
    There is some mitigation in the sense that the pathology was uncertain, but there was delayed open disclosure. This raises another issue however. I have found an increasing number of DHBs have robust policies on open disclosure but their effectiveness remains uncertain. In this case I would be interested to know whether the DHB circulated their staff to the effect that there had been an absence of open disclosure and secondly whether it is possible to audit open disclosure by a random sampling of patients. I agree this can be consumptive of resource but it would be reassuring (particularly to the DHB) to know that the system worked.

15. Any other comments regarding the adequacy of [WDHB's] systems in place during 2012 and 2013 relevant to the standard of care provided to [Mrs A].

    Comment:
    Subsequent to the communication from the Health & Disability Commissioner's office, I asked whether there were regular surgical/pathology meetings in [WDHB]. In 2009 there were not and I was somewhat surprised to hear that, apart from the colorectal service, that is still not the case. Had such meetings been held in 2009 this whole saga would not have unfolded the way it did. The normal course of events is that unusual or rare cases disclosed on histological examination of surgical specimens are discussed in a forum including surgeons and pathologists. Given the good reputation as a teaching institution, [WDHB] appears not to have used this very important teaching resource and my strongest urgings to that District Health Board is that they institute such meetings forthwith.

CONCLUSION

The primary error was the failure of an unidentified RMO to escalate an abnormal pathology result to their seniors.

The secondary errors were

- The failure of the supervising consultant to see the histology report
- The failure of the general surgeon who saw her in [Month5] to ascertain her past pathology of May 2009
- Failure of open disclosure
- The four month delay in securing an MRI

The primary error was a severe departure from normal clinical practice.

The secondary errors are moderate departures from normal clinical practice.

P.G.Alley FRACS

Cancer. 1978 Dec; 42(6):2781–93. Adenocarcinoid, a mucin-producing carcinoid tumour of the appendix: a study of 39 cases. Warkel RL et al.

Adenocarcinoid is a form of appendiceal carcinoid possessing features of both carcinoid and adenocarcinoma. There are two histologic types. Thirty patients had the goblet cell type, characterized by nests of large mucin-distended cells. Nine patients had the tubular type, characterized by small glandular structures lined by uniform cells. Despite abundant mucin and a goblet cell or acinar-like arrangement, a closer relationship to carcinoid than to adenocarcinoma is suggested by a concentration of tumour elements below the crypts of Lieberkuhn, a lack of evidence of neoplastic transformation of the appendiceal mucosa, and the demonstration of argentaffin or argyrophil granules in 88% of the lesions. Six tumors, all of the goblet cell type, metastasized and resulted in the death of the patients. One of the tumours that metastasized had a prominent tubular component. Most adenocarcinoids can be adequately treated by appendectomy, but hemicolectomy is recommended for those tumours showing atypical foci, a high mitotic count, or spread beyond the appendix.

Semin Diagn Pathol. 2004 May; 21(2):134–50. **Pseudomyxoma peritonei and selected other aspects of the spread of appendiceal neoplasms.** Young RH1.

High-grade adenocarcinoma of the appendix may spread to the omentum and peritoneal surfaces without grossly striking mucin deposition and resemble spread of other high-grade gastrointestinal adenocarcinomas. **In many cases in females there is involvement of one, or more often, both ovaries. (my emboldening).**"

Further comment was made by Dr Alley on 6 June 2016:

"In essence the diagnosis was missed at the first operation. That is the root cause of the patient's difficulty. A secondary error was the failure to review her pathology at her presentation four years later. [Dr D] cites (correctly) the life time risk of appendicectomy and seems to be saying that its commonness precludes checking previous pathology. He somewhat surprisingly says that previous appendiceal pathology is never checked saying … *'It is not normal clinical practice in the outpatient setting to check old histology reports as finding a cancer missed from an earlier error is an extraordinarily rare even.'* It is unclear whether this is a DHB policy or his personal preference. I suspect the latter. I also note that it was a relatively straightforward matter for [Dr H] to find and consider the previous histology so I wonder what the standard practice really is in this DHB in regard to checking such information.

I would be very surprised if either of these surgeons took their stated positions in the company of a group of specialist surgical peers — for example in a case presentation I can imagine the negative response to a comment such as 'In a patient presenting with pelvic pathology it is unhelpful to review the histology of a previously removed appendix'.

Another test of the circumstance is to consider the response of a candidate for the final FRACS exam who said previous appendiceal pathology in such a presentation would not be relevant. I can tell you any examiner would have a very dim view of such a response.

Turning to [WDHB's] submission, [this] affirms the good standing of [Dr D] and reiterates [earlier correspondence]. [The] account of the patient's presentation is somewhat incomplete. I agree that the patient came with a story of abdominal pain but on examination [Dr D] found a suspicion of an abdominal mass and a likely pelvic mass on rectal examination. Surely, I contend, these additional findings would be a stimulus to review **any** previous pathology. [WDHB] does not address this point.

I also am very concerned that [WDHB] claims the outpatients 'slots' are only ten minutes for patients. This is a ridiculously short amount of time to elucidate a complex problem such as that presented by [Mrs A]. The DHB should be asked to confirm this allocation of time for new patients. If [this] is correct then it is only a matter of time before a similar error occurs.

[WDHB] should also be reminded that 'busy-ness' of doctors in practice is no defence for an error. I can easily forward to [WDHB] judgments that were particularly harsh on medical staff who pleaded this in mitigation of an adverse clinical event.

In summary the two submissions have not altered my view that an error occurred in [Dr D] not reviewing the previous histology particularly in the light of his clinical findings. Furthermore, I remain of the view that it is an error of moderate significance. I am grateful for the response however because it has raised an issue (the time allocated for new patients to be seen in clinics) of which I was unaware. As always I would be pleased to see further submissions on my analysis of this case."