Scottish Parliament Region: Mid Scotland and Fife

Case 201202912: Fife NHS Board

Summary of Investigation

Category

Health: Hospitals – General medical; clinical treatment; diagnosis

Overview

The complainant (Mr C) raised concerns in relation to delays in diagnosing his late wife (Mrs C) with lung cancer, and specifically that an x-ray taken over five months before her eventual diagnosis had not been properly read. Mr C complained that this mis-led clinicians into dismissing lung cancer as a diagnosis, despite other serious, persistent symptoms.

Specific complaints and conclusions

The complaints which have been investigated are that the Board:

(a) unreasonably failed to properly read an x-ray taken in January 2012 (*upheld*); and

(b) unreasonably delayed in diagnosing Mrs C's illness (*upheld*).

Redress and recommendations

The Ombudsman recommends that Fife NHS Board:	*Completion date*
(i) arrange an external review of their radiology practice and procedures, in consultation with The Royal College of Radiologists, and provide evidence of this review to the SPSO;	23 December 2013
(ii) highlight to all clinical staff the need to review x-rays as well as x-ray reports, when diagnosing patients; and	25 November 2013
(iii) apologise to Mr C for the failings identified in this report.	6 November 2013

Fife NHS Board have accepted the recommendations and will act on them accordingly.

Main Investigation Report

Introduction

1. Mr C complained about the care and treatment of his late wife (Mrs C), prior to her diagnosis with lung cancer in June 2012. Mrs C developed a persistent cough in December 2011 and her GP (Doctor 1) referred her for a chest x-ray, which took place on 12 January 2012 at Glenrothes Hospital (Hospital 1). This x-ray was read by a consultant radiologist (Doctor 2) who reported it as normal. Another GP at Mrs C's GP practice (Doctor 3) then referred her for a respiratory consultation at Victoria Hospital, Kirkcaldy (Hospital 2).

2. While Mrs C awaited this appointment, her symptoms persisted and she developed a pain in her hip. She was seen by another GP (Doctor 4), and was given painkillers and referred for an x-ray of her pelvis. This took place on 14 March 2012 and was reported by Doctor 2 as normal.

3. Mrs C continued to suffer pain in her hip, and went to Accident & Emergency (A&E) at Hospital 2 on 21 March 2012. She was diagnosed with potential sciatica and an x-ray was taken of her lumbar spine.

4. When the pain continued and Mrs C also developed numbness in her shoulder, she was given an urgent referral to Orthopaedic Services at Queen Margaret Hospital (Hospital 3) on 16 May 2012 by Doctor 1. When an appointment was not forthcoming, another GP (Doctor 5) wrote to Orthopaedic Services on 12 June 2012 requesting that Mrs C be seen urgently.

5. In the meantime, Mrs C attended at A&E at Hospital 2 on 26 May 2012, reporting a four week history of shoulder pain. She was diagnosed with a musculoskeletal injury and was advised to attend her GP for follow-up.

6. On 6 June 2012 Mrs C saw the respiratory consultant (Doctor 6) at Hospital 2, who diagnosed her with a viral infection which was, by then, clearing or 'burning itself out'.

7. On 16 June 2012 Mrs C again attended A&E at Hospital 2. Mrs C was seen by an A&E doctor (Doctor 7), and her shoulder was x-rayed. Mrs C's shoulder pain was given the same diagnosis as her GP had indicated – rotator

cuff tendinitis, and the plan was to treat it with a steroid injection and physiotherapy.

8. Mrs C was seen by Orthopaedic Services on 20 June 2012 at Hospital 2. At this appointment the orthopaedic registrar (Doctor 8) recognised several concerning warning signs and referred her for urgent tests, including blood tests and a magnetic resonance imaging scan.

9. On 22 June 2012 Mrs C was admitted to hospital as she was no longer coping at home. Further tests at that time revealed the clinical situation, and she was diagnosed with lung cancer, which was by then affecting her bones, kidney, liver, lung and brain. She passed away on 12 July 2012.

10. Mr C complained that Fife NHS Board (the Board) failed to diagnose lung cancer for several months. He felt that this, at least, left Mrs C with inappropriate treatment and pain relief in the final months of her life, and possibly reduced Mrs C's life expectancy as her cancer was not identified until it was too late for treatment. The family were traumatised by the sudden and unexpected death of Mrs C.

11. The complaints from Mr C which I have investigated are that the Board:
(a) unreasonably failed to properly read an x-ray taken in January 2012; and
(b) unreasonably delayed in diagnosing Mrs C's illness.

Investigation

12. My complaints reviewer examined relevant documentation provided by Mr C and the Board; copy clinical records; and relevant national and local guidance. My complaints reviewer also took advice from two of my independent advisers: a consultant radiologist (Adviser 1) and a consultant in Accident and Emergency (Adviser 2).

13. Explanations of terms and abbreviations used are contained in Annexes 1 and 2, attached to this report.

14. I have not included in this report every detail investigated but I am satisfied that no matter of significance has been overlooked. Mr C and the Board were given an opportunity to comment on a draft of this report.

(a) The Board unreasonably failed to properly read an x-ray taken in January 2012

15. Mrs C was referred by Doctor 1 for an x-ray following a persistent cough. Mr C has expressed concerns that this initial x-ray was mis-read, and that if it had been read appropriately, Mrs C's cancer would have been diagnosed earlier, possibly in time to treat the cancer and extend her life.

Information from the clinical records

16. Mrs C had an x-ray taken of her chest on 12 January 2012. This was reported by Doctor 2 on the day it was taken as normal, and the lungs were reported as clear.

The Board's response to the complaint

17. In their response to Mr C's complaint, the Board reviewed the January chest x-ray. A consultant radiologist (Doctor 9) reviewed the x-ray with several colleagues and identified that, with hindsight, there was 'a subtle increase in density' at one place, which 'may have indicated an enlarged lymph node', but no definite mass was seen, and it was a very subtle change.

18. During the investigation into this complaint, several consultant radiologists reviewed this x-ray. The Board reported that more than half of the other consultants that reviewed the x-ray, without any other information on the case, did not think the x-ray was abnormal. Even with the benefit of hindsight, two consultants did not identify the subtle change in the lymph node. The respiratory consultant (Doctor 6) also noted that the x-ray was 'essentially normal'.

19. When Mr C raised these complaints with the Board, they apologised that the subtle finding on this x-ray was not recognised, as Mrs C would have had a a computerised tomography (CT) scan earlier, and that earlier intervention may have extended Mrs C's life.

Clinical Advice

20. Adviser 1 and Adviser 2 both identified subtle changes within the x-ray which they felt should have been identified at the time. In particular, Adviser 1 noted that there was some subtle shadowing around the left pulmonary artery (a vessel leading away from the heart), which showed an unusual increase in density. He went on to clarify that, while there were no obvious abnormalities,

there were subtle changes which warranted a follow-up chest x-ray or CT scan of the thorax.

21. If this had been done, Adviser 1 noted that they would probably have shown further abnormalities. He considered the mis-reporting of this x-ray, therefore, had a significant impact on Mrs C's subsequent care and treatment.

22. Adviser 2 noted that the changes on this x-ray should also have been evident to the middle-grade doctor (Doctor 10) who saw Mrs C in A&E in March 2012. She specified that this doctor should have viewed the x-ray itself, rather than relying on the report, and should have viewed it critically enough to identify the changes evident in it.

23. However, by March Mrs C's cancer had spread to her hip, and Adviser 2 agreed with the Board's assessment that her cancer was aggressive in nature. Therefore, it may not have been possible to treat her before the cancer spread. Adviser 2 went on to say that Mrs C's pain must have been very distressing and that this could have been alleviated if her diagnosis had been made earlier.

(a) Conclusion

24. The advice I have received indicates clearly that Mrs C's x-ray of 12 January 2012 was not normal. While the changes were subtle, they should have been identified by the radiologist at the time, and by subsequent views by other clinicians. On this basis, I am upholding this complaint.

25. The potential to diagnose Mrs C's cancer at this time was missed. It also meant that other professionals were misled in their review of Mrs C's health over the following months.

(a) Recommendation

26. I recommend that the Board:	*Completion date*
(i) arrange an external review of their radiology practice and procedures, in consultation with The Royal College of Radiologists, and provide evidence of this review to the SPSO.	23 December 2013

(b) The Board unreasonably delayed in diagnosing Mrs C's illness

27. Mrs C was seen by several different clinicians at three hospitals during the period from January to June 2012. Mr C has complained that staff failed to

diagnose Mrs C's lung cancer, despite significant, persistent symptoms and severe pain.

Radiology

28. Mrs C had several x-rays prior to her admission to hospital on 22 June 2012. She had one of her chest on 12 January 2012; her pelvis and hips on 14 March; her lumbar spine on 21 March 2012; and her right shoulder on 16 June 2012. The first two of these x-rays were reported as normal, and the second two showed 'no bony abnormalities', indicating that there was no evidence of changes that could be associated with cancer.

29. During the Board's investigation into Mr C's complaint they reviewed the first x-ray (12 January 2012) as noted above. In relation to the second x-ray (14 March 2012), the Board's investigation found that there was subtle evidence of a lesion in the pelvis which was not identified in the x-ray report. Indeed these changes were identified following a subsequent x-ray of the pelvis on 22 June 2012, when the potential diagnosis of cancer was first established.

30. During their investigation the Board also reviewed the right shoulder x-ray taken on 16 June 2012. The Board's report notes that other consultant radiologists reviewed the x-ray and that 'none of us would have reported it differently'.

31. In addition to their review of the x-rays by radiologists, the Board also noted that the chest x-ray (in January 2012) was viewed by Doctor 6, and the x-rays of the pelvis (in March 2012) and shoulder (in June 2012) were reviewed by doctors in A&E, and none of these picked up the abnormalities or changes evident in any of these x-rays.

32. Adviser 1 noted that the x-ray of the pelvis and hips (21 March 2012) was abnormal, and showed 'bony destruction' that were consistent with a malignant process at the left inferior remus, indicating that the cancer had spread to the pelvis by this time. He went on to say that the x-ray represents the first definitive radiological diagnosis of cancer and should have been repeated. Adviser 2 also identified changes that she felt should have been picked up in radiology and should also have been identified by Doctor 10 in A&E, who should have reviewed the x-ray and questioned the radiology report.

33. Adviser 1 found that there was no evidence in relation to the spread of cancer to be seen in the x-ray of Mrs C's lumbar spine taken on 21 March 2012.

34. In relation to the shoulder x-ray of 16 June 2012, Advisers 1 and 2 both identified this as abnormal, with subtle but definite changes, which were consistent with secondaries of cancer. They advised that these should have been picked up by clinicians at the time.

A&E

35. Mrs C attended A&E at Hospital 2 on three occasions before her admission on 22 June 2012.

36. The first of these visits was on 21 March 2012. She was seen by a junior doctor (Doctor 11) and reviewed by Doctor 10. Doctor 10 identified her symptoms as potential sciatica, and so requested an x-ray of her lumbar spine. This was reported by the same consultant radiologist, Doctor 2, as showing no obvious abnormalities. Mrs C was given painkillers and referred to her GP for follow-up if the pain continued.

37. Mrs C attended at A&E at Hospital 2 on 26 May 2012, reporting a four week history of shoulder pain and was reviewed by a middle grade doctor (Doctor 12). Mrs C's cardiovascular, respiratory and neurological examinations were reported as normal. It was noted that her hip pain persisted, but that a referral to Orthopaedic Services had already been made. Mrs C was diagnosed with a musculoskeletal injury and she was advised to attend her GP for follow-up.

38. Mrs C phoned Primary Care Emergency Service (NHS 24) on 13 and again on 16 June 2012. She discussed her symptoms on both occasions. On 16 June 2012 the nurse adviser raised concerns over a potential pathological origin for the symptoms, and she advised a visit to A&E.

39. On this advice, Mrs C went to A&E at Hospital 2 on 16 June 2012. Mrs C was seen by Doctor 7, and her shoulder was x-rayed. Her symptoms were discussed with an Orthopaedic Registrar (Doctor 13). Mrs C's shoulder pain was given the same diagnosis as her GP had indicated – rotator cuff tendonitis, and the plan was to treat it with a steroid injection and physiotherapy. It was also noted that her hip pains would be discussed at her orthopaedic appointment a few days later. The x-ray was reviewed by a radiologist

(Doctor 14) two days later, and the report found ‘mild degenerative changes … no other bony abnormality’.

40. In their investigation into this complaint the Board sought feedback from one of their Emergency Medicine consultants. This consultant (Doctor 15) referred to having reviewed the reports of x-rays, but not the x-rays themselves. It is not possible to say whether his colleagues were also relying on the reports when they saw Mrs C, but there is no reference to any direct views of x-rays other than those ordered within the department.

41. Doctor 15 also notes that, when Mrs C attended A&E on 26 May 2012 she should have had an x-ray of her shoulder. However, he also considered the diagnosis to have been appropriate, given the evidence available.

42. Adviser 2 was critical that the clinicians in A&E had not identified abnormalities on x-rays, which should have been viewed by them.

43. When Mrs C attended A&E in May, with pain in two joints, Adviser 2 was critical that she was not reviewed more thoroughly. In particular she noted that Mrs C had a significantly raised heart rate and her oxygen saturation levels were reduced. In her assessment, these two factors alone should have led to a more detailed assessment, though the Board reported these as normal. She advised that blood tests to exclude an inflammatory process should have been sought at the very least.

44. Adviser 2 was again critical of the level of assessment given to Mrs C when she attended A&E on 16 June 2012. She noted that the query by a nurse adviser from Primary Care Emergency Services team of a pathological cause for the shoulder pain, combined with an abnormal shoulder x-ray, should have prompted a more detailed history, examination and investigation. Adviser 2 also noted that ongoing shoulder pain is identified in Scottish Intercollegiate (SIGN) Guideline 80, The Management of Patients with Lung Cancer. Such symptoms should trigger a chest x-ray, but this Guideline was not followed by clinicians in A&E.

Respiratory

45. Mrs C was first referred to Doctor 6 on 6 February 2012. However, she was not seen in clinic until 6 June 2012. Doctor 6 has reported that his

colleague electronically vetted the routine referral request, and that an earlier appointment was postponed possibly twice.

46. Mrs C attended the respiratory clinic at Hospital 2, where she saw Doctor 6. Doctor 6 found that Mrs C's cough symptoms were much improved and he noted improvements in her lung function, as judged by records which Mrs C had been keeping herself. He has also reported that he recalls looking at the x-ray and paused because of the appearance of the left 'hilar'(lung root). He double checked the report which was 'normal'. This evidence, in conjunction with Mrs C's low risk of cancer as a life-long non-smoker, and an upcoming orthopaedic appointment, led him to a diagnosis of a transient lower respiratory tract infection.

47. In their response to this complaint, the Board reported that the delay in providing this respiratory consultation was due to a staffing shortage, which they have since taken action to resolve.

Orthopaedics

48. Mrs C was referred to Orthopaedic Services on 16 May 2012 by her GP. The GP graded this as an urgent referral, but Orthopaedic Services downgraded it to routine, on the basis that 'there was no mention of a possibility of cancer and x-rays were normal'. The normal wait for a routine appointment is 12 weeks.

49. On 14 June 2012 Doctor 5 claims they spoke to the on-call orthopaedic clinician (Doctor 16). The GP notes indicate that Doctor 16 said there was no point in repeating x-rays, and suggested that the GP re-check blood tests and make further enquiries for an urgent orthopaedic appointment. There is no reference to this call in Mrs C's clinical notes from the Board.

50. When abnormal blood test results were provided, Mrs C was given an urgent appointment for 20 June 2012, within four weeks of the initial assessment of her notes.

51. At the appointment on 20 June 2012 Doctor 8 recognised several warning signs that led them to request urgent investigations. It was these investigations that led to a diagnosis of lung cancer, and showed the spread of the disease.

(b) Conclusion

52. It is clear from the evidence available that the mis-reading of x-rays by a number of radiologists led to delays in referrals and in the diagnosis of Mrs C's lung cancer.

53. The first of Mrs C's x-rays has been discussed in relation to Complaint (a), and it is clear that subtle abnormalities in this x-ray were missed. The reporting of this x-ray influenced later investigations into Mrs C's other symptoms. As a life-long non-smoker Mrs C was at low risk of lung cancer. This, alongside a reportedly normal chest x-ray misled clinicians to discount a possible lung cancer diagnosis.

54. Subsequent x-rays showed increasingly clear evidence of a serious underlying condition which should have been identified by the Board. Had this been identified by radiologists, then other professionals would have been better informed to act quickly and appropriately.

55. For example, in the Board's response to Mr C's complaint, they cite excessive demand on the respiratory clinic as the reason for the delay in seeing Mrs C. However, it is also evident that if the x-ray report from 12 January 2012 had identified subtle changes, this would have highlighted concerns when her referral was first made. Having said this, errors were not only made by the radiologists, as it would also have been possible for Doctor 6 to view and assess the x-ray, when determining the appropriate level of priority for Mrs C's consultation. Doctor 6 did not view the x-ray until his consultation, at which point he was swayed by the 'normal' reading by the radiologist, despite his own reservations.

56. I also note the advice from Adviser 2, who stated that doctors within A&E should have viewed the x-rays and challenged the normal reports coming from radiology. On this basis, respiratory and orthopaedic clinicians could also have done more to review and challenge existing evidence when making their own decisions and diagnoses.

57. Had Mrs C's x-rays been reported and reviewed appropriately, clinicians would have been able to diagnose Mrs C's lung cancer sooner. It is not clear whether they would ever have been able to diagnose it before it had spread to her bones, as it was aggressive in nature and further tests would have been required before any definitive diagnosis was possible. However, even if the

diagnosis had come after the x-ray in March which showed clear signs of the disease in Mrs C's pelvis, it would have been possible to alleviate the severe and distressing pain she was in over the subsequent three months.

58. It is also a significant concern that, while the Board were able to identify signs in the x-rays of abnormalities in Mrs C's chest, pelvis and shoulders with the benefit of hindsight, they did not consider that these should have been identified at the time, and, therefore, have not apologised to Mr C for these failings.

(b) Recommendations

59.	I recommend that the Board:	*Completion date*
(i)	highlight to all clinical staff the need to review x-rays as well as x-ray reports, when diagnosing patients; and	25 November 2013
(ii)	apologise to Mr C for the failings identified in this report.	6 November 2013

60. The Board have accepted the recommendations and will act on them accordingly. The Ombudsman asks that the Board notify him when the recommendations have been implemented.

Annex 1

Explanation of abbreviations used

Mr C	the complainant
Mrs C	the aggrieved, Mr C's late wife
Doctor 1	the GP who referred Mrs C for a chest x-ray in January 2012
Hospital 1	Glenrothes Hospital
Doctor 2	radiologist who read the x-rays in January and March 2012
Doctor 3	the GP who referred Mrs C for a respiratory consultation
Hospital 2	Victoria Hospital, Kirkcaldy
Doctor 4	the GP who referred Mrs C for an x-ray of her pelvis in March 2012
A&E	Accident and Emergency department
Hospital 3	Queen Margaret Hospital
Doctor 5	the GP who requested an urgent orthopaedic consultation in June 2012
Doctor 6	respiratory consultant
Doctor 7	the doctor who saw Mrs C in A&E on 16 June 2012.
Doctor 8	orthopaedic registrar who saw Mrs C on 20 June 2012 in clinic

Adviser 1	radiology adviser
Adviser 2	A&E adviser
Doctor 9	consultant radiologist who reviewed the x-rays for the Board's investigation
Doctor 10	middle grade doctor in A&E who saw Mrs C on 21 March 2012
Doctor 11	junior doctor in A&E who saw Mrs C on 21 March 2012
Doctor 12	middle grade doctor in A&E who saw Mrs C on 26 May 2012
Doctor 13	orthopaedic registrar who discussed Mrs C with A&E staff on 16 June 2012
Doctor 14	radiologist who read the shoulder x-rays taken on 16 June 2012
Doctor 15	A&E consultant who reviewed the care and treatment provided at A&E for the Board's investigation
Doctor 16	orthopaedic clinician on-call on 14 June 2012, who spoke to PG (Doctor 5)

Annex 2

Glossary of terms

Term	Definition
Computerised tomography scan (CT) scan	creates detailed images of inside the body
Hilar	a complex structure at the root of the lung, consisting of the major bronchi (or air passage), veins and arteries.
Lymph node	filter for fluid and body tissue
Malignant process	process by which cells become cancerous
Musculoskeletal injury	injury involving bones, muscles, and the fibres that connect them.
Oxygen saturation	a measure of the amount of oxygen in the blood
Steroid injection	an injection to reduce inflammation and pain.
Thorax	part of the body between the neck and the abdomen
NHS 24	telephone based Primary Care Emergency Service

Annex 3

List of legislation and policies considered

SIGN 80 management of patients with lung cancer. A national clinical guideline. Scottish Intercollegiate Guidelines Network (2005).
http://www.sign.ac.uk/guidelines/fulltext/80/