HEALTH & DISABILITY COMMISSIONER
TE TOIHAU HAUORA, HAUĀTANGA

A Decision by the Health and Disability Commissioner

(Case 22HDC01239)

Introduction

1. This report is the decision of Morag McDowell, Health and Disability Commissioner. The report discusses the care provided to Mr A by Health New Zealand|Te Whatu Ora (Health NZ) Southern in 2021 and relates to Mr B's concerns around the delayed diagnosis of metastatic oesophageal adenocarcinoma, and access to palliative chemotherapy and radiation therapy.

2. The following issue was identified for investigation:

- *Whether Health New Zealand|Te Whatu Ora provided [Mr A] with a reasonable standard of care from March to September 2021 (inclusive).*

3. The parties directly involved in the investigation were:

Mr A (dec)	Consumer
Mr B	Complainant
Health NZ Southern	Group provider

4. Further information was received from:

Medical centre	
Dr C	General practitioner (GP)
Private hospital	

5. In-house clinical advice was obtained from vocationally registered GP Dr David Maplesden (Appendix A).

6. At the outset I acknowledge that Mr A died from his illness, and I extend my sincere condolences to his family for their loss.

Background

Presentations to medical centre

7. On 17 March 2021 Mr A presented to a medical centre after developing new pain in his left thigh. He was seen by Dr D. Mr A could not recall any recent trauma to his left leg and

Names (except Health NZ Southern, the relevant hospitals, and the clinical advisor on this case) have been removed to protect privacy. Identifying letters are assigned in alphabetical order and bear no relationship to the person's actual name.

wondered if the pain was due to overuse given a previous soft tissue injury to his right ankle for which he was receiving physiotherapy.

8. On examination, Dr D noted: '[E]ntire thigh swollen but in particular red, warm and tense swelling from mid to lower posterior thigh — does not involve popliteal fossa.'[1] The area was noted as 'tender to touch' with mild pitting oedema.[2] Dr D's impression was one of swelling of the left thigh, possibly due to cellulitis,[3] but he needed to rule out a deep vein thrombosis (DVT).[4] A blood test showed a raised D-dimer,[5] mildly raised C-reactive protein (CRP),[6] and a normal full blood count and renal and liver function.

9. On 18 March 2021 Mr A underwent an ultrasound at a private hospital, which excluded a DVT but the report indicated a 16cm medial hamstring tear with associated haematoma.[7]

10. On 23 March 2021 Mr A again presented to the medical centre as his pain had been worsening and he had difficulty walking. He was taking regular codeine for pain.[8] Due to the worsening pain, a semi-urgent referral was made to Orthopaedics at Dunedin Hospital, and referrals were made for a musculoskeletal ultrasound of his left hamstring and an X-ray of the limb.

11. Between 29 March and 29 April Mr A presented to the medical centre on three occasions in relation to his pain and swelling, which was persistent and worsening. He was commenced on 20–40mg of furosemide[9] in the morning in an attempt to reduce the swelling.

12. On 29 April 2021 Mr A's Orthopaedics referral was declined until an ultrasound and X-rays had been done. The X-ray and ultrasound were scheduled for early June, and an appointment with Orthopaedics was scheduled for shortly after that.

13. During the period from March to June 2021, Mr A's condition continued to deteriorate. At his appointment on 12 May 2021 with Dr C, Mr A reported that he was not able to sit or stand for longer than 10 minutes.

14. On 2 June 2021 Mr A received an X-ray and an ultrasound at a private hospital. The X-ray of the femur showed no abnormality. The ultrasound showed residual haematoma and appearances 'highly suspicious of a high grade probable full thickness tear of the proximal

[1] A diamond-shaped space behind the knee joint that contains nerves and blood vessels that run from the thigh to the lower leg.
[2] Swelling that remains dimpled after being pressed.
[3] A common and potentially serious bacterial infection that affects the skin.
[4] A blood clot located in a deep vein.
[5] A protein fragment in the blood. A high D-dimer level may indicate the presence of blood clots or a blood-clotting disorder.
[6] A protein made by the liver that increases when there is inflammation in the body.
[7] A collection of blood.
[8] An analgesic opiate used for mild to moderate pain.
[9] A diuretic medication given to help treat fluid retention and swelling.

hamstring origin'. The scan also detected a popliteal thrombus (clot)[10] but the femoral vein was unable to be seen due to swelling. Mr A was commenced on medication to treat the thrombus, and a further semi-urgent referral to Orthopaedics Dunedin was made on 8 June.

15. On 18 June 2021 Mr A saw Dr C about an itch affecting his left leg, and again they discussed Mr A's ongoing symptoms. Dr C noted that further imaging had been scheduled to provide a more precise diagnosis.

Review by orthopaedic specialist

16. On 24 June 2021 Mr A was seen by orthopaedic specialist Dr E, who was concerned about Mr A's unusual history and presentation, which was inconsistent with a hamstring injury. An MRI[11] was arranged to gather further information about the hamstring, and an MRI venogram[12] was arranged due to concerns about the possibility of a venous obstruction above the thigh level.

17. Mr A underwent the arranged MRI on 15 July 2021. The imaging showed a tumour in the left lower limb and the pelvic girdle region (suspected to be cancer). On 19 July Mr A was transferred to Dunedin Hospital, initially under the care of Dr E, for further investigation.

18. Further imaging undertaken on 19 and 23 July 2021 also noted oesophageal cancer, which was suspected to be the primary cause of Mr A's more widespread cancer.

Oncology care

19. Mr A's care was transferred from the surgical team to the Oncology team at Dunedin Hospital on 27 July 2021. Mr A was accepted and triaged as 'urgent' (to be seen within 48 hours). Mr A was referred to Medical Oncology promptly, and on 28 July 2021 he was triaged as 'AC3 — Symptomatic Therapy for Chemoresponsive Incurable Disease'.[13]

20. Mr A's case was discussed at the gastrointestinal cancer multidisciplinary meeting (MDM) on 29 July 2021, and it was agreed that his oesophageal cancer was incurable. Accordingly, the MDM recommended palliative treatment. The MDM discussed the treatment plan of palliative radiotherapy followed by systemic chemotherapy. The clinical notes from 29 July 2021 record that Mr A and his family were informed of this diagnosis and reassured that '[radiation oncology would] play an important role going forward … so as not to affect [quality of life]'.

21. The clinical notes show that on 30 July 2021 a radiation oncologist saw Mr A to reiterate the findings of the MDM and create a plan for his radiation treatment. The oncologist

[10] A DVT of the popliteal vein, which runs behind the knee.
[11] Magnetic resonance imaging — a procedure used to create pictures of the inside of the body.
[12] An MRI using contrast dye to create images of the veins and blood flow in the body.
[13] The Clinical Prioritisation Guidelines outline that this prioritisation is 'semi-urgent' and the patient is to be seen within four weeks. It is for patients whose cancer cannot be cured by chemotherapy but who may experience symptomatic relief from chemotherapy.

wrote to Dr E outlining his plan to offer Mr A a single treatment of palliative radiotherapy to the oesophagus to control bleeding, five treatments over one week to the mass in his left thigh to manage pain, and a referral to the pain service and palliative care for wraparound care.

22. Mr A received radiation treatment in accordance with the oncologist's plan, which commenced on 3 August 2021 and was completed on 6 August 2021. The oncologist saw Mr A again on 6 September and booked him in for further palliative radiotherapy, this time on cancer that had spread to his right pelvis. This second round of radiation was delayed and eventually booked for a few weeks later (although Mr A died before the scheduled date).

Medical Oncology First Specialist Assessment

23. The Clinical Prioritisation Guidelines in place at Health NZ Southern at the time required patients triaged as AC3 to receive a first specialist assessment (FSA) from a medical oncologist within four weeks of referral. Health NZ told HDC that at the time of Mr A's referral, the standard wait time for FSAs for patients in Mr A's position was approximately eight weeks, due to 'reduced capacity within the Medical Oncology Service'.

24. It was recommended at the MDM on 29 July that Mr A should receive systemic chemotherapy. However, Mr A never received an FSA for chemotherapy, despite the criteria at the time requiring that he be seen within four weeks from 28 July 2021 (the date of referral). Mr B's complaint states that the FSA did not occur 'despite approaches by the family and on their behalf'. Mr B believes that 'any opportunity for … palliative chemotherapy was delayed until it was no longer possible'. Mr B's complaint also highlights that '[t]he toll on [Mr A's family] … and friends has been high' and that access to palliative chemotherapy may have reduced the suffering Mr A endured in the last months of his life.

25. Health NZ acknowledged and apologised that despite Mr A's family approaching the service to follow up Mr A's treatment, Mr A was not seen by a medical oncologist before his death. It is not clear whether this delay or the reasons for it were communicated to Mr A or his family at the time of his care. In response to my provisional opinion, Mr B clarified that he was not aware that any reasons for the delay were provided. Instead, verbal reassurances were given that an appointment would occur.

26. Health NZ told HDC that because of the rapid deterioration of Mr A's disease, by the time he was due to be seen by a medical oncologist, he 'had deteriorated to the point that chemotherapy was not appropriate; the benefit even if treatment had been given earlier is doubtful'.

Second round of radiation therapy

27. Following Mr A's August 2021 radiation treatment, on 6 September 2021 he was referred for further palliative radiation treatment, this time for cancer in his right pelvis. This was planned to be done while Mr A was an inpatient at Dunedin Hospital.

28. As noted above (paragraph 22), this second round of radiotherapy was delayed and Mr A died before it could be administered.

29. Health NZ Southern told HDC that the delays in Mr A receiving further radiation were due to the Radiation Oncology department being at capacity due to a post-COVID surge of patients receiving treatment, resulting in treatment machines being at capacity. This pressure on the department was amplified by machine replacement work and breakdowns, resulting in fewer-than-usual machines to treat higher-than-usual demand.

30. Health NZ Southern told HDC that 'under different circumstances' Mr A would have been scheduled for earlier treatment. However, due to the above issues with capacity and resourcing, in 2021 Health NZ Southern prioritised the treatment of patients with the most acute need. Health NZ Southern told HDC that because Mr A was not to receive curative treatment, and his pain was reported to be well controlled, he was not scheduled for early treatment.

Commissioner-Initiated Investigation into delays in provision of non-surgical cancer services

31. In April 2023 I published a report on my investigation into Health NZ Southern's delivery of non-surgical cancer services, including delays in patients obtaining FSAs, over the period of 2016 to 2022.[14]

32. My report noted:

> '[Health NZ Southern] failed to recognise and respond to the clinical risk created by lack of capacity within the Southern Blood and Cancer Service (SBCS).[15] This was due to poor overall clinical governance systems, including inadequacies in quality measures and indicators, and poor relationships between clinicians and executive management.'[16]

33. The report acknowledged the resource constraints affecting the timely provision of specialist procedures but considered that the care provided by Health NZ Southern was not adequate in the circumstances, as the clinical governance systems in place at the time prevented the patient risk caused by delays from being identified and addressed.

34. My investigation found that Health NZ had failed to provide services to patients within the SBCS in a manner that minimised the potential harm to, and optimised the quality of life of, those patients, and therefore breached Right 4(4)[17] of the Code of Health and Disability Services Consumers' Rights (the Code).

[14] https://www.hdc.org.nz/media/z3sd0ijh/22hdc01310_with_addendum.pdf.
[15] The SBCS includes the Medical Oncology, Radiation Oncology and Haematology services.
[16] Paragraph 3.
[17] Right 4(4) states: 'Every consumer has the right to have services provided in a manner that minimises the potential harm to, and optimises the quality of life of, that consumer.'

35. I also made adverse comment about the support offered to patients affected by Health NZ Southern's delays in non-surgical cancer services, noting:

> 'In my view, patients would have benefited from a more consumer-centred, humanised approach, including a clinical navigator service or point of contact within the district, and the offer of subsidised GP visits if their circumstances changed.'

36. I made several recommendations, including that Health NZ Southern:[18]

a) Consider establishing a system that provides a single point of contact (for example, a patient navigator service) for patients who are on the waiting list for FSA.

b) Provide a report on the implementation of the recommendations of the Southern District Health Board Review 2021 and the EY report of 2022.

c) Review the circumstances of those patients identified as having been harmed in the harm registers referred to in the report, to ensure that ACC treatment injury claims have been made as appropriate.

Responses to provisional opinion

Mr B

37. Mr B was given the opportunity to respond to the 'information gathered' section of my provisional opinion. Mr B confirmed that the record of events in this report was accurate to the best of his knowledge.

38. Mr B told HDC that he understands the pressures and limitations on the public health system, and he believes that services are underfunded and understaffed. However, he does not accept that treatment could not have been provided to Mr A during the COVID-19 pandemic. Mr B told HDC that there should have been clear communication from Health NZ Southern at the outset regarding delays. Mr B noted that Mr A and his family may have considered seeking care elsewhere had they received clear communication regarding delays, rather than 'the continual promise that therapy would be commencing in short order'.

39. Mr B's further comments have been incorporated into this report where relevant.

Health NZ Southern

40. Health NZ Southern was given the opportunity to respond to my provisional opinion, and its comments have been incorporated into this report where relevant.

Dr C

41. Dr C was given the opportunity to respond to my provisional opinion. Dr C confirmed that he accepted the findings and recommendations made in the report. His other comments have been incorporated into this report where relevant.

[18] Paragraph 147.

Opinion: Health NZ Southern — breach

42. Following the preliminary assessment of this complaint I wrote to Health NZ Southern proposing to find it in breach of Right 4(4) of the Code. I considered that Mr A's care had been affected by the delays of Health NZ Southern's non-surgical cancer services that I canvassed in my Commissioner-Initiated Investigation completed in 2023 (over the period from 1 January 2016 until 28 February 2022 (inclusive)). Health NZ agreed to my proposed breach in relation to the delayed Medical Oncology FSA and delayed pelvis radiation therapy.

43. Mr A's referral was graded as semi-urgent and 'AC3' (symptomatic therapy for chemo-responsive incurable disease). Health NZ Southern told HDC that although the criteria for patients such as Mr A to receive a Medical Oncology FSA was within four weeks, in 2021 the wait time for patients with similar criteria to Mr A was approximately eight weeks. These delays resulted in Mr A not receiving a Medical Oncology FSA before he died. I am critical that Mr A was not offered an FSA within the recommended wait time of four weeks.

44. I acknowledge that, in hindsight, Health NZ Southern considers it doubtful that earlier treatment would have been of significant benefit to Mr A. Despite this, I remain critical that the systems in place at Health NZ Southern meant that cancer patients who were to be seen by a medical oncologist were not seen within the appropriate timeframes or, in Mr A's case, at all. In this context, Mr A and his family struggled under the burden of diagnosis and illness to follow up on what was happening, ultimately without successfully obtaining an assessment.

45. I am also critical of Health NZ Southern's apparent lack of communication with patients affected by the delays. Patients with terminal cancer diagnoses and their whānau are under immense stress and anxiety, which is compounded by delays in receiving appropriate care. As stated in my April 2023 report, I consider that patients such as Mr A would have benefited from contact with clinical navigators while waiting for an FSA so that their circumstances could have been re-evaluated and further options discussed.

46. While Mr A received radiation therapy to his oesophagus and thigh, there were delays in him receiving further radiation to his pelvis. Mr A died before he could receive a second round of radiation therapy. Delays were explained by Health NZ Southern as being due to a post-COVID surge, and machine replacement work and breakdown. Health NZ Southern also said that in retrospect, 'the issues involved with delivering the [radiation therapy] … were greater than the possible benefit', and it suspects that it would have ended up cancelling this treatment due to Mr A's deterioration.

47. Right 4(4) states that every consumer has the right to have services provided in a manner that minimises the potential harm to, and optimises the quality of life of, that consumer. I consider that Health NZ Southern failed to provide Mr A with a Medical Oncology FSA within the required timeframes, and radiation therapy to his pelvis, which greatly affected his quality of life in his final months. It is clear to me that the above failures show that Mr

A was affected by the delays in Health NZ Southern's non-surgical cancer service, which formed the basis of the breach in my Commissioner-Initiated Inquiry (referenced above). Accordingly, I find that Health NZ Southern breached Right 4(4) of the Code.

Communication — adverse comment

48. Given the resource constraints, I would have expected Health NZ Southern to discuss the situation with Mr A to explore the options of receiving treatment at another hospital or not receiving radiation at all. I am critical that Mr A remained bed bound and in pain while waiting for radiation treatment, with little communication from Health NZ Southern.

49. Likewise, I am critical that the delay in Mr A receiving a Medical Oncology FSA, and the reasons for it, appear not to have been communicated to him clearly and honestly. When resource constraints cause adverse effects on patients, I expect providers to have frank discussions with these consumers to manage expectations and discuss the options available to them. I am critical that this did not occur in Mr A's case.

Opinion: Dr C — adverse comment

50. Mr A first presented at the centre in March 2021 complaining of pain in his leg. He was seen by several GPs, including Dr C. I received clinical advice from Dr Maplesden, my in-house GP clinical advisor, about Mr A's GP care, which is appended to this report.

51. Mr B is concerned that malignancy was not considered sooner by the staff, and believes that if it had been, and Mr A had been referred to a specialist earlier, his diagnosis could have been made earlier, allowing for better symptomatic control. Dr Maplesden advised that overall Mr A's GP care was of an acceptable standard for a working diagnosis of DVT, then of hamstring tear with associated haematoma. It is unfortunate that the suspected hamstring tear masked the malignancy, but I am not critical of Mr A's overall GP care given the appropriate and more likely diagnoses of DVT and hamstring tear.

52. While at the time of the referral on 23 March 2021 malignancy was not a consideration, Dr Maplesden is mildly critical that Dr C did not attempt to expedite the imaging on 29 April 2021. Dr Maplesden advised that because Dr C was aware by 29 April that an orthopaedic appointment was yet to be scheduled awaiting imaging, and because of the evolving clinical picture and symptoms atypical of a hamstring injury, he should have confirmed or expedited the scheduling of the required imaging. I accept this advice.

53. Dr C told HDC that once the imaging did occur, it did not expedite the diagnosis. While this may be true, I accept Dr Maplesden's advice that with the information available to Dr C at the time, and without the benefit of hindsight, the imaging should have been followed up.

54. Dr Maplesden also advised that he is 'mildly critical that the referral (dated 8 June 2021) did not include an update on the progression and increasing severity of Mr A's leg symptoms'. I accept that with an evolving clinical picture and worsening symptoms that are atypical of the diagnosis, referrals should include updates on a patient's condition. This

best enables the receiver of a referral to prioritise it based on the full extent of the patient's symptoms.

55. I take this opportunity to remind Dr C of the importance of ensuring that appropriate detail is included in referrals, and that referrals are followed up if there are delays.

Changes made since events

56. In August 2022 Health NZ Southern told HDC that 'in early 2022 [Health NZ Southern] employed two additional medical oncologists', which has improved the waitlist for FSAs.

57. On 22 February 2024 I published an addendum to my April 2023 report, which outlines the information received by HDC in response to the recommendations made in that report. The addendum to the report summarises the changes made in detail but, in short, include the following:

a) A primary barrier to reducing the delays in the service is the recruitment and retainment of senior medical officers (SMOs). While there is evidence of work being done in this area, more work is required to address the workforce challenges.

b) Considerable progress has been made towards enhancing performance and accountability, but this needs to have greater involvement of clinicians and greater clarity in the pathways for risk escalation and responsibility of management.

c) Health NZ Southern has implemented a patient navigator team to offer advice around alternative options available to patients. I suggested that Health NZ consider providing written information to patients about their options, which can be discussed with a navigator before a patient contacts their GP.

58. Dr C told HDC that subsequently, he retired from general practice.

Recommendations

Health NZ Southern

59. I recommend that Health NZ Southern:

a) Apologise to Mr A's family for the criticisms identified in this report. The apology is to be sent to HDC within three weeks of the date of this report, for forwarding to Mr B, on behalf of the family.

b) Provide HDC with an update on the following, within three months of the date of this report:

i. Current waiting times for FSA in the SBCS, including any actions being taken if wait times are outside recommended clinical timeframes; and

ii. Staffing numbers within the service and recruitment effort.

c) Consider undertaking an evaluation of the effectiveness of the patient navigator service, by an audit of service outcome measures, and provide HDC with a report, including any corrective actions implemented.

Dr C

60. In my provisional opinion, I recommended that as per Dr Maplesden's advice, Dr C present an anonymised case study of the report to his peers as an illustration of the importance of considering alternative diagnoses when there are features present atypical for the current working diagnosis. Dr Maplesden's advice included a resource to assist in this recommendation.[19]

61. In response to my provisional opinion, Dr C confirmed that his peer group discussed Mr A's case in 2021. Noting this, and that Dr C has retired from general practice, I consider that this recommendation has been met satisfactorily.

62. I recommend that Dr C apologise to Mr A's family for the criticisms in this report. The apology is to be sent to HDC within three weeks of the date of this report, for forwarding to Mr B on behalf of the family.

Follow-up actions

63. A copy of this report with details identifying the parties removed, except Health NZ Southern, the relevant hospitals, and the clinical advisor on this case, will be sent to Health NZ (national office) and Te Aho o Te Kahu|Cancer Control Agency and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

[19] Rosen P, Klenzak S, Baptista S. Diagnostic challenges in primary care: Identifying and avoiding cognitive bias. J Fam Pract. 2022 April;71(3):124–132: https://www.mdedge.com/familymedicine/article/253654/preventive-care/diagnostic-challenges-primary-care-identifying-and Accessed 9 October 2023.

Appendix A: In-house clinical advice to Commissioner

The following advice was obtained from Dr David Maplesden:

> '1. My name is David Maplesden. I am a graduate of Auckland University Medical School and I am a vocationally registered general practitioner holding a current APC. My qualifications are: MB ChB 1983, Dip Obs 1984, Certif Hyperbaric Med 1995, FRNZCGP 2003. Thank you for the request that I provide clinical advice in relation to the complaint from [Mr B] about the care provided to his family member, the late [Mr A], by clinicians at [the medical centre]. In preparing the advice on this case to the best of my knowledge I have no personal or professional conflict of interest. I agree to follow the Commissioner's Guidelines for Independent Advisors.
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> 2. I have reviewed the following information:
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> - Complaint from [Mr B]
> - Response from [Dr C] of [the medical centre]
> - Clinical notes [the centre]
> - Clinical notes Central Otago Heath Service (private hospital)
> - Response Te Whatu Ora Southern
> - Clinical notes Dunedin Hospital (DH)
> - **Further response from [Dr C] received 2 February 2024**
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> 3. [Mr B] complains about delays in the diagnosis of metastatic oesophageal cancer in his family member, the late [Mr A]. [Mr A] (B: …) presented to [the medical centre] on 17 March 2021 after developing new pain and swelling on his left thigh. There was no preceding injury to the limb recalled and a provisional diagnosis of deep vein thrombosis (DVT) was made after blood test showed elevated D-dimer. [Mr A] was started on anticoagulation and referred for venous ultrasound. The ultrasound completed on 18 March 2021 was reported as showing a 16cm medial hamstring tear with haematoma, but no DVT. On 23 March 2021 [Mr A] reported increased pain and swelling of the thigh and he was referred for thigh X-ray and musculoskeletal ultrasound with concurrent orthopedic referral (semi-urgent). Ongoing symptom of thigh pain and swelling was reported at three further consultations between 29 March and 22 April 2021 with analgesia provided. On 29 April 2021 [the centre] received notification the orthopedic referral was declined until results of the previously ordered imaging were available. On 12 May 2021 [Dr C] reviewed [Mr A] with left ankle and knee pain. It was noted the previously ordered lower limb imaging was scheduled for 2 June 2021 with an orthopedic appointment already scheduled for shortly after this. Femur X-ray dated 2 June 2021 was unremarkable and musculoskeletal ultrasound performed the same day was suspicious for a probable full thickness tear of the proximal hamstring origin on the left with popliteal vein thrombosis also noted on the left. Rivaroxaban was commenced as anticoagulation and further orthopedic referral (with imaging

results) sent on 8 June 2021 marked semi-urgent. On 24 June 2021, [Mr A] was seen by orthopedic [specialist] [Dr E] who felt the presentation was unusual and requested an MRI scan. This was undertaken on 15 July 2021 (limited by pain) and revealed presumed extensive tumour involvement of left thigh and buttock muscles with bony involvement of the pelvis. [Mr A] was admitted to DH (via a private hospital) on 20 July 2021 for further investigation with CT scan that day revealing extensive bony metastatic disease involving the sternum, thoracolumbar spine and pelvis, and abnormal thickening of the distal oesophagus. Gastroscopy on 21 July 2021 revealed a fungating distal oesophageal mass confirmed on histology as adenocarcinoma with lower limb muscle biopsy on 23 July 2021 confirming muscle infiltration by poorly differentiated adenocarcinoma. Palliative radiotherapy was undertaken from 3–8 August 2021 but [Mr A] continued to deteriorate requiring admission to a private hospital for symptom control (predominantly pain) before passing away on … [Mr B] is concerned that malignancy was not considered by [the centre's] clinicians and that further specialist assessment should have been requested, given a persistent haematoma, DVT which did not respond to anticoagulation, progressive debility and uncontrolled pain not characteristic of a soft tissue injury. [Mr B] feels that this would have led to an earlier diagnosis of cancer and more time for effective symptom control and to adjust to the devastating diagnosis.

4. [The centre's] notes indicate [Mr A] was reviewed on 22 February 2021 … after injuring his right ankle when he stood in a rabbit hole. He also complained of chronic left knee pain (multiple previous left knee surgeries) with X-rays in 2017 showing degenerative changes. Ankle X-ray dated 22 February 2021 showed no bony injury and [Mr A] was diagnosed with a soft tissue injury of the ankle managed with rest, elevation and analgesia. On 17 March 2021 [Mr A] presented to [the centre] ([Dr D]). What I presume are nurse triage notes refer to a history of right leg pain and swelling which appears to be in error noting [Dr D's] notes and subsequent notes which clearly state the left leg was symptomatic. History includes: *… 4–5 days ago noticed a pain in posterior L thigh — painful on pressure — especially sitting on it. Ok when standing/lying down. No hx of trauma/injury. Last night in the shower noticed that L leg was swollen compared to right. Much the same today. L leg normally about "10% smaller" than right leg as has had about 8 surgeries to knee — last one was 23 years ago — so unusual that L leg is bigger than right … Sprained R ankle a few weeks ago, having physio still, initially wondered if the R thigh pain was due to overcompensating for the injury.* [Mr A] was reported to be systemically well, in particular there is reference to *denies any GORD sx* [symptoms of gastro-oesophageal reflux]. Vital signs were normal and *L thigh — entire thigh swollen but in particular red, warm and tense swelling from mid to lower posterior thigh — does not involve popliteal fossa. Tender to touch. Mildly pitting. R calf 41 cm, L calf 42cm (pt says usually L calf smaller than right).* Differential diagnosis included DVT and cellulitis and urgent blood test and venous ultrasound were arranged (Clexane administered as earliest ultrasound appointment was the following day). Extensive safety netting advice is

documented. Blood test results showed significantly elevated D-dimer (3.73 mg/L, normal < 0.6) and mildly elevated CRP (15 mg/L, normal <5) with normal blood count and renal function. Ultrasound result 18 March 2021 included *No left lower limb DVT, tear involving distal medial hamstring musculature measuring approximately 16cm in length with associated haematoma* with focussed musculoskeletal ultrasound recommended if clinically indicated. Later on 18 March 2021 [Mr A] was notified of the result and advised to monitor symptoms, return for review if not resolving and that no further anticoagulant therapy was required.

5. Comment: [Dr D's] notes are of very good quality and outline a comprehensive assessment (history and examination) with findings requiring consideration of a DVT diagnosis. Local HealthPathways[1] recommend use of the Wells score[2] in this situation (the score assists with management decisions) and although a score was not recorded, the physical parameters used for scoring have been. Based on the recorded findings, I estimate the Wells score to be 2 prior to ultrasound but revised to 0 following ultrasound when soft tissue (hamstring) injury with haematoma was apparently confirmed and would then be regarded as a more likely alternative diagnosis. There was no indication for ongoing anticoagulation and no current indication for specialist referral. I believe [Mr A's] management to this point would be met with approval by my peers. However, I acknowledge the extent of [Mr A's] apparent hamstring injury did not appear to correlate well with his injury history although the significant ankle injury he suffered at the time may have masked a concurrent hamstring tear. I note also that while acute and more severe soft tissue trauma can cause a rise in D-dimer levels, the level observed did not necessarily correlate with an injury that presumably occurred more than three weeks' previously. Nevertheless, [Mr A] was noted to be systemically well with reassuring blood test results apart from the D-dimer test.

6. [Mr A] returned to [the medical centre] for review on 23 March 2021 and was seen by [Dr F]. Notes include: *worsening swelling and pain, now difficulty walking without pain, taking regular codeine.* Assessment findings include: *Diffusely swollen L leg, pitting oedema to knee level, erythematous swelling posterior L thigh.* Previous ultrasound results were noted with plan to follow the recommendation for focussed musculoskeletal ultrasound together with plain X-ray of the femur, and referrals were made for this imaging (at a private hospital). An electronic referral (semi-urgent) was made concurrently to the TWO orthopedic service with indication*? hamstring tear — sudden swelling and pain, no history of trauma* and history summary (viewed).

7. Comment: [Dr F] followed the radiologist recommendations in seeking further ultrasound imaging of [Mr A's] posterior thigh and was conscientious in making an orthopedic referral concurrently given the discordance between the lack of clear

[1] Southern Community HealthPathways. *Deep Vein Thrombosis.* https://southern.communityhealthpathways.org/ Accessed 9 October 2023
[2] https://www.mdcalc.com/calc/362/wells-criteria-dvt Accessed 9 October 2023

injury history and clinical and imaging findings to date. It is not clear if [Mr A's] blood results were attached to the referral (and there is no reference to the increased D-dimer in the referral) and I would be mildly critical if they were not, although I presume the orthopedic service could access the results if required and were made aware blood tests had been performed. Otherwise, I believe [Dr F's] management of [Mr A] would be met with approval by my peers.

8. [Dr C] reviewed [Mr A] on 29 March 2021. Note read: *swelling left lower limb increasing — trial diuretic & needs to stop work.* ACC forms provided for time off work plus prescription for frusemide and ibuprofen. At next review on 7 April 2021 [Dr C] recorded: *No progress, swelling much the same … asked ACC to contact* (off work time extended). [Dr C] reviewed [Mr A] again on 22 April 2021 when notes read: *Ongoing pain, especially at night & not making any progress. Also calf cramps in am especially. Exam: Tense swelling thigh persists. Action: try dhc n, crutches.* A prescription was provided for paracetamol and DHC Continus. [Dr C] states on 29 April 2021 notification was received that the orthopedic referral was declined until the planned imaging was completed.

9. Comment: [Dr C's] clinical notes over this period are brief with minimal clinical findings documented. [Mr A's] presentation pattern was concerning in that rather than expected gradual resolution of symptoms following a presumed soft tissue injury, [Mr A's] symptoms (and abnormal clinical findings) were persisting or worsening (now requiring crutches to mobilise), with night-time pain being a potential red flag. I am not sure of the clinical rationale for use of frusemide in treating unilateral leg oedema thought to be associated with a soft tissue injury (not a fluid overload situation). Escalation of analgesia was appropriate. I believe many of my colleagues would have attempted to expedite the additional imaging ordered on 23 March 2021, certainly by 29 April 2021 when [Dr C] was made aware there would be no orthopedic appointment offered until the results of the imaging were available. I acknowledge that hamstring injuries can be associated with chronic gluteal pain (hamstring syndrome) but the persistence of significant/tense thigh oedema several weeks following the presumed hamstring injury is not typical for such an injury[3]. I believe the apparent failure by [Dr C] to attempt to expedite [Mr A's] imaging (and thereby his orthopedic review) when he had yet to have the imaging undertaken five weeks following referral, and in the face of an atypical and deteriorating clinical picture, would be met with mild disapproval by my peers. This takes into account the fact a referral had been made, and that initial imaging had reported a significant musculoskeletal injury rather than non-specific or sinister findings. In hindsight, once the imaging had been performed it served to reinforce a diagnosis of likely musculoskeletal injury plus DVT rather than raising suspicion of an alternative diagnosis.

[3] Fields K, Copland S, Tipton J. Hamstring muscle and tendon injuries. Uptodate. www.uptodate.com Accessed 9 October 2023

Addendum 20 May 2024: In a subsequent response, [Dr C] states he thought [Mr A's] imaging was imminent at the time of review on 29 April 2021. For the reasons described above, I believe scheduling of the imaging required confirmation at this point given how the clinical picture was evolving and I remain mildly critical this was not done. [Dr C] notes the imaging, once completed, did not result in [Mr A's] diagnosis being expedited and may have delayed it. I agree with this comment but it is made in hindsight and does not apply directly to management decisions made in April and May 2021.

10. [Dr C] reviewed [Mr A] again on 12 May 2021. Notes read: *Having pain ant. aspect left ankle and knee and still not able to stand or sit for more than 10 mins or so. Seeing orthop early June for xray & u/sound. 1 DHC at nite helps sleep. Exam: no acute findings in left ankle or knee. Action: advise using more dhc with some laxsol.* There was a further consultation on 26 May 2021 when ACC off work forms were extended and: *has xray & u/s scan next wed at a private hospital. Using 2 dhc n & 1 m,2 paracode mane, Exam: Wt= 94.3kg.* [Mr A] had his ultrasound and femur X-ray performed at a private hospital on 2 June 2021 with results reported to [Mr A]. Femur X-ray was normal and the ultrasound report concluded: *High grade tearing of hamstring likely involving hamstring origin with associated persistent extensive haematoma and early fatty infiltration of muscle bellies. This could be assessed further with MRI. Finding of DVT at least involving popliteal vein with very technically difficult assessment elsewhere.* [Mr A] was referred back to [the medical centre] where he was commenced or rivaroxaban and omeprazole. On 8 June 2021 [Dr C] provided an electronic referral to the orthopedic service marked semi-urgent with referral note: *[Mr A] has had his X-rays and ultrasound as requested before being seen at clinic. Reports below* (attached). *The u/sound shows a popliteal dvt for which he has been started on rivaroxaban 20mg daily.*

11. Comment: Noting [Mr A] apparently had a confirmed date for his imaging appointments which was relatively close to the consultation of 12 May 2021, and imminent at the consultation of 26 May 2021, I believe [Dr C's] management over this period was not unreasonable. It is unclear why weight was recorded on 26 May 2021 or how the weight compared to previous measurements. If [Mr A] presented a symptom of weight loss at this appointment, I would be moderately critical it was not included in the clinical documentation given this is a potential red flag for serious pathology. The prescribing of rivaroxaban for [Mr A's] confirmed DVT was consistent with accepted practice, and the timing of development of the DVT cannot be confirmed (ie it cannot be assumed this was a chronic DVT given the negative venous ultrasound on 18 March 2023 despite limb swelling being evident at that time). Orthopedic review was required before MRI could be undertaken and [Dr C] completed the referral within a reasonable time frame although I am mildly critical the referral did not provide an update of [Dr C's] symptoms noting the need for stronger analgesia and development of night-time pain, need for crutches to mobilise, and persistence of tense thigh swelling. These features (and symptom of

weight loss if obtained) might influence the triage category applied to the referral irrespective of the semi-urgent categorisation noted by [Dr C].

Addendum 20 May 2021: [Dr C] notes [Mr A's] weight was 88kg on 17 March 2021 and 94.3kg on 26 May 2021 — the increase perceived as being due to oedema. There was no unexplained weight loss that might have raised suspicion of underlying malignancy (confirmed) and any comment in this regard can be disregarded. I remain mildly critical that the referral (dated 8 June 2021) did not include an update on the progression and increasing severity of [Mr A's] leg symptoms.

12. [Dr C] reviewed [Mr A] again on 18 June 2021 in relation to symptom of generalised itch (steroid lotion provided). Orthopedic [specialist] [Dr E] reviewed [Mr A] at a private hospital on 24 June 2021. Report to [Dr C] dated 6 July 2021 includes: *He has a slightly unusual story, but I'm concerned about the extent of swelling he has in his left thigh* … history of ankle injury in February noted and *He thinks the* [thigh] *swelling came on quite quickly after the injury although it seems as if the swelling may have increased in size since then*. Imaging findings noted. *On examination today he walked very awkwardly. He had a grossly swollen thigh which is tense, with the suggestion of quite a large haematoma in the thigh clinically … It is possible he might have a significant haematoma in the leg, which may have been contributed to by his Rivaroxaban. He did look somewhat pale today and I haven't arranged any blood tests, but [Dr C] I think it would be helpful if he had a full blood count done.* MRI scan was ordered with follow-up to occur once the result was available. On 12 July 2021 [Dr C] completed a form for blood count which was undertaken the next day following review by [Dr F] for repeats of pain medication and laxatives. Blood count showed anaemia (Hb 101 g/L, ref range 130–175) with hypochromia and thrombocytosis. Further tests were arranged with results dated 16 July 2021 suggesting mixed iron deficiency anaemia and anaemia of chronic inflammation. In the interim, [Mr A] underwent an MRI scan of his left leg on 15 July 2021 which sadly showed tumour involvement of the thigh/gluteal musculature and bony involvement of the pelvis. Subsequent events are summarised in section 3.

13. Comment: I believe the proximity of [Mr A's] thigh symptoms to his ankle injury, and ultrasound reports indicating a significant hamstring tear, obscured the underlying diagnosis of metastatic malignancy. Coupled with this was the apparent absence of non-specific systemic symptoms suspicious for malignancy at least in the earlier stages of [Mr A's] illness, and the normal blood test results in March 2021 — D-dimer aside. There was no sign of DVT, which can be associated with occult malignancy, in the March 2021 ultrasound. The elevated D-dimer however remained unexplained although is not currently regarded as a sensitive or specific screening tumour marker. [Dr E's] report does not record a high suspicion of underlying malignancy and no reference to weight loss or upper GI symptoms, although the atypical nature of [Mr A's] presentation is noted. I recommend [Dr C]

present this case (anonymised) to his peer group as an illustration of the importance of considering alternative diagnoses when there are features present atypical for the current working diagnosis — the risks of cognitive bias contributing to diagnostic error in this situation being significant. A useful resource for such a presentation can be found in a 2022 Journal of Family Practice[4] article referenced below. I would like to pass on my condolences to [Mr A's] family for their loss under such tragic circumstances.'

[4] Rosen P, Klenzak S, Baptista S. Diagnostic challenges in primary care: Identifying and avoiding cognitive bias. J Fam Pract. 2022 April;71(3):124–132 https://www.mdedge.com/familymedicine/article/253654/preventive-care/diagnostic-challenges-primary-care-identifying-and Accessed 9 October 2023