The Palms Medical Centre Limited
General Practitioner, Dr D
General Practitioner, Dr C

A Report by the
Health and Disability Commissioner

(Case 18HDC02116)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Contents

Executive summary

1. This report concerns the care provided to Mr A by The Palms Medical Centre and its medical staff. Mr A had a medical history of chronic obstructive pulmonary disease (COPD). During a one month period in 2018 he presented to The Palms Medical Centre five times with shortness of breath and chest pain.

2. Although he was enrolled with a specific general practitioner, Mr A saw four different doctors over this time. Each doctor treated him symptomatically, failing to apply critical thinking to his presentations, and put Mr A's symptoms down to his COPD. They also failed to do the basics, such as reviewing Mr A's previous medical notes and undertaking thorough assessments. As a consequence, there was a delay in Mr A being diagnosed with congestive heart failure, and even when the correct diagnosis was made, its severity was greatly underestimated.

3. Despite being told that taking him to the hospital was unnecessary, and that his heart failure would show improvement with fluid restriction and medication, Mr A's daughter decided to take him to hospital. He was admitted with a primary diagnosis of congestive heart failure and transferred to the Coronary Care Unit, but deteriorated and died the next day.

4. The report highlights the importance of communication between providers, critical thinking in the face of multiple presentations, and the need for clinicians to do the basics.

Findings

5. The Commissioner found The Palms Medical Centre to be in breach of both Right 4(1) and Right 4(5) for the suboptimal care provided to Mr A. The Commissioner was critical that the systems in place at The Palms Medical Centre did not facilitate co-operation between doctors, and that multiple staff members failed to think critically and diagnose Mr A correctly.

6. The Commissioner found Dr D to be in breach of Right 4(1), for failing to review Mr A's previous medical notes and obtain the full clinical picture before diagnosing him. While acknowledging the systems issues at The Palms Medical Centre that put Dr D under pressure, the Commissioner reiterated the importance of clinicians doing the basics — reading the notes, asking the questions, and talking with the patient.

7. The Commissioner was also critical of Dr C for his assessment of Mr A on 14 Month2,[1] and reminded him of the importance of undertaking complete and thorough assessments.

Recommendations

8. It was recommended that The Palms Medical Centre meet with all staff currently employed by The Palms who were involved in the management of Mr A, to discuss the

[1] Relevant months are referred to as Months 1–2 to protect privacy.

findings of this report, assess how the practice is implementing the Health Care Home Model and provide HDC with a summary of the assessment data, arrange for an independent review of its policies and procedures with a key focus on continuity of care, and provide a letter of apology to Mr A's family.

9. It was recommended that Dr D attend either of the Medical Protection Society's workshops "Medical Records for General Practitioners" or "Mastering Your Risk", and provide a letter of apology to Mr A's family.

10. It was recommended that Dr C provide a letter of apology to Mr A's family.

Complaint and investigation

11. The Health and Disability Commissioner (HDC) received a complaint from Ms B about the services provided to her father, Mr A, at The Palms Medical Centre Limited. The following issues were identified for investigation:

- *Whether The Palms Medical Centre Limited provided Mr A with an appropriate standard of care in Month1 and Month2.*
- *Whether Dr C provided Mr A with an appropriate standard of care in Month1 and Month2.*
- *Whether Dr D provided Mr A with an appropriate standard of care in Month1 and Month2.*

12. The parties directly involved in the investigation were:

Ms B	Complainant/consumer's daughter
The Palms Medical Centre Limited	Provider/medical centre
Dr C	Provider/general practitioner (GP)
Dr D	Provider/GP

13. Further information was received from:

Dr E	GP
Dr F	GP

14. In-house expert advice was obtained from GP Dr David Maplesden, and is included as Appendix A.

Information gathered during investigation

15. At the time of these events, Mr A (aged 68 years) was an enrolled patient of The Palms Medical Centre[2] (The Palms). Mr A's medical history included chronic obstructive pulmonary disease[3] (COPD), and Dr C was Mr A's enrolled GP.

16. The Palms has a General Practice and an Urgent Care Centre. The aim of the General Practice is for patients to be booked to see their enrolled GP. The Urgent Care Centre is run under a separate contract, and is for patients who are acutely unwell or injured, and need to be seen on the day. The Urgent Care Centre sees both casual patients and enrolled patients.

Consultations between Month1 and Month2

17. On 13 Month1, Mr A attended an appointment with Dr C at The Palms General Practice. Mr A presented with increased shortness of breath (SOB) that had occurred since switching his COPD medication. Basic observations were taken,[4] and a plan was made to switch back to his original COPD inhaler, with a review in a month's time if Mr A showed no signs of improvement.

18. On 21 Month1, Mr A presented to The Palms again with SOB, and was triaged into the Urgent Care queue. It was noted that Mr A found it hard to catch his breath, and could speak only in minimal sentences. He was seen by Dr E, who documented that Mr A had difficulty with breathing, and had been getting steadily worse over the past two weeks. Basic observations were taken, and Dr E told HDC that he auscultated[5] Mr A's chest and "heard wheeze and crackles", although this is not documented.

19. Dr E's initial diagnosis was a chest infection, and he requested a chest X-ray. When reviewing the X-ray, Dr E believed he could see possible opacity[6] in the right lower lobe of the lung, consistent with infection. Dr E prescribed Mr A antibiotics and more COPD medication, and advised him to return if his condition deteriorated.

20. Later that day, the X-ray was reported by a radiologist, who noted that Mr A's lungs were over-expanded as a result of his COPD, but that there were no signs of infection. The radiologist also noted a moderately enlarged heart, but that no features of heart failure or valve disease were seen. Dr E told HDC that by the time the X-ray report was received, Mr A had already left the practice. Dr E stated that he regrets not taking any further action after viewing the report and noting the new finding of cardiomegaly.[7]

[2] The Palms Medical Centre is owned and operated by The Palms Medical Centre Limited.
[3] A group of lung diseases that block airflow and make it difficult to breathe.
[4] Blood pressure and weight.
[5] Listened to sounds, typically using a stethoscope.
[6] A lack of transparency.
[7] An enlarged heart, which is usually a sign of another condition.

21. On 30 Month1, Mr A presented to The Palms with worsening SOB, pain and tightness in his chest, and swollen ankles. He was again triaged into the Urgent Care queue, and was seen by Dr F.[8] Dr F noted the results of Mr A's recent X-ray, and made a likely diagnosis of COPD with the possibility of congestive heart failure. More COPD medication was prescribed, along with antibiotics, and a blood test was completed. Dr F advised Mr A to follow up with his GP in one week's time.

22. The results for Mr A's blood test were received by Dr F on 3 Month2, and showed a high Pro Brain Natriuretic Peptide[9] (Pro-BNP) level, indicating the possibility of heart failure. Dr F told HDC that subsequently he sent a message to Mr A's mobile phone, advising him that his test results were back and reminding him to attend his appointment with Dr C on 6 Month2.

23. On 6 Month2, Mr A presented to The Palms to attend his booked appointment with Dr C. However, on arrival, Mr A appeared to be profoundly SOB with cyanosis,[10] and instead was taken to the Urgent Care Centre by the reception team. He was assessed by GP Dr D, who noted that Mr A had SOB and was coughing up green phlegm.

24. Dr D administered salbutamol[11] and Atrovent[12] and noted that Mr A's wheezing settled and his talking improved. She then recommended that Mr A continue taking his COPD inhalers daily, and prescribed him with a bronchodilator,[13] as well as antibiotics in case of an infective exacerbation of his COPD. She made a plan for Mr A to be reviewed with his GP in one week's time.

25. Dr D admitted that on this occasion she failed to check Mr A's previous clinical notes, and this meant that she "missed some significant information that then affected the outcome of the consultation". Accordingly, she did not review Mr A's most recent chest X-ray, and she was unaware of Mr A's high Pro-BNP result and the fact that previously he had been prescribed antibiotics with no improvement. This omission also meant that she did not know that this consultation was Mr A's fourth presentation to The Palms in three weeks. Dr D told HDC that her usual practice is to review patient notes, and she is unsure of why she did not do so on this occasion.

26. On 14 Month2, Mr A presented for his appointment with Dr C. Dr C noted Mr A's high Pro-BNP level, his swollen ankles, and the fact that he had not been responding to various COPD medications. Mr A's blood pressure, weight, and jugular venous pressure[14] were observed, and a diagnosis of congestive heart failure was made. Dr C informed HDC that cardiorespiratory auscultation was also undertaken at this consultation, but was not documented.

[8] Dr F is a GP with a current practising certificate from the Medical Council of New Zealand.
[9] A test used to detect heart failure.
[10] A bluish discolouration of the skin and mucous membranes due to insufficient oxygen in the blood.
[11] Medication that opens up the medium and large airways in the lungs.
[12] Medication that opens up the medium and large airways in the lungs.
[13] A substance that opens the airways of the lungs.
[14] A test used to detect heart failure.

27. Other observations such as respiratory rate and pulse rate and rhythm were not taken, and an electrocardiograph (ECG) was not performed. Dr C recalled that although Mr A's condition had not improved, Mr A said that he was not getting worse. Dr C was of the view that Mr A's heart failure would show improvement with fluid restriction and medication, and accordingly advised him to eat a low salt and protein diet, and limit his fluid intake to 1.5 litres a day. Dr C gave Mr A a prescription for furosemide[15] and made a plan to review him in one week's time.

28. Ms B, Mr A's daughter, told HDC that she queried with Dr C whether she should take her father to the hospital, as his condition "seemed severe in the state he was already in"; however, Dr C did not consider the heart failure severe enough to require hospital admission.

29. On 18 Month2, Ms B felt that her father's condition had not improved, and she drove him to hospital, where he was admitted with a primary diagnosis of congestive heart failure. Mr A was transferred to the Coronary Care Unit, but he deteriorated significantly and died on 19 Month2.

Further information

Dr D

30. In a statement to HDC, Dr D reflected that "not reviewing [Mr A's] recent notes at the time meant [she] was not fully informed of all the relevant information that could have been significant at that time". However, she believes that other factors need to be considered when reviewing her actions.

31. Dr D stated that when she is working on the Urgent Care queue, she feels a significant pressure to see patients as quickly as possible, as she is aware that often they have been waiting for long periods of time. She noted that many patients are placed in the urgent queue not because they have an urgent medical problem, but because they are unable to get an appointment in a timely manner with their usual GP. She stated:

> "[T]his means that a system designed to manage acute one-off medical problems becomes clogged up with patients needing regular review or follow up of ongoing problems, such as [Mr A]."

32. Dr D advised that she was not aware at the time that Mr A had attended for his booked appointment with Dr C, but that for reasons that were not clear to her, he was diverted to the Urgent Care queue. She noted that this meant that the opportunity for continuity of care was lost, and that she was placed in a situation where her failure to review Mr A's previous notes became much more significant.

33. Having reflected on what happened to Mr A, Dr D told HDC:

[15] A medication used to treat fluid build-up.

> "I will be meticulous about reviewing relevant health information prior to seeing patients and will make a determined effort not to be pressured by the waiting time on the Urgent Queue."

Dr C

34. Dr C expressed how truly sorry he is for not having recognised the seriousness of Mr A's condition. Dr C stated that he did not consider Mr A's heart failure to be severe, and that had he done so, he would have suggested that Mr A be seen in the Emergency Department. Dr C accepted that subsequent events indicated that he had underestimated the severity of Mr A's heart failure.

35. Dr C advised that since these events, he now has a lower threshold for requesting ECGs, and he seeks advice from his Urgent Care colleagues on patients with complicated presentations.

The Palms

36. The Palms acknowledged that the issues raised by this complaint relate to practice systems as well as individual doctors' clinical actions. The Palms recognised that the systems it had in place led to the unsatisfactory situation of Mr A being seen by Dr D when previously she had never met Mr A, instead of Mr A having his booked appointment with Dr C. The Palms stated: "[T]he failure of our systems created the situation where the lack of continuity became a problem."

37. The Palms said that the practice has always been mindful of the importance of continuity of care. It told HDC that over the last six or seven years the practice has looked at various strategies to try to manage patient demand, and has spent many years aiming to ensure that patients are registered under one GP and that when they make appointments, where possible this is with their preferred provider.[16] The Palms stated that while around 80%[17] of their patients see one regular provider, unfortunately it is impossible for any practice to guarantee that patients will always be seen by the same GP. The Palms acknowledged that patient demand exceeds its ability to provide a same-day service, and that this does create wait time.

38. The Palms told HDC that a few years ago, after an analysis of the patients who presented to the Urgent Care queue, it found that for each of its GPs, approximately four patients of that GP would present to the Urgent Care queue each day with a triage score of 5,[18] which mostly meant a GP-type appointment. The Palms stated:

> "[W]e then created four appointments each day for each GP, so that our triage nurse could then reallocate the patients from the queue to their own GP for review. This

[16] This is also documented in The Palms' "Patient Appointments" policy.
[17] This data is based on a patient survey done at The Palms for the period of 1 June 2018 and 31 May 2019.
[18] A Category 5 on the Australasian Triage Scale is a chronic or minor condition that can be assessed and treated within two hours.

> was done to try and improve continuity of care for the patient as well as reduce demand on the Urgent Care queue."

39. On behalf of The Palms, Dr C stated that the practice has taken a number of learnings from Mr A's case, and that many further changes have now been put in place.

40. Early in 2018, The Palms implemented the Health Care Home Model, and as a part of this model, it has recently introduced a GP phone triage system. With the new system, a patient will be given a telephone consultation with his or her own GP, who will then triage the patient and decide on the most appropriate action. Dr C stated that, in theory, GPs are expected to be able to deal with about 60% of on-the-day appointment requests by telephone without having to make an appointment. He expects that the new triaging system will reduce the demand on appointments.

41. Dr C told HDC:

> "[The Palms has] also had a clinical review team made up of Long Term Condition Nurses, Nurse Practitioner, Clinical Pharmacist, a GP, a Kaiāwhina[19] and some other health professionals from time to time. This group reviews our high needs and high risk patients and then starts a process to follow the patient up with some patient specific care."

42. At the start of 2019, The Palms carried out a staffing level review. Some areas of staff gaps were identified, including a shortage of doctors, and a number of clinical and administrative staff were recruited. In addition to the Urgent Care Director, The Palms has employed one part-time and one full-time urgent care trained doctor to focus on urgent care work. Dr C stated that "this has meant that GPs require less time rostered on the Urgent Care queue, making more time available for routine GP appointments".

43. The Palms' review of Mr A's case has highlighted the benefits of automating the transfer of enrolled patients' notes to their GP. Dr C explained that the new practice management system (PMS) at The Palms allows for an automated electronic transfer of casual patient notes to the patient's usual GP on the same day. With The Palms' enrolled patients, the Urgent Care notes are immediately available to their usual GP. However, Dr C stated that "the issue is instead the circumstances in which the usual GP should be actively notified that their patient has been seen by the Urgent Care service". While currently it is not possible to have an automated electronic alert, Dr C told HDC:

> "[W]e are exploring whether it would be possible for our PMS to be modified so that a notification/task is sent automatically to the usual GP when an enrolled patient is seen by the Urgent Care service."

[19] "Kaiāwhina" is an over-arching term used to describe non-regulated roles in the health and disability sector.

44. Dr C told HDC that the Medical Centre is "very upset about the outcome in [Mr A's] case and again sincerely apologise to his family for this". Dr C stated:

> "[T]he patient demand pressures on our system have been identified and openly discussed with GPs and other staff and we have been endeavouring for some time to reduce the risks identified by this complaint. The Clinical Review Team and the continual up-take of the Health Care Home strategies are expected to help reduce patient demand in the longer term."

Responses to provisional opinion

45. The Palms Medical Centre was given an opportunity to respond to the provisional decision. Where relevant, its response has been incorporated into this report. The Palms told HDC that it wants to make it clear that the pressure Dr D felt while working on the Urgent Queue was not a consequence of any expectation placed upon her by the practice or other doctors. The Palms said that GPs at the practice are always told to work at a pace they can manage.

46. Dr C and Dr D were given an opportunity to respond to the relevant sections of the provisional decision, and their responses have been incorporated into this report where relevant.

47. Ms B was provided with an opportunity to respond to the "information gathered" section of the provisional opinion, and had nothing further to add.

Opinion: The Palms Medical Centre Limited — breach

Introduction

48. Between 13 Month1 and 14 Month2, Mr A consulted doctors at The Palms five times. Each consultation related to worsening shortness of breath, and involved him seeing four different doctors, at both the General Practice service and the Urgent Care service. After Mr A's fifth presentation, he was diagnosed with congestive heart failure. However, the severity of his heart failure was underestimated, and Mr A passed away on 19 Month2.

49. Mr A was entitled to have services provided with reasonable care and skill, and to co-operation amongst the doctors at The Palms, to ensure quality and continuity of services. In my view, the quality and continuity of Mr A's care was hindered by the failure of multiple doctors to apply critical thinking, review documentation adequately, and communicate effectively with one another.

Deficiencies in care

50. At the appointments of 21 Month1 and 14 Month2, the full consultations were not documented. Both Dr E and Dr C told HDC that they auscultated Mr A's chest on these

occasions, but neither doctor made note of this in Mr A's clinical record. While these omissions are arguably minor, my in-house clinical advisor stated that accurate and adequate clinical documentation is paramount when multiple providers are involved.

51. At the 6 Month2 appointment, Dr D failed to review Mr A's previous clinical notes before seeing him, meaning that she did not have the full clinical picture when treating him. This resulted in a missed opportunity to consider a diagnosis of heart failure, and to commence appropriate treatment.

52. Of particular concern are the deficits in critical thinking throughout Mr A's case. I acknowledge that there were factors involved that made the severity of Mr A's heart failure difficult to diagnose, such as his history of COPD and his initial reassuring X-ray. However, I consider that after Mr A presented to The Palms multiple times with little to no improvement, critical thinking was essential in order to investigate Mr A's symptoms further and escalate his care appropriately. It is concerning that all four doctors failed to investigate Mr A's new symptoms (such as his cardiomegaly and high Pro-BNP result), and continued to treat him with antibiotics and inhalers despite there being no sign of infection or improvement.

53. While individual staff hold some degree of responsibility for their failings (discussed further below), overall the deficiencies outlined above indicate a pattern of poor care across the practice, for which The Palms Medical Centre is ultimately responsible.

Continuity of care

54. As stated above, The Palms is made up of both a General Practice and an Urgent Care Centre. At the General Practice, doctors see their enrolled patients, and the practice aims to book patients with their enrolled GP. The Urgent Care Centre is run under a separate contract, and is for patients who are acutely unwell or injured, and need to be seen on the day. The Urgent Care workload is made up of both casual patients and enrolled patients.

55. The size and structure of The Palms makes it likely that a patient will be seen by multiple providers throughout the course of his or her care. The Palms told HDC that along with many other practices in the region, patient demand exceeds the practice's ability to provide a same-day GP service, and that this creates a wait time. As Dr D further explained, many patients are placed in the urgent queue because they are unable to obtain an appointment with their usual GP in a timely manner.

56. In this situation — well known to The Palms, and by no means unusual in primary care in New Zealand — it is crucial to have processes in place to ensure that patients who require regular review and follow-up care of ongoing problems are provided with effective continuity of care. This is an ordinary occurrence. It is wholly foreseeable and is amenable to straightforward management solutions. The practice of reading the notes is one.

57. The Palms told HDC that the practice set up a process where four daily appointments would be created for each GP, so that patients who presented to the Urgent Care queue

with a triage score of 5 could be reallocated to their own GP for review. The Palms stated: "This was done to try and improve continuity of care for the patient as well as reduce demand on the Urgent Care queue."

58. However, out of the five times Mr A presented to The Palms, he was seen three times by the Urgent Care staff and only twice by his enrolled GP, Dr C. I note that while there was an attempt to keep the continuity of Mr A's care with his GP, with the appointment of 6 Month2 initially being booked with Dr C, ultimately this failed when Mr A was diverted to the Urgent Care queue.

59. Dr Maplesden advised:

> "The pivotal appointment was the unscheduled appointment with [Dr D] [on 6 Month2] which was supposed to be with [Dr C], but it appears because [Mr A] seemed so unwell he was triaged to the urgent queue. So the practice was attempting to provide continuity but in the interests of [Mr A's] wellbeing (sadly not to his advantage in hindsight) he ended up with further disruption of his care. I have no doubt that had he seen [Dr C] as planned at this appointment he would have been commenced on appropriate treatment for heart failure although I cannot state this would necessarily have [prevented] his subsequent acute deterioration."

60. The systems that were in place to improve continuity of care at The Palms were ineffective in Mr A's case.

61. Dr Maplesden considers that the involvement of multiple providers over the four-week course of Mr A's illness may have impacted negatively on his care. Good inter-provider communication is paramount when multiple providers are involved, and there were some deficiencies in Mr A's care in this regard. Dr Maplesden further advised:

> "It is difficult for providers to accurately gauge subtle deteriorations in a patient's condition during multiple sequential presentations, despite use of objective observations, when they are seeing the patient for the first time."

62. The Palms acknowledged that the issues raised by this complaint relate to practice systems as well as individual doctors' clinical actions, and stated: "[T]he failure of our systems created the situation where the lack of continuity became a problem."

Conclusion

63. I consider that the standard of care provided to Mr A by The Palms over the period in question was suboptimal. Mr A's care was hindered by the failure of multiple doctors to apply critical thinking, review documentation adequately, and communicate effectively with one another.

64. These factors had a negative impact on Mr A's care, and resulted in a failure to diagnose and escalate his condition appropriately in a timely manner. I find that The Palms failed to provide Mr A's services with reasonable care and skill and breached Right 4(1) of the Code

of Health and Disability Services Consumers' Rights (the Code).[20] In addition, Mr A's GPs failed to co-operate effectively with each other in the provision of care to Mr A to ensure that he was provided with quality and continuity of services. As a consequence, I find that The Palms Medical Centre Limited also breached Right 4(5)[21] of the Code.

Opinion: Dr D — breach

65. On 6 Month2, Mr A presented to The Palms to attend his booked appointment with Dr C. However, Mr A appeared to be profoundly unwell, and was taken to the Urgent Care Centre instead, to be seen by Dr D. This was Mr A's fourth presentation to The Palms in a three-week period, and was the first time that Dr D had consulted with him.

66. Dr D admitted that on this occasion she failed to check Mr A's previous clinical notes. She informed HDC that her usual practice is to review patient notes, and she is unsure of why she did not do so on this occasion. She accepted that this failure meant that she missed significant information that then affected the outcome of the consultation with Mr A.

67. My in-house clinical advisor, Dr David Maplesden, stated that Dr D's failure to review Mr A's notes prior to her consultation with him resulted in a significant lapse of continuity of care and a missed opportunity to consider/confirm heart failure as a current diagnosis and to commence treatment. Dr Maplesden stated that he would regard the review of recent clinical notes prior to a consultation as a basic and important task in primary care.

68. Dr Maplesden advised:

> "Had [Dr D] reviewed the notes, it would have been apparent there was by now significant suspicion [Mr A] had heart failure given his symptoms which had failed to respond to multiple antibiotics over a two week period, recent presentation pattern, recent X-Ray result showing cardiomegaly and no radiological evidence of infection, and very elevated BNP result."

69. Dr Maplesden regarded Dr D's failure to review Mr A's notes as "at least a moderate departure from accepted practice", and I agree.

70. Dr D submitted that she felt significant pressure to see patients as quickly as possible whilst working on the Urgent Care queue, and that the knowledge that patients have been waiting for long periods of time contributes to the pressure. I also note Dr D's statement that many patients are placed in the Urgent Care queue because they are unable to obtain

[20] Right 4(1) of the Code states: "Every consumer has the right to have services provided with reasonable care and skill."
[21] Right 4(5) of the Code states: "Every consumer has the right to co-operation among providers to ensure quality and continuity of services."

a timely appointment with their enrolled GP, and that this can create a system under pressure.

71. Nonetheless, this was an ordinary event in this practice. Dr D was seeing a patient for the first time. The patient had presented recently and severally. The patient was obviously unwell on presentation. Dr D failed to read the notes, and to treat the patient other than symptomatically.

72. I have said on many occasions that clinicians must do the basics — read the notes, ask the questions, talk with the patient. The basics were not done here — with significant consequences for this patient.

73. Dr D failed to provide services to Mr A with reasonable care and skill, by failing to review his clinical notes prior to her consultation with him, and by misdiagnosing him. I find that Dr D breached Right 4(1) of the Code.

Opinion: Dr C — adverse comment

74. Dr C was Mr A's enrolled GP at The Palms. Dr C saw Mr A on 13 Month1 and 14 Month2.

75. The appointment with Dr C on 14 Month2 was Mr A's fifth presentation to The Palms in four weeks. Dr C noted Mr A's high Pro-BNP level, his swollen ankles, and his lack of response to various COPD medications, and diagnosed congestive heart failure. Blood pressure, weight, and jugular venous pressure were taken, and cardiorespiratory auscultation was performed (but not documented). Dr C considered that Mr A's heart failure was not severe and that Mr A would show improvement with fluid restriction and medication.

76. Other observations such as respiratory rate and pulse rate and rhythm were not taken at this consultation, and an ECG was not performed.

77. Dr Maplesden advised:

> "In the clinical context of [Mr A's] presentation on 14 [Month2], I think it was important to accurately assess his cardiovascular and respiratory status to aid a decision as to whether or not hospital admission was indicated. While [Dr C] was conscientious in determining weight change, degree of oedema and JVP elevation I think assessment of degree of respiratory distress (respiratory rate), pulse rate and rhythm (particularly given the comparatively low blood pressure), and oxygenation (presence of confusion, oxygen saturations) was clinically indicated."

78. Dr Maplesden viewed Dr C's failings at his consultation with Mr A on 14 Month2 with mild to moderate criticism.

79. I am critical of the adequacy of the assessment undertaken on 14 Month2. I remind Dr C of the importance of undertaking complete and thorough assessments.

Recommendations

80. I recommend that The Palms:

a) Meet with all staff currently employed by The Palms who were involved in the management of Mr A to discuss the findings of this report, including the importance of critical thinking, considering the patient's presentation in the light of the patient's history, escalating patient care, and reviewing patient notes. The Palms is to provide this Office with evidence of this meeting within six months of the date of this report.

b) Assess how the practice is implementing the Health Care Home Model, and provide HDC with a summary of the assessment data, including comments on how any concerns identified have been, or can be, addressed. The summary is to be provided to HDC within eight months of the date of this report.

c) Arrange for an independent review of its policies and procedures with a key focus on continuity of care. The Palms Medical Centre is to provide this Office with the results of the review within eight months of the date of this report, and advise whether it proposes to make any further changes to its policies and procedures.

d) Provide a written letter of apology to Mr A's family for the breaches of the Code identified in this report. The apology letter is to be sent to HDC within three weeks of the date of this report, for forwarding.

81. I recommend that Dr D:

a) Attend either of the Medical Protection Society's workshops "Medical Records for General Practitioners" or "Mastering Your Risk". Dr D is to report back to HDC within six months of the date of this report, with details of the content of the training and evidence of having attended.

b) Provide a written letter of apology to Mr A's family for the breach of the Code identified in this report. The apology letter is to be sent to HDC within three weeks of the date of this report, for forwarding.

82. I recommend that Dr C provide a written letter of apology to Mr A's family for the criticisms contained in this report. The apology letter is to be sent to HDC within three weeks of the date of this report, for forwarding.

Follow-up actions

83. A copy of this report with details identifying the parties removed, except The Palms Medical Centre Limited and the expert who advised on this case, will be sent to the Medical Council of New Zealand, and it will be advised of Dr C's and Dr D's names.

84. A copy of this report with details identifying the parties removed, except The Palms Medical Centre Limited and the expert who advised on this case, will be placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

85. A copy of this report with details identifying the parties removed, except The Palms Medical Centre Limited and the expert who advised on this case, will be sent to The Royal New Zealand College of General Practitioners, and it will be advised of Dr D's name.

86. A copy of this report with details identifying the parties removed, except The Palms Medical Centre Limited and the expert who advised on this case, will be sent to the Ministry of Health, the PHO, and the District Health Board.

Appendix A: Independent advice to the Commissioner

The following expert advice was obtained from Dr David Maplesden:

"1. Thank you for the request that I provide clinical advice in relation to the complaint from [Ms B]. 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. I have reviewed the information on file: complaint from [Ms B]; response from [Dr C] of The Palms Medical Centre (PMC); PMC GP notes from [Month1]; [public hospital] clinical notes summaries for his admission on 18 [Month2].

2. [Ms B] complains about the management of her father, [Mr A], at PMC in [Month1] and [Month2]. She states her father became unwell about six weeks before his death and remained unwell despite repeated visits to PMC with increasing shortness of breath and treatment with multiple courses of antibiotics. At the visit with [Dr C] four days before [Mr A's] death, he was diagnosed with congestive heart failure. [Ms B] states she questioned whether her father should be admitted to hospital at this time but [Dr C] advised against hospital admission and provided dietary advice. On 18 [Month2] [Ms B] was concerned that her father remained unwell (although was no worse than at the previous GP visit) and took him to [hospital]. He was admitted and underwent treatment but died shortly after admission. [Ms B] states she was advised by hospital staff that the outcome might have been different had her father been admitted to hospital earlier.

3. At this stage a response has been received from [Dr C] although three other GPs were involved in [Mr A's] care over the period being reviewed. [Dr C's] response includes the following points:

(i) Over the period in question [Mr A] was seen as an urgent patient by other GPs at the practice. On these occasions *his presentation seemed consistent with an exacerbation of chronic obstructive pulmonary disease (COPD) and he seemed to respond to COPD treatment.* X-rays performed as part of the investigation of [Mr A's] symptoms did not initially show any signs of congestive heart failure (CHF).

(ii) [Dr C] notes his documentation on 14 [Month2] was poor and apologises for this.

(iii) Since the events in question, [Mr A's] case has been presented at a peer group meeting and there has been general discussion on diagnosis of CHF with ongoing case presentations planned. GPs are encouraged to discuss any complex cases with their on-site urgent care colleagues.

4. Summary of available clinical documentation:

Date	Prov	Comment
13 [Month1] Cons 1	[Dr C]	Increased dyspnoea, weight gain since stopping Seretide and starting Spiriva. Recorded obs: BP 108/60, wt 130kg. Ch clear, HS normal. Plan: change back to Seretide and review 1/12 if not improved. Rx Seretide, Accuretic
21 [Month1]	Triage	*Hard to catch breath, minimal sentences.* BP 147/98, P 120, RR26, O2 sats 96%, Temp 37.2
21 [Month1] Cons 2	[Dr E]	*Difficulty in breathing getting steadily worse over the past 2 weeks …* Vitals as above noted, No lung auscultation documented.
21 [Month1]	X-ray	CXR reported: *The heart is moderately enlarged with a CTR of 55% and there are no features of heart failure or valve disease. The lungs are over-expanded due to COPD and show no infection or malignancy. The pleural cavities are clear.*
21 [Month1]	[Dr E]	Review CXR noting *possible opacity in the right lower lobe.* Rx Augmentin and Romicin and advised to *return if gets worse.*
30 [Month1]	Triage	*SOB which has been getting worse 21/7, chest tightness. RR 28. Increased 40 when moving from wheelchair to bed …* BP 125/89, P 129, RR 28, O2 sats 98% RA, T 37.1
30 [Month1] Cons 3	[Dr F]	*Ongoing SOB esp OE, SOB after walks a few steps, some cough.* Formal CXR report noted and spirometry results showing markedly reduced FEV1. *Occasionally chest tightness, sleeping on 1 pillow, no PND.* Assessment findings include: *able to speak full sentence, no cyanosis, JVP — not distended, generally reduced BS intensity, prolonged esp with exp wheeze … bilateral ankles pitting oedema Assessment: likely COPD ?also CHF.* Given salbutamol via spacer with some resolution of wheeze (no repeat of vital signs on record) and Rx Salbutamol and Atrovent inhalers, doxycycline+ prednisone. Bloods →
30 [Month1]	Bloods	proBNP markedly elevated at 691 pmol/L (rule in range >106 pmol/L for age 50–75 years). Moderately impaired renal function (lab notes pattern of decreasing eGFR). CRP mildly elevated at 18 mg/L, CBC shows mild neutrophil leucocytosis, mod elevated GGT,ALT,AST. On 3 [Month2] there is a record:

		TXT Lab result Pl Ph which I presume refers to patient notification of the blood results although see comment 11 Month2.
6 [Month2]	Triage	*SOBOE++, 2–3 words at a time, cyanosed lips, nose and nail beds. Unwell for 4/52.* BP 141/107, P 119, O2 sats 96%, T 37.1 (no resp rate recorded). *Was due to see [Dr C] @ 1245hrs appointment today. Profoundly SOB, brought to* [obscured] *by reception.*
6 [Month2] Cons 4	[Dr D]	SOBOE noted, *is coughing up some green phlegm … pt was a bit puffed walking here bit more settled once rested, talking but some broken sentences … slight tachypnoea,* no increase work of breathing noted, *bilat wheezes …* Assessment is *copd — GOLD 4.* Given Atrovent/salbutamol via spacer → *wheezing settled after inhalers, talking a bit better.* Post-inhaler P 60 and O2 sats 98%. Advised daily use of Seretide, add in Incruse-Ellipta Rx Prednisone/Augmentin.
11 [Month2]	[Dr F]	Note only: *ProBNP and renal function noted, Pt has appt on 14 Sep with [Dr C] noted.*
14 [Month2] Cons 5	[Dr C]	*Hx: BNP elevated, not responded to various COPD meds, has swollen legs …* weight 132 kg … *BP 98/60, has elevated JVP and bilat pitting oedema to knees. Assessment: probable heart failure → add Lasix, low salt and protein diet, review one week, fluids 1.5L daily.* Frusemide 40mg daily prescribed.

5. [Mr A] presented to [hospital] at 1533hrs on 18 [Month2]. History includes: *States that 4 weeks ago began having cough that was occasionally productive with brown phlegm. States that he was treated with 3–4 rounds of antibiotics were given by GP without improvement. He states that for past 2 weeks he has been having bilateral leg swelling and has to sleep sitting up. He states that if he lays down to sleep he wakes up feeling like he cannot breathe. He denies fevers, chest pain, previous CHF or COPD.* Vital signs included P 131 (sinus tachycardia on ECG), vital signs not provided (limited clinical notes on file) but comment: *vital signs reviewed and tachypnoeic and tachycardic … Lungs: laboured symmetrical expansion, right lung wheezing with faint rales in the RLL, no respiratory distress …* bilateral lower limb oedema noted. Differential diagnosis was *CHF, pneumonia, COPD, electrolyte abnormality, MI, arrythmia.* Echocardiogram was consistent with CHF/volume overload and CXR showed cardiomegaly, right basal effusion with possible consolidation. Serum troponin was markedly elevated and white cell count showed neutrophil leucocytosis. [Mr A] was initially treated for CHF (frusemide and BiPAP) and lung infection (IV

antibiotics) and transferred to CCU. His condition rapidly deteriorated and he was intubated and ventilated but suffered a cardiac arrest from which he could not be resuscitated. Time of death was recorded as 0004hrs on 19 [Month2].

6. Further information was sought from providers at PMC. Questions posed and information provided is recorded below.

Please clarify when [Mr A] was diagnosed with COPD, the basis for the diagnosis (spirometry results, smoking history), severity of his COPD prior to [Month1] (GOLD categorisation as per BPAC prescribing tool[1]) and his history of exacerbations of COPD prior to [Month1]. Please provide a copy of clinical notes (including any investigation results) from August 2017 to [Month1].

(i) Per response: The first query by any GP regarding possible COPD was in September 2008. Spirometry was performed on 25/7/2009 which showed moderate obstruction. A chest xray on 28/4/2017 was reported as showing chest over-expansion consistent with COPD (copy viewed). Spirometry was performed again [a year later] and showed severe changes of COPD. His GOLD classification was initially 2, then latterly 4.

(ii) Review of additional notes indicates [Mr A] attended PMC on 21 August 2017 with history of recurrent cough mainly when about to go to sleep, keeps waking him up … no increase in breathlessness … Vital signs were within normal limits (O2 sats 97%), chest clear to auscultation and diagnosis was cough secondary to COPD. Management is not clear from the documentation supplied but the comments include: Review if ongoing Sx — may need resp referral. On 13 December 2017 [Mr A] reported feeling well prior to issuing of medication repeats. Weight was recorded as 124.5 kg and BP 148/74.

iii) Next consultation was [in early] 2018 when [Mr A] reported increased breathlessness on exertion but he was not taking his prescribed inhaler (Seretide). Chest was clear to auscultation, BP 120/60 and weight 129 kg. [Mr A] had spirometry performed with results apparently consistent with severe COPD (results not viewed). He was referred for blood tests (renal function results […] 2018 consistent with stage 3a chronic kidney disease (CKD). Application was made for prescribing of Spiriva.

(iv) Comment: The results of spirometry (the 'gold standard' for diagnosis of COPD) were apparently consistent with significant COPD as were the clinical presentations in the year prior to the period in question. Chest X-ray was also suggestive of COPD with no evidence of heart failure. Management of the COPD was consistent with accepted practice. There was some weight gain between December 2017 and [early] 2018 but no additional findings to suggest this was secondary to fluid retention.

7. Consult 13 [Month1]: is there any record (eg nurse triage) of [Mr A's] respiratory rate or oxygen saturations?

[1] https://bpac.org.nz/2016/copd-tool/default.aspx

(i) [Dr C] elaborated on this consultation noting [Mr A] presented stating that he felt worse since he had stopped his Seretide and commenced on Spiriva. He said he was more short of breath and had put on some weight. As this was a routine booked appointment there was no preceding nurse triage. [Dr C] did not check [Mr A's] respiratory rate or oxygen concentrations. [Mr A's] usual blood pressure medication was prescribed (Accuretic 20/12.5).

(ii) Comment: [Mr A's] presentation appeared to be for review of slowly progressive symptoms rather than for an acute exacerbation of symptoms. There were no observations (peripheral oedema, lung crepitations) to suggest heart failure as a diagnosis above that of COPD. Failure to respond to a trial of Spiriva was perhaps a little unusual but Seretide had evidently given symptomatic relief and this was prescribed. Recent chest X-ray was supportive of the COPD diagnosis. Best practice would be to record respiratory rate and oxygen saturations (if available) in a patient presenting with respiratory symptoms but as this was not an acute exacerbation I am not overly critical of this omission.

8. Consult 21 [Month1]: were [Mr A's] lungs auscultated on this occasion? If so, are you able to recall the findings? Was there any reconsideration of the diagnosis when the formal chest X-ray report was received showing cardiomegaly and no signs of infection?

(i) [Mr A] was tachycardic and tachypnoeic at his acute (non-scheduled) presentation on 21 [Month1] although oxygenation was satisfactory. [Dr E] states in his response: Although not recorded in the notes I recall I did auscultate [Mr A's] chest and heard wheeze and crackles. My clinical diagnosis was a chest infection in a patient with known COPD. I arranged an x-ray of his chest which I reviewed after it had been done. I thought there was a possible opacity in the right lower lobe consistent with infection. I started him on Augmentin and roxithromycin to cover the common pathogens. I also informed [Mr A] that he should return if his condition deteriorated. The formal X-ray report (showing a degree of cardiomegaly and no radiological signs of infection) was received after [Mr A] had left the consultation. [Dr E] states: I regret that I did not take any further action following my viewing of the radiology report and would like to pass on my apologies to the family for this.

(ii) Comment: [Dr E's] initial assessment of [Mr A] was reasonable taking into account the triage recordings and his statement that he did auscultate [Mr A's] chest. I am mildly critical at the standard of clinical documentation with respect to omission of the auscultation findings. [Mr A's] presentation was consistent with an infective exacerbation of COPD and [Dr E] was conscientious in performing a chest X-ray to confirm his suspicions. Initial clinical management was reasonable given the working diagnosis. While the chest X-ray findings did not absolutely exclude infection as a cause of the exacerbation of [Mr A's] symptoms, the cardiomegaly was a new finding and required some consideration in the context of [Mr A's] ongoing symptoms. There were no other radiological signs of heart failure evident but I think the findings should

at least have been brought to the attention of [Mr A's] regular provider to facilitate some continuity of care and I am mildly critical this did not occur. However, I note the subsequent provider did access the formal X-ray report and I do not think [Dr E's] omission significantly hindered [Mr A's] eventual diagnosis.

9. Consult 30 [Month1]: were any vital signs repeated (including respiratory rate) following administration of salbutamol inhaler and prior to discharge? Please confirm when the pro-BNP result was received at PMC, who viewed and the dates and nature of any actions taken in response to this result (including notification of the patient, any discussion with the patient's usual GP, any change in current management in light of the result).

(i) [Dr F] is unsure whether [Mr A's] vital signs were repeated following administration of salbutamol but there was continual monitoring of pulse and oxygen saturations while [Mr A] was in the resus area. [Dr F] states: I noted a tachycardia and a clinical improvement after the inhaler use. The respiratory rate was not repeated because there was improvement on other clinical examination.

(ii) [Dr F] states he reviewed the BNP result on 3 [Month2] and sent a text message to [Mr A] stating: Hi [Mr A], your test results are back. Please attend the appointment on 6 [Month2] with [Dr C] @ the Palm's Medical Centre.

(iii) Comment: [Dr F] had recorded suspicion of heart failure in addition to COPD (and the two often co-exist) following review of [Mr A] including review of the X-ray report. On receipt of the BNP result, and taking into account the X-ray report and [Mr A's] presentations, I think it was increasingly clear he had heart failure either as a primary cause of his symptoms or at least complicating his COPD. Assuming [Mr A's] acute symptoms had settled with the treatment provided by [Dr F], and he had been given adequate safety netting advice previously (to seek medical attention if his symptoms deteriorated) I think it was reasonable to arrange review with his regular GP in the same week the blood results had been received although best practice might have been to arrange for a practice nurse to phone [Mr A] to check his wellbeing given the likely revised diagnosis (more immediate review warranted if his symptoms had failed to settle), and to notify his regular provider of the likely diagnosis. I note [Dr F] did determine there was no obvious elevation of [Mr A's] JVP or evidence of lung crepitations and there was no history of significant orthopnoea or paroxysmal nocturnal dyspnoea. These were somewhat reassuring findings. Best practice would have been to document [Mr A's] vital signs following his treatment with salbutamol particularly given the degree of respiratory distress noted prior to treatment (tachypnoea, tachycardia but adequate oxygenation).

10. Consult 6 [Month2]: was respiratory rate recorded by anyone on this occasion? Are you able to explain the apparent difference in perception between nursing triage assessment of [Mr A's] respiratory status (profoundly SOB with evidence of cyanosis) with the GP perception (slightly tachypnoeic)? How were the proBNP results

considered in the assessment of [Mr A] on this occasion? How was [Mr A's] presentation pattern (now fourth consultation in just over three weeks with non-resolving and significant respiratory symptoms) considered on this occasion? What was the basis for a diagnosis of infective exacerbation of COPD given the lack of symptomatic response to (by now) three different antibiotics and a recent course of oral steroids, and previous CXR result? Was there any evidence of peripheral oedema on this occasion? Was [Mr A] instructed to stop his previously prescribed SAMA (Atrovent) when prescribed umeclinidium?

(i) A response was received from [Dr D]. She noted an improvement in [Mr A's] general status between the time of nurse assessment and her review of [Mr A] some 30 minutes later. She states: I reviewed him about 30 minutes later and he reported that he was getting short of breath particularly on exertion. He told me he had not tolerated the Spiriva, and was taking Seretide but not every day. He told me he had been puffed walking to the practice, but had since settled with resting at the practice. He was now able to talk with some broken sentences. On examination, I thought he had slight tachypnoea but there was no visible increased work of breathing. On auscultation, I could hear wheezing on both sides of his chest … Salbutamol and Atrovent was administered. Following the inhalers, the wheezing settled and his talking had improved. I recommended he take his Seretide daily as it had been prescribed, and to add Incruse Ellipta inhaler, as well as a course of Augmentin in case of infective exacerbation of his COPD, and prednisone 40 mg daily for 5 days.

(ii) [Dr D] notes [Mr A's] normal oxygen saturations on arrival at PMC and that cyanosis would not be apparent with this degree of oxygenation. She did not repeat [Mr A's] respiratory rate as his overall condition had improved when she saw him and he was able to speak more freely than indicated in the triage notes. [Dr D] does not recall if she assessed [Mr A] for pedal oedema.

(iii) [Dr D] states: I was not aware of the pro-BNP result at the time of the consultation … I was not aware that he had presented for the 4th time. The urgent queue can create significant pressure because of the number of patients who need to be seen, and on this occasion, I did not review his previous notes. I assume therefore she did not review his recent chest X-ray result or note the consultation pattern and [Mr A's] failure to respond to several recent courses of antibiotics.

(iv) [Dr D] states: A flare of COPD is often caused by an underlying infection, even if this is not clinically obvious, and may not always respond quickly to antibiotics and course of prednisone. I was also aware that [Mr A] was not always compliant with taking his medication as he had reported in regards to the Seretide inhaler, so I considered it reasonable to continue to treat as if this was a COPD flare-up. She felt his apparent response to inhaled bronchodilators added strength to this diagnosis.

(v) [Dr D] did not establish from [Mr A] that he had been prescribed Atrovent previously and he did not admit to using it. She states: If I had known he was taking Atrovent, I would have instructed him to stop that before taking the Incruse Ellipta.

(vi) [Dr D] acknowledges that not reviewing his recent notes at the time meant I was not fully informed of all the relevant information that could have been significant at that time.

(vii) Comments: I agree with [Dr D] that her failure to review [Mr A's] notes prior to her consultation with him resulted in a significant lapse of continuity of care and a missed opportunity to consider/confirm heart failure as a current diagnosis and to commence treatment for that condition. Had [Dr D] reviewed the notes, it would have been apparent there was by now significant suspicion [Mr A] had heart failure given his symptoms which had failed to respond to multiple antibiotics over a two week period, recent presentation pattern, recent X-ray result showing cardiomegaly and no radiological evidence of infection, and very elevated BNP result. She would also have noted he was recently prescribed Atrovent and required advice not to take this inhaler with the newly prescribed Incruse Ellipta. While there were some features of [Mr A's] consultation that were consistent with an infective exacerbation of COPD, I think the most important issue to address was the likely diagnosis of heart failure and confirmation/treatment of this. Review of recent clinical notes prior to a consultation I would regard as a basic and important task in primary care, particularly important when, as in this case, there have been multiple providers which can disrupt continuity of care. This was a pivotal consultation and I feel [Dr D's] failure to review the notes and therefore consider a diagnosis of heart failure and commence appropriate treatment is likely to have impacted negatively on [Mr A's] wellbeing. I regard [Dr D's] failure to review the notes as **at least a moderate departure** from accepted practice.

11. Please explain the significance of the comment dated 11 [Month2]. Was the appointment dated 14 [Month2] made by [Mr A] in response to contact from PMC asking him to attend to discuss his results?

(i) [Dr F] responded: This simply recorded the results as reviewed by me on 3 [Month2], as the clinical records from the consultation on 6 [Month2] did not refer to them. I considered it prudent to record them in the clinical notes in order to ensure they were referred to, if necessary, at [Mr A's] next appointment, which I could see was booked in for 14 [Month2] with [Dr C].

12. Consult 14 [Month2]: Please clarify whether the clinical documentation on this occasion accurately represents the history obtained from [Mr A] and the physical assessment undertaken. In particular, did you auscultate [Mr A's] lungs and check pulse rate/rhythm and respiratory rate (and do you recall the results)? What was your impression of the severity and most likely cause of [Mr A's] heart failure? Did you consider performing an ECG?

(i) [Dr C] notes in his response that this was a booked follow-up consultation rather than an acute presentation. Elevated BNP result was noted with observations and management as per the summary in section 4.

(ii) [Dr C] states: I do recall that [Mr A] was short of breath walking to my office, and that he said he was not any worse compared with the previous presentation. Although not recorded in the notes I recall discussing the X ray, blood tests, spirometry results and lack of response to COPD treatment. I also recall examining his chest and noting that his air entry was reduced and I do not recall hearing any wheeze or crepitations … I did not specifically record a pulse rate, but did not note anything of concern as I was recording his blood pressure. I did not record a respiratory rate, but did note that he seemed short of breath walking into my office. I did not consider the heart failure was severe, as if I had I would have suggested he be seen in ED.

(iii) [Dr C] felt that although [Mr A's] condition had not improved since his recent presentation, it had not worsened, and some improvement would be expected with fluid restriction and commencement of frusemide. [Dr C] states: I did not consider the heart failure was severe, as if I had I would have suggested he be seen in ED. I accept that subsequent events indicate I underestimated the severity of his failure. I did not perform an ECG. The practice management system indicates that the duration of the consultation was about 16 minutes.

(iv) Comment: [Dr C] made an appropriate diagnosis of heart failure. In hindsight the heart failure had likely been progressive over several weeks rather than being of acute onset and [Dr C] felt [Mr A's] symptoms were stable. There was no history of chest pain to suggest an ischaemic cause for the heart failure. Local guidance on assessment and management of heart failure is included as Appendix 1. ([Regional] Health Pathways — the basic principles presented are not region specific and have been previously described in a BPAC publication[2]). Recommended practice includes measurement of blood pressure, pulse rate and rhythm, auscultation of the lungs and heart sounds and ECG. There does not appear to be any consensus over criteria for hospital admission in patients with heart failure. An older US reference is included as Appendix 2 while a current secondary care assessment tool is presented as Appendix 3. I have presented these references not because I would expect a GP to necessarily be aware of these criteria, but more as an example of the physical parameters that might be used to determine the degree of unwellness of a patient with new onset or exacerbation of heart failure. [Mr A] had a significantly elevated BNP level and while COPD and renal impairment can be associated with increases in BNP levels, the degree of elevation noted in the context of [Mr A's] symptoms was suggestive of a significant severity of heart failure. Many recent studies have consistently demonstrated a direct correlation between BNP and NT-proBNP levels and clinical outcomes in patients with

[2] BPAC. Managing patients with heart failure in primary care. Best Practice Journal. 2013; Issue 50

congestive heart failure[3]. In the clinical context of [Mr A's] presentation on 14 [Month2], I think it was important to accurately assess his cardiovascular and respiratory status to aid a decision as to whether or not hospital admission was indicated. While [Dr C] was conscientious in determining weight change, degree of oedema and JVP elevation I think assessment of degree of respiratory distress (respiratory rate), pulse rate and rhythm (particularly given the comparatively low blood pressure), and oxygenation (presence of confusion, oxygen saturations) was clinically indicated. Cardiorespiratory auscultation was certainly indicated and although not documented [Dr C] states this was undertaken. Recording of an ECG would represent best practice, but in the absence of history suspicious for cardiac ischaemia and noting the diagnosis of heart failure was already made I would not regard this as a major omission. I cannot say that had the observations discussed been undertaken, they would necessarily have led to a decision to admit [Mr A] to hospital or that there would (without the benefit of hindsight) have been an indication to admit him acutely based on the observations. Nevertheless I am mildly to moderately critical at the standard of [Dr C's] documented assessment of [Mr A] on 14 [Month2]. If there had been no cardiorespiratory assessment (auscultation) I would be somewhat more critical. The management advice and prescribing by [Dr C] was appropriate for the initial management of heart failure ([Mr A] was already taking an ACE inhibitor) and timely review was documented with a presumption that safety netting advice was provided (to seek medical advice in the interim should symptoms worsen).

13. I believe the involvement of multiple providers over the four week course of [Mr A's] illness may have impacted negatively on his care, particularly the consultation of 6 [Month2] as previously discussed. It is difficult for providers to accurately gauge subtle deteriorations in a patient's condition during multiple sequential presentations, despite use of objective observations, when they are seeing the patient for the first time. When multiple providers are involved the importance of accurate and adequate clinical documentation and good inter-provider communication is paramount and I think there were some deficiencies in [Mr A's] management in this regard as discussed. I acknowledge that many larger medical centres do offer an acute service whereby the patient can be seen in a timely fashion but not necessarily by their regular provider and this mostly works to the patient's advantage. However, some thought might be given on how to identify 'risk' situations when a patient is being seen by multiple providers for a significant non-resolving or worsening symptom pattern so optimum coordination of management can be achieved.

[3] Schreiber D. Natriuretic Peptides in Congestive Heart Failure. Medscape. 2018. https://emedicine.medscape.com/article/761722-overview#a6 Accessed 10 May 2019

Appendix 1: NZ sourced guidance on heart failure[4]

Assessment

1. Ask about symptoms of heart failure.
2. Examination:
   - Check blood pressure, pulse rate and rhythm.
   - Look for peripheral oedema and raised jugular venous pressure (JVP).
   - Listen for heart murmur, displaced apex beat, basal crepitations.
3. Initial investigations:
   - Arrange blood tests.
   - Consider troponins if acute onset and an acute coronary syndrome (ACS) is possible.
   - Do an ECG.
4. Further investigations:
   - Consider arranging + echocardiography, unless a cardiology assessment is indicated, in which case the department will arrange echocardiography.
   - Arrange chest X-ray only if there is reason to suspect lung disease or other co-morbidities that may worsen heart failure.
5. Determine the most likely − cause of heart failure and whether any − medications may be contributing.

Medications that may contribute to heart failure

- NSAIDs
- Corticosteroids
- Tricyclic antidepressants
- Urinary alkalinisers (due to high sodium content)
- Pioglitazone
- Calcium channel blockers

Causes of heart failure

- Hypertension
- Ischaemic heart disease
- Valvular disease
- Cardiac arrhythmias, e.g. atrial fibrillation (AF)
- Cardiomyopathies, e.g. diabetic, hypertrophic, alcohol
- Anaemia
- Thyrotoxicosis

[4] Midland Community Health Pathways section on 'Heart Failure'. https://midland.communityhealthpathways.org Accessed 10 May 2019

Appendix 2. Admission criteria for heart failure[5]

Management of Patients with Congestive Heart Failure—AHCPR* Guideline

A patient with congestive heart failure should be admitted to the hospital if any of the following criteria are present:

1. Respiratory distress (respiratory rate > 40 breaths per minute) or pulmonary edema (determined by radiograph)
2. Hypoxia (oxygen saturation < 90%)
3. Anasarca or significant edema (≥+2)
4. Syncope or hypotension (systolic blood pressure ≤80 mm Hg)
5. Congestive heart failure of recent onset (no past history of congestive heart failure)
6. Evidence of ischemia (chest pain symptoms)
7. Inadequate social support for outpatient management
8. Failure of outpatient management
9. Concomitant acute medical illness

*—Now the Agency for Healthcare Research and Quality (AHRQ).

Reprinted with permission from Graff L, Orledge J, Radford MJ, Wang Y, Petrillo M, Maag R. Correlation of the Agency for Health Care Policy and Research congestive heart failure admission guideline with mortality: Peer Review Organization Voluntary Hospital Association Initiative to Decrease Events (PROVIDE) for congestive heart failure. Ann Emerg Med 1999;34:429–37.

Appendix 3. A validated heart failure risk scale: The Ottawa Heart Failure Risk Scale[6]

Criteria

History
Score 1: Stroke or Transient Ischemic Attack (TIA)
Score 2: Intubation for respiratory distress

Exam
Score 2: Heart Rate on ED arrival >110 bpm
Score 1: Oxygen Saturation<90% on arrival
Score 1: Heart Rate >110 during 3 minute walk test (or unable to perform)

[5] Sadovsky R. Hospitalization Admission Criteria for CHF. Am Fam Physician. 2000. 61(5):1464–1466.
[6] https://fpnotebook.com/CV/Exam/OtwHrtFlrRskScr.htm#fpnContent-panel-id_4 Accessed 10 May 2019

Investigation
Score 2: Electrocardiogram (EKG) with acute ischemic changes
Score 1: Blood Urea Nitrogen (BUN) >33.6 mg/dl (12 mmol/L)
Score 2: Serum CO2 (or serum bicarbonate) >35 mg/dl
Score 2: Troponin I or Troponin T elevated consistent with Myocardial Infarction levels
Score 1: NT-proBNP >5000 ng/L (591 pmol/L)

III. Interpretation: Risk of serious adverse event (death, readmission, intubation, NIPPV, ACS) in next 14 days

Score 0: Low Risk (2.8% serious adverse event risk in next 14 days)
Score 1–2: Moderate Risk (5.1–9.2% serious adverse event risk in next 14 days)
Score 3–4: High Risk (15.9–26.1% serious adverse event risk in next 14 days)
Score 5–9: Very High Risk (39.8–89.0% serious adverse event risk in next 14 days)"

The following further expert advice was received from Dr Maplesden:

"It seems the practice has put in place multiple measures over several years to try and improve continuity of care but on this occasion they failed. The pivotal appointment was the unscheduled appointment with [Dr D] which was supposed to be with [Dr C], but it appears because [Mr A] seemed so unwell he was triaged to the urgent queue. So the practice was attempting to provide continuity but in the interests of [Mr A's] wellbeing (sadly not to his advantage in hindsight) he ended up with further disruption of his care. I have no doubt that had he seen [Dr C] as planned at this appointment he would have been commenced on appropriate treatment for heart failure although I cannot state this would necessarily have prevented his subsequent acute deterioration. I am not convinced that [Dr D] adequately assessed [Mr A] at the consultation in question, and she acknowledged not reading the notes beforehand. I don't believe the 'so busy' statement is an adequate excuse although it could be argued the practice was not adequately supporting her if she was feeling stressed with the busyness of the job. Nevertheless, I remain of the view that her failure to review [Mr A's] notes and recent investigation results, in the context of his repeated visits with ongoing and worsening respiratory symptoms despite treatment for his COPD, probably warrants consideration of investigation."

The following further expert advice was received from Dr Maplesden:

"I have reviewed the response from [Dr C] dated 22 July 2019.

1. The response does not provide much additional information specifically relevant to the case in question but there is a comprehensive description of the demand and resource issues faced by the practice, and the measures previously implemented and planned to try and optimise the quality of patient care and facilitate continuity of care in the face of unprecedented demand and increasing complexity of presenting cases. In this regard, the practice does appear to be making very significant efforts to achieve their stated goals, and based on my experience of systems in similar sized practices

(although patient demographics vary between regions), I feel The Palms has been particularly proactive and active in adopting evidence-based innovations in patient management systems and processes (including the Health Care Home model) to cope with acknowledged primary care issues (decreasing workforce, aging population, increased prevalence and complexity of long-term care conditions).

2. Sadly, in [Mr A's] case it does not appear the system changes at the time of his presentation enhanced his overall continuity of care, although as previously discussed there was an intention to do this (referral back to [Dr C] as the regular GP). This intention was evidently disrupted on 6 [Month2] when [Mr A] appeared too unwell to await his scheduled appointment with [Dr C] and was diverted to the urgent queue resulting in him seeing a different provider ([Dr D]). I note [Dr C's] response indicates there is no peer concern with [Dr D's] competence and she has noted the pressure she was working under at the time of [Mr A's] presentation. Nevertheless, I remain of the view that her failure to review [Mr A's] recent notes and adequately consider his presentation pattern and recent investigation results was a very significant factor in the delayed diagnosis of [Mr A's] heart failure which resulted in a delay of appropriate treatment. As previously discussed, I cannot say that earlier diagnosis and treatment would necessarily have altered the outcome in this case."