Radius Ti Rakau Limited

A Report by the
Health and Disability Commissioner

(Case 19HDC00536)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Contents

Executive summary

1. A man aged in his seventies had a long-standing diagnosis of bipolar affective disorder, and had been a registered patient of Radius Ti Rakau Limited (trading as The Doctors Ti Rakau) for many years. He would present to The Doctors Ti Rakau for his primary care needs, and for repeat prescriptions of his usual medications, including lithium carbonate and paroxetine.

2. The mood stabiliser lithium is one of the most widely used medications for treating bipolar affective disorder; however, serious side effects include lithium toxicity, which can cause reduced kidney function and permanent kidney damage. Recommended practice is for lithium levels and renal function to be monitored on a three-monthly basis because of the risk of toxicity.

3. Between 2014 and 2018, the man attended The Doctors Ti Rakau 24 times, and saw a total of six doctors. At the majority of these appointments, the man was prescribed his usual lithium medication; however, each doctor failed to recognise that the man's lithium monitoring was overdue, and that his renal function was deteriorating.

4. On 27 June 2018, the man was admitted to hospital with weakness, shortness of breath, slurred speech, tremor, and confusion, and was diagnosed with acute kidney injury secondary to lithium toxicity. It was noted that his lithium levels had not been checked since 23 May 2014.

5. This report highlights the importance of appropriate prescribing and providing adequate information to patients, as well as the need for communication between general practitioners.

Findings

6. The Commissioner found that the repeated failure of multiple general practitioners (GPs) at The Doctors Ti Rakau to prescribe appropriately and to monitor lithium levels and renal function between 2014 to 2018 constituted a failure to provide services with reasonable care and skill, in breach of Right 4(1) of the Code of Health and Disability Services Consumers' Rights (the Code).

7. Furthermore, the Commissioner found that the deficiencies in coordination of the man's care and overall clinical oversight were reflective of poor systems for continuity of care at Radius Ti Rakau Limited, in breach of Right 4(5) of the Code.

8. The Commissioner also found Radius Ti Rakau Limited in breach of Right 6(1) and Right 7(1) of the Code for the failure to inform the man of the risks of lithium and the associated monitoring required, and for the consequent failure to obtain his informed consent.

9. Adverse comment was also made about the lack of documentation of the clinical rationale for the man's paroxetine dosage.

Recommendations

10. The Commissioner recommended that The Doctors Ti Rakau:

a) Meet with all staff involved in the management of the man to discuss the findings of this report, including the importance of monitoring lithium, reviewing patient notes before prescribing medication, and following the Medical Council of New Zealand's "Good Prescribing Practice" guidelines.

b) Audit all patients on medications that require regular blood tests to check for toxicity, to determine whether the changes made have resulted in regular monitoring as per the Repeat Prescribing Clinical Guidelines policy.

c) Provide a written apology to the man for its breach of the Code.

Complaint and investigation

11. The Health and Disability Commissioner (HDC) received a complaint from Mr A about the services provided to him by Radius Ti Rakau Limited. The following issue was identified for investigation:

- *Whether Radius Ti Rakau Limited provided Mr A with an appropriate standard of care between 2014 and 2018.*

12. The parties directly involved in the investigation were:

Mr A	Consumer
Radius Ti Rakau Limited	Provider/medical centre

13. Further information was received from:

Mr B	Medical centre manager
Dr C	Urgent care doctor
Dr D	General practitioner (GP)
Dr E	General practitioner
Dr F	Urgent care doctor
Dr G	Urgent care doctor
Dr H	Urgent care doctor

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

Information gathered during investigation

Background

15. Mr A had been a registered patient of Radius Ti Rakau Limited (trading as The Doctors Ti Rakau) for many years. His medical history included essential hypertension[1] and a long-standing diagnosis of bipolar affective disorder.[2] Mr A presented to The Doctors Ti Rakau for his primary care needs and for repeat prescriptions of his regular medications — Accupril,[3] paroxetine,[4] and lithium carbonate.[5]

16. Mr A's history of interactions with mental health services was limited; however, he had been treated with a combination of 800mg of lithium (two doses of 400mg, once daily) and 20mg of paroxetine for many years.

17. The mood stabiliser lithium is one of the most widely used medications for treating bipolar affective disorder. Common side effects include hand tremors, gastrointestinal issues such as vomiting and diarrhoea, and increased urination. More serious but less common side effects include reduced kidney function and permanent kidney damage. Lithium toxicity generally occurs at concentrations above 1.5mmol/L, but may also occur with lower concentrations.

18. Recommended practice is for lithium levels and renal function to be monitored on a three-monthly basis unless a patient is considered to be high risk, in which case monitoring should occur more frequently. High-risk patients can include those with unstable renal function, and the elderly.

19. At the time of events, Mr A was a registered patient with The Doctors Ti Rakau, and, as such, he was registered with a specific GP. Dr D was his GP from 2014 to July 2017, and Dr E took over as his GP from July 2017 onwards. The Doctors Ti Rakau operates as a combined clinic, with both an urgent care and a general practice component, and usually Mr A would present to the urgent queue as a "walk-in" patient when he wished to see a GP.

20. This report relates to the care provided to Mr A by The Doctors Ti Rakau during the period of 2014 to 2018.

Consultations between 2014 and 2018

21. On 20 May 2014, Mr A presented to The Doctors Ti Rakau for a repeat prescription of his usual medications. He was seen by Dr C, who noted Mr A's history of bipolar disorder, and that he had not been seen by a psychiatrist since 1990. Dr C made a plan to check Mr A's lithium levels and refer him to the local mental health service to obtain advice on whether

[1] High blood pressure.
[2] A disorder associated with episodes of mood swings ranging from depressive lows to manic highs.
[3] A medication used to treat high blood pressure, heart failure, and diabetic kidney disease.
[4] An antidepressant of the selective serotonin reuptake inhibitor class.
[5] A medication used to treat and prevent episodes of mania in people with bipolar disorder.

his current treatment was still appropriate. A referral form was sent to the mental health service, a laboratory form was sent requesting a blood test, and a repeat of Mr A's usual medications was prescribed.

22. The blood test was completed on 23 May 2014, and showed Mr A's lithium levels to be within the normal range, at 0.9mmol/L.[6]

23. Mr A was assessed by a mental health nurse at the mental health service on 11 June 2014. She noted that Mr A had been well since starting lithium, and that he appeared to be stable in his mood. She suggested that paroxetine could be reduced to 10mg, instead of the currently prescribed 20mg, and reminded The Doctors Ti Rakau to monitor Mr A's lithium levels every three months. She provided The Doctors Ti Rakau with a guide for monitoring lithium in the elderly, which stated:

> "Monitoring Lithium
>
> - The aim should be to maintain serum lithium levels between 0.4 and 0.6 mmol per litre in older people.
>
> …
>
> - Monitor serum lithium levels normally every 3 months.
>
> - Arrange thyroid and renal function tests every 6 months, and more often if there is evidence of impaired renal function.
>
> …
>
> - If renal function changes initiate closer monitoring of lithium blood serum levels and seek advice from secondary care.
>
> …"

24. The mental health service's assessment was received by The Doctors Ti Rakau on 19 June 2014. Dr C noted in Mr A's medical notes: "RESULTS — Health Services — cont lithium, reduce paroxetine to 10mg."

25. Between 19 June 2014 and 26 May 2015, Mr A was seen at The Doctors Ti Rakau six times.[7] Over this time, blood tests were requested once (but not completed), lithium was prescribed twice, and paroxetine 20mg was prescribed three times. It is not documented why 20mg of paroxetine was continued, despite the new advice from the mental health service. No lithium testing was requested or undertaken, despite Mr A being due for his next test in August 2014.

26. On 26 May 2015, Mr A presented to The Doctors Ti Rakau for a repeat prescription of his medications. He was seen by Dr D, who noted no concerns and provided Mr A with a

[6] A range of 0.5–1.0 has been suggested in the treatment of acute mania.
[7] Of these six times, he was seen by Dr D five times, and by Dr C once.

repeat prescription. A blood test form was provided for a full blood count, liver function, urea and electrolytes, and creatinine[8] and lipid levels. Testing for lithium levels was not requested. The blood test was performed on 16 June 2015, and showed normal results except for a mildly raised creatinine level (138µmol/L),[9] and a low estimated glomerular filtration rate[10](eGRF) of 43mL/min.[11]

27. Further blood tests were requested on 1 September 2015, to check Mr A's renal function. He was seen by Dr C, who noted that Mr A was "doing well, no concerns", and provided him with a repeat prescription of his usual medications. The renal test reported a slightly lowered creatinine level of 123µmol/L, and a slight increase in eGRF to 50mL/min; however, it was noted that Mr A had not taken his medication that morning.

28. Between September 2015 and October 2017, Mr A presented to The Doctors Ti Rakau seven times for a repeat prescription of his usual medications. Over this period, he was seen by three different doctors,[12] and was encouraged to book appointments with his enrolled GP for continuity of care. No blood tests were requested at any of these appointments, and lithium levels were not checked. In July 2017, Dr D was replaced by Dr E as Mr A's enrolled GP.

29. On 3 October 2017, Dr E saw Mr A for a repeat prescription of his medication. Dr E noted that Mr A had no current health concerns, and that he appeared generally well physically and mentally. A referral form was provided for a blood screen, but no lithium levels were requested. The blood test was taken on 6 October 2017, and showed a substantial increase in Mr A's creatinine levels (148µmol/L) and a decreased eGRF rate of 39mL/min. Dr E suggested that renal function tests should be repeated in a month's time.

30. On 20 December 2017, a further blood test was taken to check Mr A's renal function. His creatinine level was reported to be 130µmol/L, and he had an eGRF rate of 46mL/min. Although these results showed an increase in Mr A's kidney function compared to the previous test, they were still outside the normal range.

31. Mr A next attended The Doctors Ti Rakau on 2 January 2018 for a repeat prescription of his usual medications, and was seen by Dr C in the urgent care queue. Mr A again required a repeat prescription on 31 March 2018, and was seen by Dr F. No concerns were noted at either of these appointments.

32. On 16 June 2018, Mr A presented to The Doctors Ti Rakau with a sore neck, and for a repeat prescription of his usual medications. He was seen by Dr E, who noted that Mr A

[8] A high creatinine level indicates that kidney function is lower than it should be.
[9] A normal range is 60–105µmol/L.
[10] A tool used to measure the level of kidney function, calculated using the patient's creatinine level, age, body size, and gender. A low glomerular filtration rate is indicative of lower kidney function.
[11] An eGRF of more than 60 suggests normal kidney function in the absence of other evidence of kidney damage.
[12] Dr G, Dr H, and Dr D.

had had a panic attack the previous Sunday night, but that he appeared to be calm at the consultation. Dr E's notes documented:

> "[H]as 4x regular meds — discussed what they are for.
>
> Had panic attack on Sunday night.
>
> [On examination] — appears calm now
>
> …
>
> meds as below — explained how to use …"

33. At this consultation, Dr E reported that Mr A appeared to be confused about his usual medications. However, Dr E stated that Mr A did not appear confused to such an extent that it raised any alarms.

34. On 27 June 2018, Mr A was admitted to hospital with weakness, shortness of breath, slurred speech, tremor, and confusion. He was noted to be feeling unwell and having been fatigued for the previous two weeks, and was found to have a lithium level of 2.3mmol/L. Mr A was diagnosed with acute kidney injury secondary to lithium toxicity.

35. After total cessation of Mr A's lithium, his lithium level was slow to reduce, suggesting that the level had escalated gradually over a long period of time. It was also noted that his lithium levels had not been checked since 2014.

Further information

36. Mr B, the Medical Centre Manager, responded to the complaint on behalf of The Doctors Ti Rakau. He told HDC: "As a clinic, we deeply regret that we let [Mr A] down and failed to regularly monitor his lithium levels."

37. The Doctors Ti Rakau noted that no concerns were raised during Mr A's consultations at the clinic about the possibility that he could be suffering from lithium toxicity. The Doctors Ti Rakau stated:

> "While [Mr A] did question [Dr E] about his medications during the consultation on 16 June 2018, it is not uncommon for patients to be confused about their medications.
>
> …
>
> In retrospect the questioning about his medications could have been an early sign, but there were certainly no obvious concerns about confusion at this point in time."

38. When asked whether Mr A was provided with any written or verbal information regarding lithium side effects at any of his consultations at the clinic, The Doctors Ti Rakau stated:

> "[Mr A] had been on a stable dose of lithium for many years and it is my expectation that this information/these discussions should have been the responsibility of the

> mental health service who initiated treatment those many years ago as well as his subsequent follow-up visits."

39. The Doctors Ti Rakau explained to HDC that it is a combined urgent care and GP clinic, and that in the past the distinction between the two clinics has been blurred. It acknowledged that this was inappropriate, and said that the practice has made efforts to separate the two clinics by enrolling patients with GPs and by encouraging patients to see their regular GP at booked appointments rather than using the walk-in queue. The Doctors Ti Rakau stated:

> "The involvement of multiple doctors was certainly a contributing factor to this incident as no one doctor was coordinating his care. However, the biggest contributing factor was the failure for each doctor to review [Mr A's] notes and ensure that appropriate monitoring was in place before prescribing."

40. At the time of events, The Doctors Ti Rakau did not have a specific policy or procedure regarding the monitoring of critical drugs such as lithium. Mr B stated: "It is, I suggest, uncommon to have policies pertaining to specific drugs in primary care." Instead, The Doctors Ti Rakau had a more general policy for repeat prescriptions. The policy related only to the procedure for issuing repeat prescriptions to patients without a doctor's consultation, and did not include a process for reviewing repeat medications.

41. In response to this complaint, The Doctors Ti Rakau made changes to its practice, including updating its repeat prescription process. It also created a new clinical guideline for repeat prescribing, with attached appendices for further clinical guidance around the monitoring of lithium and chronic kidney disease. The new guideline states:

> "Regular clinical review is required for all prescriptions. General rules:
>
> - Most conditions requiring regular prescribing should be clinically assessed at least **at 6 monthly** intervals. Particularly if
>
> - Multiple medications
> - Children or
> - Patient aged over 60 years
> - Mental health issues/psychotropic medications
> - Medications that require regular blood tests to check for toxicity etc. e.g. Isotretinoin, Lithium, disease modifying anti-rheumatic drugs and diuretics …"

42. The Doctors Ti Rakau has also implemented a patient recall system that is added to the patient management system when extra monitoring of critical medications is required.

43. The Doctors Ti Rakau told HDC that a common reason for enrolled patients choosing to access the urgent care service is that they are unable to attend when their GP has appointments available. The Doctors Ti Rakau stated:

> "There is now a greater spread of GP appointments (from 0700 to 1830 on various days) and it is hoped that the greater accessibility of booked appointments will encourage patients to make booked appointments."

44. The Doctors Ti Rakau also said that "[u]rgent care doctors will be encouraged to task message the patient's GP where the consultation, or the results of tests or investigations identifies the need for follow-up of chronic medical conditions".

Response to provisional opinion

45. The Doctors Ti Rakau was provided with an opportunity to respond to the provisional report, and advised HDC that it accepts the findings.

46. Mr A was provided with an opportunity to respond to the "information gathered" section of the provisional report, and advised that he had no comments to add.

Relevant standards

47. In April 2010, the Medical Council of New Zealand published standards for "Good prescribing practice". These were updated in November 2016. The standards published in April 2010 state:

> "You should only prescribe medicines or treatment when you have adequately assessed the patient's condition, and/or have adequate knowledge of the patient's needs and are therefore satisfied that the medicines or treatment are in the patient's best interests."

48. The Medical Council of New Zealand's updated publication on "Good prescribing practice" (November 2016) states:

> "[I]t is important that any system for issuing a repeat of an earlier prescription issued to a patient takes full account of the obligations to prescribe responsibly and safely and that the doctor who signs the prescription takes responsibility for it."

49. It also states that before signing a repeat prescription, the prescriber must be satisfied that secure procedures are in place to ensure that:

> "
> - The patient is issued with the correct prescription.
> - Each prescription is regularly reviewed so that it is not issued for a medicine that is no longer required.
> - The correct dose is prescribed for medicines where the dose varies during the course of the treatment.

- You have appropriate information available (which may include access to the patient's clinical records) so that you can review the appropriateness of the repeat prescription.

- Any subsidy conditions that have changed since the last prescription (such as a change to subsidised medicines or a change to the patient's Dispensing Frequency requirements) are amended by you on the prescription.

- You review all relevant information before completing the prescription, and ensure that the patient record is maintained and updated.

- Repeat prescriptions should include details about the number of the repeats allowed within a given time frame and, for the patient's benefit, clear instructions relating to the dosage including quantity, frequency and route."

Opinion: Radius Ti Rakau Limited

50. This case is both unremarkable and disturbing. It is unremarkable in that a patient presented to a series of different doctors at a single practice, which is becoming the norm in primary care practice in New Zealand. It is disturbing in that the basics were not done. The Doctors Ti Rakau individually and collectively failed in this respect — they did not read the notes, ask the questions, or talk with the patient. In not reading the notes, they did not ensure that they knew the history of the prescribing. They did not think critically about their prescribing, and did not monitor Mr A's lithium levels. They did not discuss with Mr A the ongoing need for monitoring, or the consequences of not monitoring, and no one took responsibility for coordinating his care. Individually and collectively the doctors failed to prescribe responsibly, or to have in place systems to support them in doing the right thing reliably.

51. The case is a salutary reminder that the operation of modern medical practice means that no practitioner can operate in isolation. Care must be seen as a continuum, and individual and system behaviour must reflect that continuum. Care must be integrated and collaborative — particularly for patients who see multiple GPs. Doctors and their systems must be connected with each other intentionally. Patients will receive better care as result.

52. Mr A had a history of bipolar affective disorder, and had been treated with a combination of medications, including lithium carbonate, for many years. He had been a registered patient at The Doctors Ti Rakau for many years, and was registered to a specific GP. However, usually he would present to the urgent queue when he wished to see a doctor, rather than make an appointment.

53. From the period of May 2014 to June 2018, Mr A presented to The Doctors Ti Rakau numerous times, and was prescribed lithium regularly. During this time, The Doctors Ti Rakau failed to monitor his lithium levels and renal function effectively, and on 27 June 2018, Mr A was admitted to hospital with acute kidney injury secondary to lithium toxicity.

Monitoring of lithium levels and renal function — breach

54. As Mr A's registered medical centre, The Doctors Ti Rakau was responsible for his day-to-day clinical management. This included ensuring that his long-term medications were being prescribed appropriately. Throughout Mr A's 24 presentations to The Doctors Ti Rakau during 2014 and 2018, he was seen by six doctors in total, and each doctor failed to recognise that Mr A's lithium monitoring was overdue, and that his renal function was deteriorating. As a result, the doctors were unable to determine whether the prescription for lithium was appropriate, and Mr A continued to be prescribed lithium without appropriate assessment or monitoring until his presentation to hospital on 27 June 2018.

55. My in-house clinical advisor, Dr David Maplesden, stated:

> "There were missed opportunities at every attendance from May 2014 onwards for appropriate monitoring of [Mr A's] lithium levels and renal functions in accordance with accepted practice … Once he was observed to be suffering from significantly impaired renal function (June 2015) this monitoring became even more imperative given the association between long-term use of lithium and renal disease, and the effect renal impairment can have on lithium levels.
>
> …
>
> [E]ach doctor providing [Mr A] with a prescription for lithium over the period in question, whether or not he was [Mr A's] registered provider, had a duty to ensure such prescribing was appropriate for that patient which in this case meant ensuring [Mr A's] lithium levels and renal function were being monitored in accordance with accepted practice. The recommendations for such monitoring are based on the principle of 'do no harm'."

56. The Doctors Ti Rakau stated: "The involvement of multiple doctors was certainly a contributing factor to this incident as no one doctor was coordinating his care." However, it said that the biggest contributing factor was the failure of each doctor to review Mr A's notes and ensure that appropriate monitoring was in place before prescribing.

57. Individual medical practitioners have a responsibility to follow the Medical Council of New Zealand's "Good prescribing practice" and ensure that they have the appropriate information available so that the appropriateness of each repeat prescription can be reviewed. I am critical that each doctor who prescribed Mr A with a repeat of his lithium prescription failed to respond to his reduced kidney function or to check his lithium levels. I remind the doctors involved of the importance of reviewing patient notes and making sure that each repeat prescription is based on an accurate and current clinical situation.

58. I am concerned about the policies and procedures that were in place at The Doctors Ti Rakau for situations where a patient presents for repeat prescriptions. I am also concerned that multiple providers failed to recognise that lithium and renal monitoring were overdue.

59. At the time of events, The Doctors Ti Rakau did not have in place a process or policy for reviewing repeat prescriptions for drugs that require monitoring, such as lithium. Policies and processes help to guide and support staff members with their decision-making.

60. The Doctors Ti Rakau acknowledged that the involvement of multiple doctors was a contributing factor to this incident. Dr Maplesden advised that best practice would have been to set up an automatic recall in Mr A's patient monitoring system, to ensure that any doctor he saw would be aware of his lithium monitoring needs. Dr Maplesden further advised:

> "A significant issue here, and subsequently, appears to be that no one GP was prepared to take responsibility for overall 'ownership' and coordination of [Mr A's] care … and this seems to have been a process/systems issue."

61. Systems should have been in place at The Doctors Ti Rakau to facilitate better coordination between the multiple providers involved in Mr A's care, and to ensure that each provider monitored Mr A's lithium levels and renal function appropriately. Radius Ti Rakau Limited is responsible for ensuring that effective systems are in place.

62. The repeated failure of multiple GPs at The Doctors Ti Rakau to prescribe appropriately, and to monitor Mr A's lithium levels and renal function between 2014 and 2018, constituted a failure to provide services to Mr A with reasonable care and skill. Accordingly, I find that Radius Ti Rakau Limited breached Right 4(1)[13] of the Code of Health and Disability Services Consumers' Rights (the Code).

63. Furthermore, there was poor communication and cooperation between the various GPs who saw Mr A. General practices should have robust processes in place for facilitating continuity of care if a patient is being seen by multiple providers. The deficiencies in coordination of Mr A's care and overall clinical oversight are reflective of poor systems for continuity of care at The Doctors Ti Rakau, in breach of Right 4(5)[14] of the Code.

64. I note that in response to this complaint, The Doctors Ti Rakau modified its "Repeat Prescribing Clinical Guidelines" to include requirements for repeat prescriptions and the monitoring of drugs such as lithium. Dr Maplesden stated:

> "Appropriate modifications have been made to the practice 'Repeat Prescribing Clinical Guidelines' which, if observed, should reduce the risk of recurrence of an

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

incident of the nature in question, however this policy should have been in place prior to 2019."

Informing Mr A of risks — breach

65. The Doctors Ti Rakau stated that to the best of its knowledge, during Mr A's consultations at the clinic he was never given any written or verbal information regarding the side effects of lithium. The Doctors Ti Rakau told HDC:

> "[Mr A] had been on a stable dose of lithium for many years and it is my expectation that this information/these discussions should have been the responsibility of the mental health service who initiated treatment those many years ago as well as his subsequent follow-up visits."

66. I am of the view that under the Medical Council of New Zealand's guidelines referred to above, providers have a duty to "take full account of the obligations to prescribe responsibly and safely, and that the doctor who signs the prescription takes responsibility for it". I consider that this includes ensuring that patients are aware of the risks of their medication, regardless of whether or not the attending provider initiated the treatment.

67. Dr Maplesden stated:

> "[Mr A] had been prescribed lithium many years previously and I would expect the prescriber at that time to have discussed risks and benefits of therapy, common side effects and recommended monitoring requirements with [Mr A].
>
> …
>
> However, even in the absence of a formal recall set-up or access to the DHB advice, I would regard recognition of the need for monitoring of lithium levels on at least an annual basis to be core GP knowledge without prompting."

68. I am critical that the risks of taking lithium were not discussed with Mr A at any consultation at The Doctors Ti Rakau, especially when it was known that his involvement with the mental health service was very limited, and it had been many years since he was first started on lithium.

69. I am critical of The Doctors Ti Rakau's failure to inform Mr A of the risks of lithium treatment, and I remind the providers of their obligations as prescribing doctors. The Doctors Ti Rakau ought to have ensured that Mr A was fully aware of the side effects of his medications, and the need for monitoring that flows from these risks.

70. This failure contributed to the adverse consequences for Mr A by depriving him of the opportunity to be reasonably informed of the risks, give informed consent, and participate in his own care. It removed a critical element of the safety-netting around Mr A's care. Mr A trusted The Doctors Ti Rakau to know what they were doing, and individually and collectively the staff of the practice let their patient down.

71. In light of the failure to inform Mr A of the risks and associated monitoring required, and the consequent failure to obtain informed consent, I find Radius Ti Rakau Limited in breach of Right 6(1)[15] and Right 7(1)[16] of the Code.

Documentation of paroxetine — adverse comment

72. After Mr A's mental health service assessment of 11 June 2014, the nurse suggested that his prescription of paroxetine be reduced to 10mg, instead of the prescribed 20mg, as his mood appeared to be stable. When the assessment was received by The Doctors Ti Rakau on 19 June 2014, Dr C documented in Mr A's medical notes: "RESULTS — Health Services — cont lithium, reduce paroxetine to 10mg." However, throughout the period of care in question, from 2014 to 2018, Mr A continued to be prescribed 20mg of paroxetine. It is not documented why the dose of paroxetine was not reduced in accordance with the advice from the mental health service.

73. My expert advisor stated:

> "Subsequently [Mr A's] mental health remained mostly stable and it is not apparent he requested any change in his regime (which had been the trigger for the initial review with the DHB MHS [mental health service]). There should have been documentation of the clinical rationale for any decision not to follow the MHS recommendations with regard to the paroxetine dose adjustment, but under the circumstances I am not particularly critical that the dose adjustment was not made and note [Mr A] remains on the 20mg dose currently after several MHS reviews."

74. I am critical that the reasons for the decision to keep Mr A's paroxetine dose at 20mg were not documented after the mental health service's assessment of 11 June 2014, and that each subsequent doctor continued to prescribe this dose. The use of documentation to capture the clinical rationale for decision-making is especially imperative when a patient is seen by multiple providers, and in my view a decision should have been documented in this case.

Recommendations

75. I recommend that The Doctors Ti Rakau:

a) Meet with all staff involved in the management of Mr A to discuss the findings of this report, including the importance of monitoring lithium, reviewing a patient's notes

[15] Right 6(1) states: "Every consumer has the right to the information that a reasonable consumer, in that consumer's circumstances, would expect to receive."
[16] Right 7(1) states: "Services may be provided to a consumer only if that consumer makes an informed choice and gives informed consent, except where any enactment, or the common law, or any other provision of this Code provides otherwise."

before prescribing medication, and following the Medical Council of New Zealand's "Good Prescribing Practice" guidelines. The Doctors Ti Rakau is to provide HDC with minutes of this meeting within four months of the date of this report.

b) Undergo an audit of the patients on medications that require regular blood tests to check for toxicity — such as lithium, isotretinoin, methotrexate, azathioprine, and diuretics including amiloride, bendrofluazide, frusemide, and spironolactone — to determine whether the changes made have resulted in regular monitoring as per the Repeat Prescribing Clinical Guidelines policy. The audit is to be provided to HDC within six months of the date of this report.

c) Provide a written apology to Mr A for its breach of the Code. The apology is to be sent to HDC within three weeks of the date of this report, for forwarding to Mr A.

Follow-up actions

76. A copy of this report with details identifying the parties removed, except the name of Radius Ti Rakau Limited (trading as The Doctors Ti Rakau) and the expert who advised on this case, will be sent to the Royal New Zealand College of General Practitioners, and will be placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

77. A copy of this report with details identifying the parties removed, except the name of Radius Ti Rakau Limited (trading as The Doctors Ti Rakau) and the expert who advised on this case, will be sent to the Medical Council of New Zealand, and it will be advised of the medical practitioners' names.

Appendix A: Independent advice to the Commissioner

The following expert advice was obtained from Dr David Maplesden:

"1. Thank you for providing this file for advice. To the best of my knowledge I have no conflict of interest in providing this advice. I have reviewed the available information: complaint from [Mr A]; response and timeline from medical centre manager [Mr B] (The Doctors Ti Rakau — TDT); selected TDT GP notes and repeat prescribing policy. [Mr A] complains about various aspects of the care provided to him at TDT. I have been asked to comment on his complaint that his lithium levels were not adequately monitored and this resulted in an admission to [hospital] in June 2018 with lithium toxicity.

2. Summary of relevant blood tests results on file

Date	Prov	Lithium[1]	eGFR[2]	Comment
20/5/13	?	0.6	-	Per response, result not viewed
24/2/14	[doctor]	-	>60	Thyroid function normal, creatinine normal
23/5/14	[Dr C]	0.9	-	Lithium only requested
23/10/14	[Dr D]	-	-	Blood test form provided but test not undertaken. Unclear if lithium level was included in request.
16/6/15	[Dr D]	-	43	Creatinine elevated 138 µmol/L (ref range 60–105)
1/9/15	[Dr D]		50	Creatinine elevated 123 µmol/L
6/10/17	[Dr E]		39	Thyroid function normal, creatinine 148 µmol/L
30/12/17	[Dr E]	-	46	Creatinine 130 µmol/L, calcium normal
27/6/18	[Hospital]	2.3	?	Pt admitted to [hospital] with lithium toxicity

[1] Therapeutic range listed as 0.5–1.0 mmol/L with toxicity possible at levels > 1 mmol/L and common above 1.5 mmol/L). However, see recommendations received subsequently (Appendix 1)

[2] Pathology comment is: *An eGFR >60ml/mn/1.73m2 suggests normal kidney function in the absence of other evidence (eg hypertension, albuminuria, haematuria) of kidney damage* and See Appendix 4. Mr A was suffering from hypertension.

3. Review of available GP notes (consultations relevant to complaint only):

(i) 20 May 2014 — [Mr A] had a history of bipolar affective disorder with prominent depressive component. He had received treatment since his early twenties. He was referred by GP [Dr C] to DHB mental health service as he had not been reviewed by a psychiatrist since *around 1990.* Regular psychiatric medications were lithium 400mg BD and paroxetine 20mg daily, with quinapril 20mg daily for hypertension.

(ii) 11 June 2014 — review by mental health service. Reports sent to GP noting [Mr A] had been last reviewed by psychiatric services in 2004 and he was happy with his current medication regime which he felt was effective and well tolerated. Mental health examination was unremarkable and advice was to reduce paroxetine to 10mg daily and *continue to monitor lithium levels 3 monthly.* An information sheet on monitoring lithium levels is adjacent to this report in the notes and I assume was part of the report. See Appendix 1.

(iii) 19 June 2014 — [Dr C] annotated the report above as: *cont lithium, reduce paroxetine to 10mg.*

(iv) 17 August 2014 ([Dr D]) — *ran out of paroxetine 3–4 days, felt tense.* Paroxetine prescribed at previous dose of 20mg daily. Unclear if this was intentional or if previous advice to reduce paroxetine had not been reviewed.

(v) 23 October 2014 ([Dr D]) — *ran out of medications for 2 days ago …* BP 180/110. Prescribed lithium, paroxetine (still 20mg daily) and quinapril. Bloods ordered and nurse BP check. It appears [Mr A] was admitted to [hospital] with cellulitis in early November 2014 before he could undertake the blood tests ordered. I am unable to confirm whether a lithium level was included in the intended blood tests or if lithium levels were taken while [Mr A] was in [hospital]. There is no record in the clinical file of a lithium level result around this time.

(vi) 20 November 2014 ([Dr D]) — review after discharge from [hospital] having developed atrial fibrillation during the admission. Stable on review (including ECG) and referred to DHB Cardiology service. Repeats of new cardiac meds (metoprolol and aspirin) prescribed.

(vii) 5 February 2015 ([Dr D]) — review for repeat of regular medications. Vital signs stable and no particular health issues identified. To trial cessation of metoprolol and review in one week (patient apparently did not present for review). Usual medications provided (including lithium and paroxetine 20mg daily).

(viii) 26 May 2015 ([Dr D]) — review for repeat of regular medications. Remained well off metoprolol and no particular health concerns identified. Usual medications prescribed including lithium and paroxetine 20mg. Lab form provided for routine blood tests (undertaken on 16 June 2015). Lithium levels evidently not requested (by now 12 months since the last lithium level recorded and 11 months since the

recommendation for three-monthly testing of lithium levels and reducing of paroxetine dose). Renal function showed reduced eGFR consistent with grade 3b chronic kidney disease (CKD)[3]. Unclear if this result was discussed with the patient but notes indicate a recall letter for blood tests being generated on 23 July 2015 and 24 August 2015. Renal function result dated 1 September 2015 (annotated by [Dr D]) showed improved (although still reduced) eGFR (consistent with stage 3a CKD).

(ix) 1 September 2015 ([Dr C]) — review for repeat of regular medications. *Doing well, no concerns, had bloods done this morning.* Blood pressure elevated but had not taken morning meds. Repeats of regular medications provided (including lithium and paroxetine 20mg daily). [Dr C] had not ordered the blood tests undertaken that day so unclear if he expected lithium levels to have been performed.

(x) 9 December 2015 ([Dr G]) — review for repeat of regular medications. No issues identified, BP satisfactory. For review in three months. Repeats of regular medications provided (including lithium and paroxetine 20mg daily).

(xi) 23 February 2016 ([Dr D]) — drivers license medical examination undertaken and relevant documentation provided. No health issues identified.

(xii) 16 March 2016 ([Dr G]) — review for repeat of regular medications prior to overseas trip. No health issues reported. Examination unremarkable. Repeats of regular medications provided (including lithium and paroxetine 20mg daily). Patient advised to see usual GP for follow-up *for continuity of care.*

(xiii) 22 June 2016 ([Dr G]) — *Here for rpt Rx, admits missing pills at times, has not been taking antidepressant for a few days …* current stressors discussed, PHQ-9 score of 8 (consistent with mild depression). Patient enrolled in chronic care programme (ARI) and general lifestyle advice provided with follow-up by practice nurse dietitian and possible social work referrals. Repeats of regular medications provided (including lithium and paroxetine 20mg daily). I note [Mr A] had been seen at [another practice] that morning because of his anxiety and had been given a stat dose of oral diazepam 10mg. By now it was over two years since the last recorded lithium level although there is no reference in any of the consultations to date of [Mr A] exhibiting symptoms suggestive of lithium toxicity and his lithium dose had remained unchanged.

(xiv) 23 September 2016 ([Dr H]) — *here for scripts. Takes lithium (for some years) and paroxetine. Previously worked as a … Feeling well, coping with stressors …* Repeat PHQ-9 showed mood improvement. Repeats of regular medications provided (including lithium and paroxetine 20mg daily). On 27 September and 9 November 2016 [Mr A] was sent invitations for ARI reviews but did not respond and was disenrolled from the programme on 20 December 2016.

[3] BPAC. The detection and management of patients with chronic kidney disease in primary care. Best Practice Journal. 2015; Issue 66

(xv) 24 December 2016 ([Dr G]) — repeat of usual medications requested. Current home stressors discussed and social assistance discussed (declined by patient). No specific physical health issues raised. Repeats of regular medications provided (including lithium and paroxetine 20mg daily). Comment recorded *advised to book appt to see GP for continuity of care.*

(xvi) 31 March 2017 ([Dr D]) — *keeping well, taking medications, bipolar disorder on lithium and paroxetine, seems under control …* BP satisfactory. Plastics referral made for skin lesion removal. Repeats of regular medications provided (including lithium and paroxetine 20mg daily).

(xvii) 5 July 2017 ([Dr G]) — review of recent skin lesion excision site and request repeat of usual medications. Repeats of regular medications provided (including lithium and paroxetine 20mg daily) and antibiotic for wound infection. [Dr G] has again recorded encouraging [Mr A] to schedule appointments with his regular GP for continuity of care. I note it has now been more than three years since [Mr A's] last recorded lithium level and almost two years since his last recorded renal function result. Provider [Dr E] saw [Mr A] on 26 July 2017 in relation to his wound infection.

(xviii) 3 October 2017 ([Dr E]) — seen for repeat of usual medications. *No current health concerns from his POV … appears generally well physically and mentally … P: cont current reg meds; blood screen.* Form provided for blood tests but evidently did not include lithium levels. Results (6 October 2017) showed deterioration in eGFR from previous levels (consistent with grade 3b CKD) with standard pathologist advice to check MSU and ACR, *optimize BP control, avoid nephrotoxic drugs. Consider antiproteinuric drugs (ACEIs or ARBs)* ([Mr A] was taking an ACEI). [Dr E] has annotated the renal function result as requiring recheck in one month with good pre-test hydration and the recall letter was provided on 8 November 2017 and again on 20 December 2017 with [Mr A] responding to the latter recall. Renal function on 30 December 2017 had improved although remained impaired (see tabulated results). Serum calcium was normal. Further planned follow-up of the CKD is not evident from the notes. It does not appear there was consideration of checking lithium levels at this time.

(xix) 2 January 2018 ([Dr C]) — [Mr A] attended for repeat of his usual medications. There is no reference to any current mental or physical health issues. [Mr A] was advised to follow-up with his usual GP. Repeats of regular medications provided (including lithium and paroxetine 20mg daily). It is not clear if his recent blood tests results were discussed.

(xx) 31 March 2018 ([Dr F]) — [Mr A] requested his usual medications prior to an unexpected overseas trip. There is no reference to any current mental or physical health issues and blood pressure was satisfactory. Repeats of regular medications provided (including lithium and paroxetine 20mg daily).

(xxi) 16 June 2018 ([Dr E]) — [Mr A] presented a several week history of restricted neck movement and a recent panic attack — *wants prn anxiety meds.* Blood pressure satisfactory and *appears calm now.* Referral made for cervical spine X-ray. Repeats of regular medications provided (including lithium and paroxetine 20mg daily) together with a small supply of diazepam 2mg tabs for anxiety. I note is now over four years since [Mr A's] last recorded lithium level.

(xxii) 27 June 2018 ([hospital]) — [Mr A] admitted to [hospital]. Discharge summary (5 July 2018) refers to admission for *symptoms of lithium toxicity (2 weeks fatigue/feeling unwell, ~1–2 days of weakness, SOB, slurred speech, tremor, confusion). Also had some panic symptoms recently … Lithium level has not been checked since 2014.* Lithium level on admission was 2.3 (therapeutic range listed as 0.5–1.0 mmol/L with toxicity possible at levels > 1 mmol/L and common above 1.5 mmol/L). Creatinine and eGFR levels were consistent with acute kidney injury (AKI). Symptoms of lithium toxicity and AKI resolved with cessation of lithium and IV fluids. The discharge summary referred to the 2014 mental health service (MHS) advice to reduce paroxetine to 10mg daily which was never done. [Mr A] was discharged on 5 July 2018 to be reviewed by outpatient mental health services to consider whether or not the lithium should be recommenced. As at the time of last MHS review (25 July 2018) [Mr A] remained off lithium but continued with paroxetine 20mg daily.

4. Comments

(i) It is not clear from the GP notes whether [Mr A] was a casual or registered patient at TDT (ie was he registered under any specific GP at TDT) during the period under review — his current status is listed as casual. It appears despite encouragement at several consultations to see his registered GP (if he had one) [Mr A] chose to continue to present as a 'walk-in' patient to the urgent care service provided by TDT. It seems likely the fact [Mr A] saw six different providers over the period in question has contributed to the shortcomings acknowledged by the practice in the monitoring of his lithium levels but also in the related monitoring of his CKD. The practice should have a robust process in place for facilitating continuity of care if a patient is being seen by multiple providers and this might include ensuring the patient is registered under a specific GP, and that the nominated GP receives information regarding the clinical contacts taking place (including copies of relevant test results). Even if the patient is reluctant to register with a specific GP (as appears likely in this case), it would make sense to nominate a GP to take responsibility for coordination of care for a patient presenting regularly with significant long-term conditions as [Mr A] did. In [Mr A's] case, during his regular attendance at TDT over the four years reviewed there were deficiencies in coordination of care and overall clinical management which are difficult to attribute solely to any particular one of the six GPs involved in his care, and most likely represent a deficiency of practice systems in place at the time.

(ii) There were missed opportunities at every attendance from May 2014 onwards for appropriate monitoring of [Mr A's] lithium levels and renal function in accordance

with accepted practice (see Appendices). Once he was observed to be suffering from significantly impaired renal function (June 2015) this monitoring became even more imperative given the association between long-term use of lithium and renal disease, and the effect renal impairment can have on lithium levels. It must be noted that [Mr A] did not present classic symptoms of lithium toxicity to his GP providers at any of the consultations in question, nor did he present symptoms suggestive of the most common lithium associated nephrotoxicity — nephrogenic diabetes insipidus. However, long-term lithium use is also associated with the insidious onset of chronic kidney disease due to chronic interstitial nephritis in up to 15 to 20 percent of patients. Major risk factors for nephrotoxicity appear to be the duration of lithium exposure, the cumulative dose, and advanced age. The degree of renal insufficiency is generally relatively mild but may occasionally progress to end-stage renal disease (ESRD)[4]. While it is not established that [Mr A's] CKD was related to lithium toxicity, the observation of renal impairment should have led to consideration of whether ongoing use of lithium was warranted weighing up potential risks and benefits with [Mr A], and more intensive surveillance of both renal function and lithium levels.

(iii) [Dr C] was conscientious in recognizing in May 2014 that [Mr A] was overdue for lithium monitoring and for making a referral for review of his medications. [Mr A] had been prescribed lithium many years previously and I would expect the prescriber at that time to have discussed risks and benefits of therapy, common side effects and recommended monitoring requirements with [Mr A]. I am unable to comment on the standard of monitoring prior to 2013, but it seems likely [Mr A] had had stable lithium levels, stable mood and no lithium dose change for many years. [Dr C] received information back from the DHB MHS which outlined a recommended biochemical monitoring regime for [Mr A] and a medication adjustment (reduction of paroxetine dose). [Dr C] annotated the medication reduction. I think best practice (and common practice) would have been to set up an automatic recall in the PMS for [Mr A's] biochemical monitoring at this point, particularly if there was a history of him seeing multiple providers. If [Mr A] was registered with a GP outside the practice at this time, that GP should have been forwarded a copy of the DHB report. Once the DHB report was filed, subsequent GPs seeing [Mr A] would have had to recognise there was a report on file and open it to view the advice it contained (ie a review of recent consultations would not necessarily lead to this action). However, even in the absence of a formal recall set-up or access to the DHB advice, I would regard recognition of the need for monitoring of lithium levels on at least an annual basis to be core GP knowledge without prompting. A significant issue here, and subsequently, appears to be that no one GP was prepared to take responsibility for overall 'ownership' and coordination of [Mr A's] care, whether or not he chose to register with any particular GP, and this seems to have been a process/systems issue.

[4] Lerma E. Renal toxicity of lithium. Uptodate. Literature review current though April 2019. www.uptodate.com

(iv) The issue of failure to reduce [Mr A's] paroxetine as had been recommended is complicated by the fact he apparently experienced significant discontinuation symptoms when he had missed a few doses prior to his follow-up appointment in August 2014 and it would have been inappropriate to make the reduction at that time. Subsequently [Mr A's] mental health remained mostly stable and it is not apparent he requested any change in his regime (which had been the trigger for the initial review with the DHB MHS). There should have been documentation of the clinical rationale for any decision not to follow the MHS recommendations with regard to the paroxetine dose adjustment, but under the circumstances I am not particularly critical that the dose adjustment was not made and note [Mr A] remains on the 20mg dose currently after several MHS reviews.

(v) As noted above, all of [Mr A's] GP providers from June 2015 onwards had the opportunity to recognise his lithium/biochemical monitoring was overdue but failed to do so. I am particularly critical that there was a failure to check lithium levels in June 2015 and October 2017 when deterioration in [Mr A's] renal function was noted. I think monitoring of his renal function from September 2015 to October 2017 was also significantly deficient.

(vi) I have viewed the 'Repeat Prescription Process' policy dated January 2019, including 'Repeat Prescribing Clinical Guidelines'. This policy is similar to those I have viewed from other general practices and is reasonably robust although I recommend a specific clause in the 'Repeat Prescribing Clinical Guidelines' that refers to ensuring any recommended monitoring (eg DMARDs, lithium) has been undertaken in accordance with recommended practice (with appropriate guidance references regarding recommended practice). The practice should have a process for setting up recalls which would facilitate such monitoring. The policy in place in 2016/17 applied specifically to repeat prescriptions being issued without a doctor consultation and was reasonable as an administration/process document but did have some deficiencies eg it did not differentiate which classes of medication/medical conditions might not be suitable for repeat prescribing without review for up to six months (such as opioids). The repeat prescribing guidelines added to the 2019 version certainly increase the robustness of the policy and outline clinical considerations I would regard as basic prescribing practice. Best practice would have been to have this guidance in place prior to 2019. I note the practice has undertaken an audit of patients on long-term lithium therapy which is appropriate.

(vii) In summary I believe there were significant deficiencies in the management of [Mr A's] biochemical monitoring between October 2014 and June 2018 which would be met with moderate disapproval by my peers. It is difficult to attribute the deficiencies to any single practitioner and I think the practice must take responsibility for not having effective processes in place to facilitate continuity of care of patients such as [Mr A] who chose not to register with a single provider but attended regularly for repeat prescribing of medications that required regular monitoring. The remedial measures undertaken appear appropriate, but I recommend also that the practice

peer group review current recommendations on biochemical monitoring of patients on lithium and management of patients with CKD using the cited references."

Appendices to Dr Maplesden's advice

Appendix 1: Copy of information supplied to practice by Mental Health Services for Older People in June 2014 after review of [Mr A]

Lithium in the elderly

Monitoring Lithium:

- The aim should be to **maintain serum lithium levels between 0.4 and 0.6 mmol per litre in older people.**
- Blood should be taken 11-14 hours after the last dose
- Lithium should be prescribed in one dose at night
- Monitor serum lithium levels normally every 3 months.
- Arrange thyroid and renal function tests every 6 months, and more often if there is evidence of impaired renal function.
- Monitor weight, especially in patients with rapid weight gain.
- Undertake more frequent tests if there is evidence of clinical deterioration, abnormal results, a change in sodium intake, or symptoms suggesting abnormal renal or thyroid function such as unexplained fatigue, or other risk factors, for example, if the patient is starting medication such as
  - ACE Inhibitors
  - Non-Steroidal anti-inflammatory drugs.
  - Diuretics.
- If renal function changes initiate closer monitoring of lithium blood serum levels and seek advice from secondary care.

WATCH FOR:

Nausea, vomiting, diarrhoea

Paraesthesia, ataxia, tremor and confusion

Which can occur even at therapeutic levels.

If this occurs seek urgent medical attention.

Initiating lithium

This should be done in secondary care. Prescribers should:-

- Advise patients that erratic compliance or rapid discontinuation may increase the risk of relapse
- Measure height and weight, and arrange tests for urea and electrolytes and serum creatinine, and thyroid function
- Arrange an ECG for patients with cardiovascular disease or risk factors for it
- Serum lithium levels should be checked 1 week after starting and 1 week after every dose change and until the levels are stable.
- Decide on a target lithium level and duration of treatment.

28th November 2012

Appendix 2: Relevant extracts from Medical Council of New Zealand "Good prescribing practice" (2016)

"33. It is important that any system for issuing a repeat of an earlier prescription issued to a patient takes full account of the obligations to prescribe responsibly and safely and that the doctor who signs the prescription takes responsibility for it. Before signing a repeat prescription, you must be satisfied that secure procedures are in place to ensure that:

- The patient is issued with the correct prescription.
- Each prescription is regularly reviewed so that it is not issued for a medicine that is no longer required.
- The correct dose is prescribed for medicines where the dose varies during the course of the treatment.
- **You have appropriate information available (which may include access to the patient's clinical records) so that you can review the appropriateness of the repeat prescription.**
- Any subsidy conditions that have changed since the last prescription (such as a change to subsidised medicines or a change to the patient's Dispensing Frequency requirements) are amended by you on the prescription.
- You review all relevant information before completing the prescription, and ensure that the patient record is maintained and updated.
- Repeat prescriptions should include details about the number of the repeats allowed within a given time frame and, for the patient's benefit, clear instructions relating to the dosage including quantity, frequency and route."

Appendix 3: Guidance on monitoring of serum lithium levels[5]

Table 2: Recommended baseline and follow-up monitoring for patients taking lithium long-term[16, 17]

Test	Baseline and follow-up	Rationale
Serum lithium	Five to seven days after first dose, then weekly, until stable, then every six months	Lithium has a narrow therapeutic window
Serum creatinine	Baseline and every six months	Lithium is excreted by the kidneys, therefore there is risk of reduced renal function with long-term use
Serum electrolytes (sodium)	Baseline and then every six months	Sodium levels influence lithium levels
Thyroid function (TSH)	Baseline and then every six months. More frequently if clinically indicated	Hypothyroidism and rarely hyperthyroidism is increased with the long-term use of lithium
ECG in patients aged over 45 years or with cardiac problems, including hypertension	Baseline and then yearly (if cardiac risk)[22]	Lithium can cause sick sinus syndrome and QT prolongation and baseline ECG is useful if future complications develop, or if other medicines are added that have cardiac conduction effects
Serum calcium	Baseline and then yearly[22]	Lithium can cause hypercalcaemia secondary to elevated parathyroid concentrations

[5] BPAC. Bipolar disorder: Identifying and supporting patients in primary care. Best Practice Journal; 2014; Issue 62

Appendix 4: Guidance for monitoring patients with CKD[6]

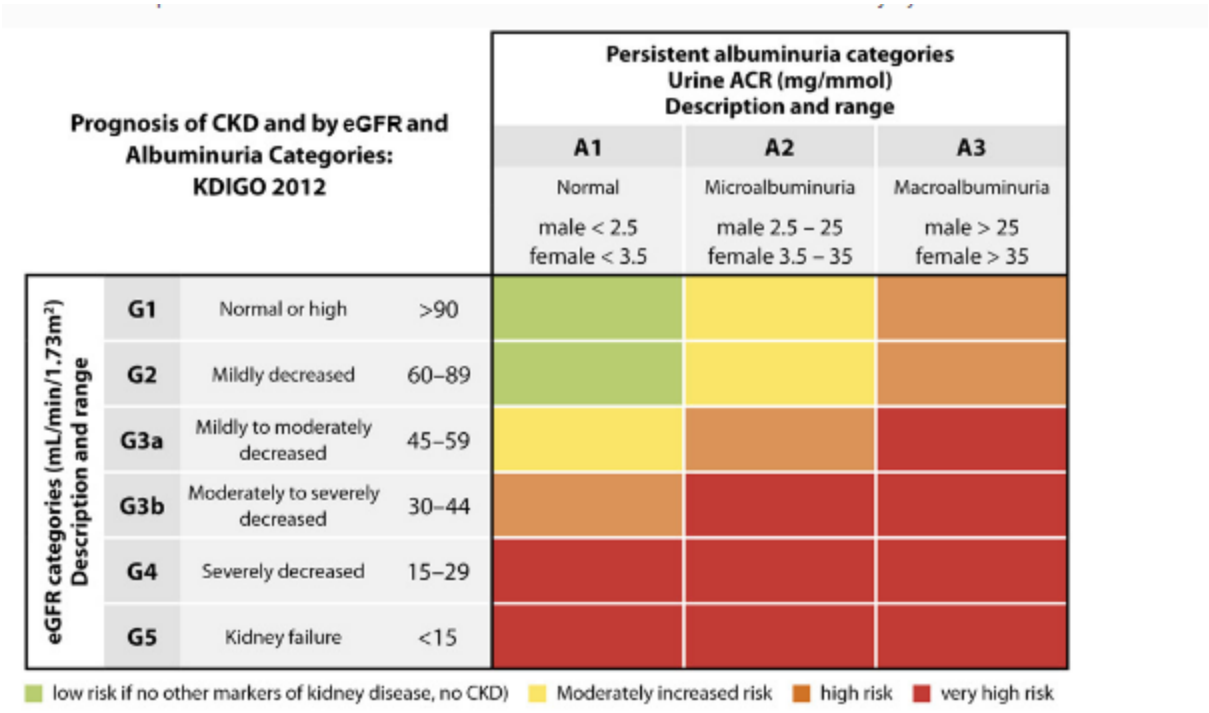

Figure 1: Classification and prognostic risk of chronic kidney disease (CKD) according to estimated Glomerular Filtration Rate (eGFR – mL/min/1.73m^2) and presence of albuminuria (mg/mmol) adapted from KDIGO clinical guidelines, 2012[5]

Table 2: Monitoring and investigation schedule for patients with chronic kidney disease according to staging[2]

CKD staging	Frequency of review	Investigations requested
Stage 1 – 2	6 – 12 months; less frequently if the patient's eGFR is stable and risk factors controlled	Serum creatinine, ACR (or PCR), serum electrolytes, serum urate, HbA_{1c} and lipids
Stage 3	Three to six-monthly	In addition to the above: FBC, serum ferritin, calcium, phosphate and parathyroid hormone
Stage 4	Three-monthly	In addition to the above: plasma bicarbonate
Stage 5	Monthly	Investigations usually determined in conjunction with a nephrologist

[6] BPAC. The detection and management of patients with chronic kidney disease in primary care. Best Practice Journal. 2015; Issue 66

The following further expert advice was received from Dr Maplesden:

> "I have reviewed the response from The Doctors Ti Rakau dated 22 July 2019.
>
> 1. I agree that messaging the patient's regular (registered) provider using the PMS task system (or some suitable equivalent) would be a reasonable strategy when that patient has been identified by a different provider within the same practice as having an issue requiring follow-up.
>
> 2. Appropriate modifications have been made to the practice 'Repeat Prescribing Clinical Guidelines' which, if observed, should reduce the risk of recurrence of an incident of the nature in question. Similarly, the provider education recommended in the response is a positive action in relation to the incident in question.
>
> 3. The strategies referred to in section 5 of the latest provider response I think constitute a reasonable approach to the issue of promoting continuity of care.
>
> 4. I acknowledge [Mr A] was on occasions encouraged to see his registered GP for the non-urgent issues which he was generally presenting to the practice 'urgent doctor' service, but the patient chose to continue accessing the urgent service even though it meant he was seeing a variety of providers. However, each doctor providing [Mr A] with a prescription for lithium over the period in question, whether or not he was [Mr A's] registered provider, had a duty to ensure such prescribing was appropriate for that patient which in this case meant ensuring [Mr A's] lithium levels and renal function were being monitored in accordance with accepted practice. The recommendations for such monitoring are based on the principle of 'do no harm'."