General Practitioner, Dr C

Ophthalmologist, Dr E

A Report by the

Health and Disability Commissioner

(Case 01HDC09132)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Parties involved

Mrs A	Consumer
Ms B	Consumer's daughter
Dr C	Provider, Consumer's general practitioner
Dr D	Specialist Physician, a public hospital
Dr E	Provider, Consumer's ophthalmologist

Complaint

On 20 August 2001 the Commissioner received a complaint from Mrs A about general practitioner Dr C and ophthalmologist Dr E. The complaint was summarised as follows:

Dr C

Dr C did not provide services of an appropriate standard or fully inform Mrs A in that he:

- *did not adequately assess Mrs A's physical condition following a fall on 22 March 2001 and:*
  - *did not take her current medications into account*
  - *disregarded her shaking on 22 March 2001 and on a previous occasion in September 2000*
- *did not monitor Mrs A's lithium levels for more than one year and did not detect lithium toxicity which led to tardive dyskinesia*
- *did not take into account the adverse reactions and side effects of lithium treatment when treating Mrs A for a bladder infection and also did not check Mrs A's lithium levels following a urinary infection*
- *did not advise Mrs A of the possible side effects of taking beta blocker medication.*

Dr E

Dr E did not provide services of an appropriate standard or fully inform Mrs A in that he:

- *did not advise Mrs A of the possible side effects of taking beta blocker medication.*

An investigation was commenced on 11 September 2001.

Information reviewed

- Mrs A's letter of complaint, dated 9 August 2001 (sent to the New Zealand Medical Council and forwarded to the Health and Disability Commissioner)
- Letter of response from Dr C, dated 5 October 2001

Names have been removed to protect privacy. Identifying letters are assigned in alphabetical order and bear no relationship to the person's actual name.

- Letter of response from Dr E, dated 5 October 2001
- Clinical notes from Dr C
- Clinical notes from Dr E
- Correspondence from Dr E to Dr C
- Hospital notes from a public hospital for Mrs A
- Response to specific questions from the admitting medical officer at the public hospital, dated 29 January 2002
- Response to specific questions from the consultant physician at the public hospital, dated 30 January 2002

Information gathered during investigation

Summary
At the time of this complaint, Mrs A had been seeing her general practitioner, Dr C, since 1993. Mrs A suffered bipolar affective disorder, which was stabilised with lithium. She had been on a stable dose of lithium prior to becoming Dr C's patient and he had tested her lithium levels each year. Her last test prior to the complaint was in March 2000. Her serum levels were within the therapeutic range when tested.

In late 1999 her optometrist referred her to Dr E, an ophthalmologist. He prescribed Timoptol eye drops to treat glaucoma. In April 2000, [Mrs A] was experiencing hypertension and Dr C prescribed Inhibace. Later, in August 2000, a physician, Dr D, changed this medication to Inhibace Plus.

In March 2001, Mrs A developed a urinary tract infection and was prescribed antibiotics by Dr C. Later that month, on 22 March, she suffered a fall and injured her head.

On 25 March 2001, Mrs A was admitted to Intensive Care with a slow heart rate and low blood pressure. Mrs A was subsequently found to have toxic levels of lithium.

Both specialists, Dr E and Dr D (who was not under investigation), were involved in specific aspects of Mrs A's care between December 1999 and March 2001, and in each case their involvement included prescribing medications. Dr C, as Mrs A's longstanding general practitioner, had responsibility for overseeing her medical care, including the management of bipolar affective disorder by medication. He had an obligation to be aware of side effects of medications she was taking and of possible interactions between those medications, whether they were prescribed by himself or others. He also had a responsibility to undertake appropriate monitoring.

This case highlights the importance of effective and timely communication between specialists and general practitioners involved in the care of a single patient, and of the need for general practitioners to be aware of, and alert for, possible drug interactions and side effects of prescribed medications.

Background

October 1999 to March 2000 – glaucoma
In October 1999 Mrs A's optometrist referred her to Dr E, ophthalmologist, for a routine check. On 2 December Dr E examined Mrs A and wrote to the optometrist on the same date, with a copy to her general practitioner, Dr C, stating that he considered there to be some risk of angle closure glaucoma (damage to the optic nerve leading to loss of sight). Dr E organised for Mrs A to have prophylactic laser treatment on 15 December and at this time prescribed topical steroid drops to minimise inflammation. Dr E saw Mrs A after the laser treatment on 22 December. His clinical records identify that she had a rise in intra-ocular pressure. Dr E advised me that this rise in pressure was a response to the course of steroid drops, which is seen in approximately 6% of the population. Dr E commenced Mrs A on Timoptol eye drops (a beta blocking agent used topically in the eye for glaucoma) and wrote to Dr C, in a letter dated 23 December 1999, advising of his findings and his prescription of Timoptol.

Dr E reviewed Mrs A one week after the commencement of the Timoptol drops (28 December 1999) and no ill effects were noticed. He saw her again on 25 January and 3 February 2000 and then approximately monthly until August 2000 for monitoring of her glaucoma. No ill effects from the Timoptol drops were noted. (In response to my provisional opinion Dr E said that locum specialists saw Mrs A at his practice in February and March 2000 and did not report on the use of Timoptol.)

Dr E said that before commencing the Timoptol he ensured Mrs A had completed a patient information form recording personal and medical details. Dr E uses this form to identify medical risk factors. Some questions about medical conditions, asthma, allergies and heart conditions relate specifically to the use of beta blocker drops. Dr E said that no specific major risk factors for the use of beta blocking agents were identified from Mrs A's patient information form. Mrs A noted on the form that she had manic depression and was currently taking lithium, Surmontil and Solprin.

Mrs A considered that Dr E should have warned her that the medication he had prescribed could slow her heart rate and lower her blood pressure. Dr E routinely advises patients that drops in the eyes can have an effect on the heart or the chest, as patients do not always connect eye drops with the onset of difficulty in breathing. Some patients may also have an allergic response to the agent. Patients are advised to seek medical advice if they experience symptoms. Mrs A maintained that Dr E did not advise her of such side effects.

March to September 2000 – shortness of breath, hypertension
On 17 March 2000 Mrs A consulted Dr C complaining of shortness of breath on exertion. Dr C noted in his contemporaneous medical record that Mrs A was "now on Timoptol". Dr C said that he was concerned that the Timoptol may have contributed to her shortness of breath. Dr C checked Mrs A's lithium levels and noted her blood pressure to be 150/86.

Ms B, Mrs A's daughter, sent Dr C a letter dated 10 April 2000 expressing concern about her mother's breathlessness on minor exertion and asking that he see Mrs A and organise for tests to be done.

On 12 April 2000, Mrs A returned to Dr C still complaining of shortness of breath and he noted in the medical record his concern that that the Timoptol drops being administered for glaucoma may have caused the shortness of breath. Dr C did not convey his concern to Dr E. At this visit Dr C commenced Mrs A on Inhibace (for high blood pressure). He said that he had been trying to find a suitable anti-hypertensive medication for Mrs A as she had experienced side effects from some medications. Dr C said that after checking in the *New Ethicals* under "lithium" and determining that there was no apparent possibility of a dangerous interaction, he commenced Mrs A on Inhibace. Dr C said, in response to my provisional opinion, that he thought it "logical" to look under "lithium" when prescribing Inhibace, and that if there was the possibility of a drug interaction he would have expected it to be stated.

At her next visit on 3 May, Dr E discontinued the medication after discussion with Mrs A about the effect of Timoptol on her breathing. Dr E advised me that there is no mention in his medical records of any concern from Dr C about the effect of Timoptol on Mrs A's breathing. Dr E discontinued the Timoptol and commenced a different agent in an attempt to reduce Mrs A's eye pressure, as the intra-ocular pressures recorded at the May visit were higher than those recorded at the first consultation in December 1999.

In June 2000 Dr C referred Mrs A to Dr D, a physician at a public hospital, for a specialist opinion on her shortness of breath. Dr D advised Mrs A that he thought her shortness of breath was caused by high blood pressure and slight heart failure. In August Mrs A saw Dr D again and he changed her blood pressure medication to Inhibace Plus, an anti-hypertensive containing a thiazide diuretic (a diuretic used specifically for reducing blood pressure). Dr D reported this change of medication to Dr C. Dr D did not advise Dr C to check Mrs A's lithium levels or arrange for a check himself.

In September 2000 Mrs A saw Dr C and told him she was concerned about a tremor which she thought was getting worse. Dr C considered Parkinson's disease. He asked Mrs A to seek Dr D's opinion on her tremor when she next saw him in October and noted this in the medical record. Dr C did not notify Dr D of his concerns about the tremor. In response to my provisional opinion Dr C explained that many patients take responsibility for their own health, and he knew Mrs A to be a woman who would do so.

January to February 2001 – glaucoma
Mrs A had regular ongoing monitoring visits to Dr E. When she saw him on 26 February 2001 he noted that her glaucoma had progressed and reintroduced Timoptol once daily into her right eye only. Dr E wrote to Dr C and advised him that he had recommenced Mrs A on Timoptol:

> "26/02/2001: Timoptol – XE, drop, 0.5%, right eye, one drop, once daily Mitte: three months."

Dr E stated that he did this as Timoptol had been used previously without adverse effect and in a higher dosage. When Mrs A was recommenced on Timoptol she was again required to fill out the patient personal and medical health form. Mrs A noted on the form that she had high blood pressure and that her medications were Xalatan, Solprin, Inhibace, lithium and Surmontil.

12 March 2001 – urinary tract infection
Mrs A visited Dr C on 12 March 2001 with a bladder infection. Mrs A said Dr C simply prescribed antibiotics and did not check her lithium level. Mrs A said she was concerned about her "shaking" and mentioned this to Dr C as she was worried about Parkinson's disease.

Dr C said Mrs A's visit was a routine three-monthly visit and her breathing and blood pressure were fine. He noted in the medical record that Mrs A had complained of an increased tendency to get up at night to pass urine and a feeling of urgency in passing urine. No toxic symptoms were noted and Dr C ordered a mid-stream urine for analysis. Dr C prescribed the antibiotic norfloxacin for the urinary tract infection. Once he obtained laboratory results confirming a urinary tract infection, he changed the antibiotic to trimethoprim.

Dr C said that his usual practice was to check lithium levels yearly in stabilised patients. According to her medical records Mrs A had a number of blood tests, including for lithium levels, in January 1999 and March 2000. Dr C said that, with the benefit of hindsight, it was possible that the addition of a diuretic to the anti-hypertensive medication may have raised Mrs A's lithium level. He did not consider that the fact Mrs A had a urinary tract infection and was on antibiotics indicated a need to stop lithium treatment.

In response to my provisional opinion Dr C said that apart from hypertension and glaucoma, Mrs A's health status had not changed "for a number of years". He submitted that there was therefore no need to change the frequency of her lithium monitoring.

22 March 2001 – fall
On 22 March 2001 Mrs A went to Dr C because she had fallen over and injured her head. She told Dr C she had tripped on an uneven footpath. They assumed that her fall was in part attributable to the immobility caused by her bilateral hip replacement. Dr C examined her head, and his nurse put Steri-strip dressings (self-adhesive skin closure strips) across a cut

on her forehead. Mrs A believed that Dr C should have checked her blood pressure and pulse as he was aware that she was taking beta blocker medication. Dr C stated that he had seen Mrs A ten days before this visit and her blood pressure had been normal. There had been no change in her treatment in the interim, nor any suggestion in her history that a low blood pressure had contributed to her fall. In response to my provisional opinion, Dr C said that he reviewed Mrs A's blood pressure and that it was normal while she was taking Inhibace Plus and after the commencement of Timoptol. The recorded reviews were in September and December 2000 and March 2001.

Mrs A recalled that she was shaking noticeably at this consultation. Dr C did not recall any excessive shaking. Mrs A walked into the consulting rooms, having driven herself, and was able to give a good account of the accident, allowing Dr C to conclude that she had not knocked herself out. He gave Mrs A advice on warning signs following a head injury, and felt she was safe to go home. She drove herself home.

25 March 2001 – hospital admission
On 25 March 2001 Mrs A was admitted acutely to the Intensive Care Unit at the public hospital. Mrs A's daughter called the ambulance, after Mrs A had become increasingly unwell following her fall. On admission Mrs A was found to have a very slow heart rate and low blood pressure.

The admitting medical officer identified that Mrs A was prescribed Timoptol, and noted it as a possible cause of her slow heart rate and low blood pressure. The consulting physician said that the initial diagnosis was "initially profound bradycardia" (slow heart rate) and that Timoptol eye drops can cause this effect. Further, he said that Timoptol can also cause low blood pressure and the fact that Mrs A's blood pressure improved after the Timoptol was discontinued confirmed that it was a factor.

Mrs A was also found to have toxic levels of lithium and subsequently developed tardive dyskinesia (a neurological syndrome caused by long-term use of drugs prescribed for psychiatric conditions). The consultant said that Mrs A's lithium levels were measured because the concurrent use of lithium and diuretics can reduce lithium clearance.

New Ethicals
The *New Ethicals Catalogue* for November 1999, current at the time Inhibace and Inhibace Plus were prescribed for Mrs A, states under "interactions" that these drugs "[m]ay reduce clearance of lithium". In relation to Inhibace Plus it also adds "(anticipate dosage adjustment)".

Independent advice to Commissioner

General practitioner
The following independent expert advice was obtained from Dr John Cheesman:

> "My name is Dr John Cheesman and I had been a general practitioner for 17 years in Rotorua. I am also a fellow of the New Zealand College of Practitioners.
>
> [Mrs A] consulted Dr C on 22nd March 2001 following a fall the same day. There was no history of loss of consciousness. She had a cut to her forehead which was cleaned and was steristripped after [Dr C] examined her head. [Mrs A] said she was shaking but there was no mention of this in the notes. [Dr C] nurse did not take [Mrs A's] BP or listen to her heart and that should have been done even though the BP had been normal days previously. [Dr C] says in his reply that [Mrs A] had told him that she had tripped on an uneven footpath but [Mrs A] said that because of the history of her two previous hip replacements they felt between them that she had probably fallen over.
>
> It was not mentioned in the notes that [Dr C] was concerned about any other causes for the fall and any possible impact of [Mrs A's] medications, in particular the Timolol [Timoptol] prescribed by her ophthalmologist [Dr E]. Timolol eye drops are a beta blocker medication which can cause bradycardia (slow heartbeat) and hypotension (low BP) which could have caused or contributed to her fall. Also the Inhibace Plus medication can also cause low BP.
>
> It was not recorded in [Dr C's] notes that [Mrs A] complained of shaking at this consultation. Mrs A had previously been investigated by physician [Dr D] at [the public hospital] for her shortness of breath in August 2000 and [Dr C] documented in his notes that [Mrs A] who had noticed increasing tremor to mention this to him as this might be early signs of 'Parkinsonism'. This was appropriate as she was already seeing him but perhaps a further referral could have been written at the consultation. There is some difference of opinion regarding how often lithium levels should be monitored but is generally felt that if lithium levels have been stable previously, blood levels may only need to be monitored yearly. However lithium levels should be checked more regularly with intercurrent illness.
>
> Signs of lithium toxicity include increasing diarrhoea, sluggishness, drowsiness and lethargy, vomiting, anorexia, tinnitus (dizziness), blurred vision, reduced concentration, muscular weakness, ataxia (unsteadiness) and slight muscle twitching. Severe intoxication is associated with seriously impaired consciousness including coma, seizures, kidney, brain and heart damage.
>
> The use of an antibiotic, as in [Mrs A's] case, for a urinary tract infection, doesn't pose a problem except that the infection itself may affect lithium dosage requirements.

There is no interaction between either of the antibiotics prescribed and lithium and it is correct that lithium doesn't have to be stopped while also prescribing antibiotics.

Timoptol eye drops can cause hypotension (low BP), and also bradycardia (slow heartbeat). Also the Inhibace Plus can cause hypotension and there is a possibility of an additive effect. Because of this [Mrs A's] BP should have been monitored more closely at least initially and then at regular intervals.

It is probable that the high levels of lithium in her body did not cause her collapse but that this was a secondary problem. She was also taking Inhibace Plus (which contains a diuretic). The combination of using lithium and a diuretic can cause build up of the levels of lithium in the body and possible lithium toxicity. This could be another reason to monitor lithium levels more regularly. The high levels of lithium could also be secondary to her secondary collapse (hypotension and bradycardia)."

Dr John Cheesman provided the following clarificatory advice:

"In reply to your letter of 3 July 2002, further clarification of my original report. In answer to your questions:

1. lithium and Inhibace do interact and may cause lithium toxicity. This is a delayed reaction and the mechanism of this is uncertain.

2. lithium, Inhibace Plus and Timoptol can interact in several possible ways: 1. The diuretic (hydroclorothiazide) in Inhibace Plus and lithium may react and cause decreased lithium clearance and cause possible lithium toxicity. 2. Inhibace Plus and Timoptol may interact and cause possible additive effect.

3. The additive effect of lithium and Inhibace may cause lithium toxicity, the symptoms of this would be weakness, tremor, thirst, confusion and may lead to hepatotoxicity (damage to kidneys). As mentioned above this would be of gradual onset. The additive effect of lithium and Inhibace Plus may cause lithium toxicity (as above).

   The combination of Inhibace Plus and Timoptol may cause an additive hypotensive effect i.e. possible low blood pressure (weakness and dizziness). This may also cause bradycardia (slow heart rate).

4. Monitoring lithium levels should be carried out whilst taking lithium and Inhibace and also with lithium and Inhibace Plus as both combinations can cause possible lithium toxicity. This is particularly important at the initiation of the addition of Inhibace/Inhibace Plus and it may be necessary to adjust the dosage of lithium. After that it is probably a matter of opinion how often the lithium levels should be checked, but initially this should be done monthly.

Monitoring of the blood pressure readings at least initially should be carried out after the initiation of Inhibace Plus with Timoptol.

5. It is theoretically the prescriber's responsibility to advise the general practitioner regarding necessary monitoring particularly if there is the possibility of serious side-effects. However the general practitioner should also be aware of this and initiate monitoring if it has not already been done so.

6. The infections particularly if severe may lead to a toxic state/dehydration and if not alleviated could cause lithium toxicity. (Not in this situation.) The antibiotic and lithium itself do not interact and no special requirements for monitoring are necessary for a 'simple' infection, as long as the infection is monitored adequately."

Ophthalmologist
The following independent expert advice was obtained from Dr Richard Clemett, ophthalmologist:

"Thank you for your request for professional opinion on the complaint by [Mrs A] previously of […] against [Dr E] (ophthalmologist).

- Professional Background

I am a Fellow of the Royal College of Surgeons, Royal College of Ophthalmologists, Royal Australasian College of Surgeons and Royal Australasian & New Zealand College of Ophthalmologists. Presently I am Clinical Director of Ophthalmology at Christchurch Hospital, a Clinical Associate Professor at the Christchurch School of Medicine & Health Sciences and am responsible for both the undergraduate and post graduate vocational training of ophthalmologists at Christchurch Hospital and Christchurch School of Medicine and Health Sciences. I regularly see and treat glaucoma patients in a hospital setting.

- Information provided by [Dr E] about Timoptol eye drops.

Timoptol is used to reduce elevated intraocular pressure associated with glaucoma. Timolol is a topical beta blocker preparation and is probably the most commonly used anti-glaucoma medication in the western world. Topically applied Timolol or Timoptol-XE may be absorbed systemically after passage through the tear duct into the nose. The viscous formulation of the drug slows this effect. The major contra indicators to its use are due to its effects on the lung and the heart. It is contra indicated in patients who suffer from asthma or who have cardiac failure. While it is not absolutely contra indicated in patients already receiving oral beta blockers, it should be used with caution as the beta blockade effect can be summative.

From the information provided, [Dr E] required [Mrs A] to complete and sign a questionnaire used to identify medical risk factors that might relate to the use of beta blocker drops. [Mrs A] filled in the patient information form on 28.10.99 and the form was updated and signed by the patient again on 26.2.01. [Dr E] states that no specific major risk factors for the use of beta blocker drops were identified on either occasion. Further, he states that his 'patients receiving Timolol eye drops (Timoptol) are warned at the time of the first prescription that the drops in the eyes can have an effect on the heart or chest'. He states that 'this advice would have been given to [Mrs A] on 22.12.99 when the drops were commenced'. [Dr E's] clinical records of 22.12.99 identify that [Mrs A] who previously had been treated for the risk of angle-closure glaucoma was diagnosed with probable open-angle glaucoma as well. Timolol eye drops were then appropriate. The computerised records do not identify what was said to the patients but I have no reason to doubt that it was [Dr E's] practice to warn patients that these drops can have an effect on the heart or chest. Subsequently, [Dr E] saw [Mrs A] on 28.12.99 when he has recorded that 'the drops have not caused any problems'. He saw [Mrs A] again on 29.1.00, 3.2.00, 1.3.00 and 3.5.00. At the last visit Timolol drops were stopped and the patient started on an alternative eye drop, Trusopt (Dorzolamide 2% drops) to achieve better control.

On 26.2.01 Timoptol-XE drops were again prescribed, for her right eye only. These drops were supplemented to the Xalatan drops which she was presently using. On the visit of 26.2.01 [Mrs A] completed and signed a document indicating that she had glaucoma and blood pressure but she did not list any other cardiac or chest problems. I cannot say whether [Mrs A] was verbally warned about the side effects of Timolol eye drops on the second occasion. However, the paper documentation that was signed by the patient on two occasions and the lack of medical conditions which would have put the patient at risk suggest that [Dr E] did make an effort to identify factors which would be a risk when a patient received Timolol eye drops. He enquired about the general medications the patient was presently receiving on two occasions.

- Letters to [Mrs A's] general practitioner

The letters to [Mrs A's] general practitioner include a description of her narrow angle glaucoma management on 2.12.99, a letter on the management of her conjunctivitis on 6.3.00 but as far as I can ascertain there were no letters to the general practitioner identifying that she was prescribed Timolol on the first occasion. [Dr C] was notified of her use of Xalatan drops on 27.11.00 and the institution of Timolol-XE drops for the right eye, once daily on 26.2.01. After the episode of bradycardia [Dr E] notified [Dr C] of the need to continue the Xalatan drops alone for the glaucoma. From the information it would appear that [Mrs A] was carefully monitored by [Dr E] on the first occasion she used Timolol eye drops and her general practitioner was not directly informed. This may have been an oversight. On the second occasion her general practitioner was informed that the patient was taking the drops. Timolol is a common medication with well documented side effects. Topically applied Timolol may be absorbed systemically

but in the adult the blood levels achieved through this means are significantly less than oral doses of the drug. Timolol can give the same adverse effects when used as eye drops as occurred with tablets. However, the issue is one of magnitude. The eye drops, particularly in the gel or XE formulation, produce a much lower concentration in the blood than orally administered drugs. On the first occasion the Timolol given to this patient was administered twice daily to each eye, whereas on the subsequent occasion the drug was given only to the right eye where one would have expected less than half of the blood concentration of the drug than occurred on the first occasion. Furthermore, the drug was used for six months without side effect and to [Dr E's] knowledge the patient's general medical condition had not changed in the interim when he re-introduced the drug on the second occasion.

- Implication of adding Timolol eye drops to existing medication

The clinical records suggest that this patient was suffering the adverse effect of lithium. These include gastro-intestinal upsets, nausea, vertigo and tremor. I suspect the lithium was responsible for some of the symptoms [Mrs A] experienced and may have been responsible for her fall. It is possible that despite the lack of pre-existing cardiac or respiratory problems, the patient may have experienced an adverse reaction to the Timolol gel administered to the eye once daily or it may have contributed to the event. To establish a cause and effect relationship there must be a close temporal relationship between drug exposure and the event. In this instance the patient had used the drug for a period of six months without side effects and then experienced severe bradycardia in the setting of lithium toxicity one month after starting a lower dose of the Timoptol eye drops. It is certainly possible that the Timoptol eye drops contributed to the bradycardia but may not have been the only contributory factor.

- Other issues

In summary, [Dr E] has cared for his patient well although he does not appear to have notified the general practitioner of the commencement of Timolol eye drops on the first occasion. However, he did check the patient himself for any sign of heart or lung problem."

Professor Clemett provided the following clarificatory advice:

"1. Your questions on drug interactions relate to two drugs which Ophthalmologists do not employ, i.e. lithium and Inhibace. If, as in this instance, the issue was specifically raised as to their potential interaction with Timoptol, in a hospital setting I would contact the Clinical Pharmacology Drug Information Centre within Christchurch Hospital and pose the question to them. Their response to this request has produced the enclosed literature. It is clear from the literature that there are potential interactions between lithium and Inhibace, which I have highlighted on page 91 of reference 1 [attached]. It states that there have been scattered reports of lithium

toxicity associated with the use of Ace Inhibitors and attributed to a reduction of lithium excretion. Further it states that this is not a predictable interaction.

2. I know of no potential interaction between Timoptol, Inhibace Plus or Timoptol and lithium.

3. I would not expect an average Ophthalmologist to be able to comment on the potential interactions of these drugs taken in combination although I know of no potential harm except for the interactions between Inhibace and lithium.

4. An Ophthalmologist would clearly monitor side effects on Timoptol administered locally but would not (except in exceptional circumstances) comment on side effects related to lithium or Inhibace Plus.

5. It is customary for the Ophthalmologist to advise the general practitioner what ophthalmic medication has been prescribed or changed. It is not common practice for the Ophthalmologist to advise the general practitioner of what side effects might ensure from a given ocular medication. The general practitioner should undertake this on his own initiative, except in special circumstances such as a patient who has co-existing chronic obstructive airways disease and in whom beta blocker drugs are deemed necessary."

Code of Health and Disability Services Consumers' Rights

The following Right in the Code of Health and Disability Services Consumers' Rights is applicable to this complaint:

RIGHT 4
Right to Services of an Appropriate Standard

1) Every consumer has the right to have services provided with reasonable care and skill.

Opinion: No further action – Dr E

Advice of possible side effects of taking beta blocker medication
Mrs A said that Dr E should have warned her of the risk of dangerously low heart rate and blood pressure from Timoptol eye drops, a beta blocker medication. Dr E said that he would have advised Mrs A that Timoptol may affect the heart or chest, as he does so

routinely, because most people are not likely to connect the use of eye drops with the onset of symptoms such as difficulty in breathing. As with all Dr E's new patients, Mrs A was requested to complete a questionnaire which included questions that related directly to the presence of underlying medical conditions and the use of beta blocker medication. Mrs A completed the questionnaire before the administration of Timoptol on 28 October 1999 and again before the second period of administration on 26 February 2001. Dr E said that no risk factors were identified. He monitored Mrs A for the effects of Timoptol on her heart and chest at her visits on 28 December, 25 January and 2 February 2000.

In response to my provisional opinion Mrs A maintained that Dr E did not tell her that Timoptol can affect the heart or chest. I note that Dr E did not document any discussion of the side effects with Mrs A in the clinical notes. This leaves me with a direct conflict of evidence between Mrs A's recollection and Dr E's statement of his routine practice. I do not consider that I have sufficient evidence to resolve this conflict. I do, however, note that all providers have a responsibility to give advice about the potential side effects of the medications that they prescribe and such discussions should be recorded in the clinical notes.

Accordingly, I have decided, in accordance with Section 37(2) of the Health and Disability Commissioner Act 1994, to take no further action in relation to this aspect of the complaint.

Opinion: Breach – Dr C

Monitoring for drug interactions

Dr C, as Mrs A's general practitioner, was responsible for overseeing Mrs A's medical care, including monitoring the side effects of medications, possible indications of drug interactions, and the effects of other medications or illnesses on her lithium levels. Lithium prescribing guidelines recommend that lithium levels are monitored every three months. Dr C considered that, as Mrs A had been stabilised on lithium for many years, he was justified in monitoring levels yearly. However, this did not take into account her change of medications.

In April 2000 Dr C added Inhibace to Mrs A's medication regime. He was aware that Mrs A was also taking Timoptol, prescribed by Dr E at the end of 1999. In August 2000, Mrs A's medication was altered to Inhibace Plus by Dr D. Dr C was informed. At that time her Timoptol medication had been discontinued, but was recommenced by Dr E in February 2001. Dr C was informed.

My general practitioner expert advised that Inhibace and lithium can interact and cause lithium toxicity, although the mechanism is uncertain. My advisor also noted that lithium, Inhibace Plus (which has a diuretic added) and Timoptol can interact in several ways to cause lithium toxicity of gradual onset, and that the combination of Timoptol and Inhibace

Plus may cause an additive hypotensive effect and bradycardia. He advised that Dr C should have monitored Mrs A's lithium levels regularly from the time she was commenced on Inhibace in April 2000, and then through her change of medication to Inhibace Plus in August 2000. Her lithium levels should have been monitored monthly to start with, and her lithium dosage adjusted if necessary.

In September 2000 Mrs A told Dr C she was concerned about a tremor and he told her to mention it to Dr D when she next saw him. Dr C did not notify Dr D of his concerns about the tremor, which he thought might be early signs of Parkinsonism. My expert advisor noted that a tremor is a possible sign of lithium toxicity. In my opinion, Dr C should have recognised the possibility of lithium toxicity and checked Mrs A's lithium levels.

In my opinion, as Mrs A's general practitioner, Dr C had an obligation to be aware of the side effects of medications she was taking, and of possible interactions between those medications, whether they were prescribed by himself or others. By failing to monitor Mrs A's lithium levels when her medication regime was changed by the introduction of Inhibace and Inhibace Plus (both of which can affect lithium levels), and when she developed a tremor, Dr C did not fulfil the standard expected of a responsible general practitioner, and therefore breached Right 4(1) of the Code.

Opinion: No Breach – Dr C

Advice of side effects of Timoptol
When Dr C saw Mrs A in April 2000 and prescribed Inhibace, he was aware that she was already taking lithium and Timoptol. When Dr E recommenced Timoptol in February 2001, Dr C was aware that Mrs A was also taking lithium and Inhibace Plus. My expert advisor noted that a combination of Timoptol and Inhibace or Inhibace Plus can cause low blood pressure. Dr E, in prescribing Timoptol, had a responsibility to warn Mrs A about potential side effects. Dr C, as general practitioner, had an obligation to monitor the interactions and side effects of all the medications that, to his knowledge, his patient was taking, including those prescribed by other medical practitioners. While it would be best practice to provide a patient with information on the side effects of drugs prescribed by other practitioners, I do not consider it a breach of the Code not to do so.

Monitoring during and after urinary tract infection
On 12 March 2001, Mrs A developed a urinary tract infection and Dr C prescribed antibiotics. My expert advice is that the antibiotics were unlikely to have affected Mrs A's lithium levels and that no special requirements for monitoring of lithium levels are necessary for a 'simple' infection as long as the infection is monitored adequately. I accept my expert advice that Mrs A's infection was not severe enough to lead to a toxic state and dehydration

which could cause lithium toxicity. In my opinion Dr C did not breach the Code by not specially monitoring Mrs A's lithium levels because of her urinary tract infection.

Tremor
When Mrs A told Dr C about her tremor at the September 2000 consultation, he told her to mention it to her physician, Dr D, when she next saw him in October, and noted this in the medical record. Dr C did not notify Dr D of his concern that the tremor might be an early sign of Parkinson's. He considered that Mrs A was able to take responsibility for following up the matter directly with Dr D herself, without the need for a referral letter.

I accept that Dr C acted reasonably in the circumstances; however, it would have been preferable to send the specialist a letter in relation to the tremor.

Monitoring blood pressure and heartbeat
My general practitioner advisor stated that Dr C should have monitored Mrs A's blood pressure after she began taking Inhibace Plus and Timoptol. Dr C responded that he did review Mrs A's blood pressure regularly. Mrs A was commenced on Inhibace Plus in August 2000, Timoptol was recommenced in February 2001, and Mrs A was admitted to the public hospital in March 2001. Dr C recorded her blood pressure in September and December 2000 and March 2001.

Dr C did not take Mrs A's blood pressure or listen to her heart when she consulted him on 22 March 2001, after her fall and injury to her head. Mrs A did not report that she had lost consciousness. Dr C did not consider the possibility that Mrs A's medications had contributed to her fall. My expert advisor noted that Timoptol can cause a slow heartbeat and low blood pressure and that Inhibace Plus can also cause low blood pressure, and that this may have contributed to the fall. My advisor considered that Dr C should have taken Mrs A's blood pressure or listened to her heart.

Although I do not consider that Dr C breached the Code in relation to his monitoring of Mrs A's blood pressure and heartbeat, I draw his attention to my advisor's comments.

Actions taken

Dr C advised me that, since receiving this complaint, he has undertaken a review of his practice and changed his practice in the following ways:

- the introduction of a recall system of three-monthly lithium level assessments
- an extensive examination of patients who suffer falls to detect possible causes
- the introduction of prescribing software for the identification of drug interactions

- the writing of letters to specialists regarding extra matters to be addressed at patient follow-up appointments.

Follow-up actions

- A copy of this report will be sent to the Medical Council of New Zealand.
- A copy of this report, with all identifying details removed, will be sent to the Royal New Zealand College of General Practitioners, the New Zealand Branch of the Royal Australasian College of Ophthalmologists, and Medsafe, Ministry of Health, and will be placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

Names have been removed to protect privacy. Identifying letters are assigned in alphabetical order and bear no relationship to the person's actual name.