

General Practitioner, Dr B

**A Report by the
Health and Disability Commissioner**

(Case 01HDC11412)



Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Parties involved

Mr A	Consumer (deceased)
Mrs A	Complainant (deceased)
Dr B	Provider

Complaint

On 24 October 2001 the Commissioner received a complaint from Mrs A about services provided to her late husband, Mr A, by general practitioner Dr B. The complaint is that:

On 20 August 2001 general practitioner Dr B provided inappropriate care to Mr A as follows:

- *did not admit Mr A to a hospital for his shortness of breath*
- *did not consult with Mr A's respiratory specialist*
- *administered IV Ventolin*
- *did not keep Mr A under observation after administering the Ventolin*
- *did not contact the police following Mr A's sudden death*
- *certified Mr A's death as being a result of pulmonary failure.*

An investigation was commenced on 14 December 2001. Mrs A, the complainant, died in 2002.

Information reviewed

- Mrs A's letter of complaint and accompanying information
- Dr B's response to the complaint
- Mr A's medical records
- Independent expert advice from general practitioner Dr Niall Holland

Information gathered during investigation

Background

Mr A, a 77-year-old man, had suffered from COPD (chronic obstructive pulmonary disease) for approximately two years. Mr A's COPD was caused by non-reversible emphysema (a deteriorating condition affecting the lungs). He was under the care of his general practitioner as well as the respiratory specialists at a public hospital.

Reason for consultation

Mrs A stated that her husband made the doctor's appointment on 20 August 2001 primarily because of concern about his prostate (he was getting up several times at night to pass urine). Also, because her husband's appointment with the respiratory specialists at the hospital had been delayed by a week, he was overdue for his Ventolin inhalers. However, Mrs A advised me that she did not consider her husband's breathing was "that bad" and he was able to drive the car to the surgery.

Time and duration of consultation

On the afternoon of 20 August 2001 Mr A drove to his general practitioner's surgery. His wife accompanied him. Mrs A advised me that although the appointment was for 3.00pm, she and her husband had arrived early as usual, at 2.45pm, as they did not like to be late for appointments. Their doctor's appointment was with Dr B, who was covering for their regular general practitioner, who was overseas.

Dr B was not able to confirm the time of Mr A's appointment, as the surgery does not retain its appointment book after the end of the year. However, he advised me that while it was possible that Mr A had an appointment set for 3.00pm, he in fact saw Mr A much earlier than this. Dr B stated that when he returned to the surgery from his lunch break he saw Mr A in the waiting room, by himself. He decided to see Mr A immediately "as he was in some distress". Dr B initially advised me this was at approximately 1.40pm. However, he later advised me that he thought it was closer to 1.55pm. Dr B recalled that the consultation lasted at least 25 minutes and thought that Mr A left the surgery at about 2.30pm.

Dr B's practice nurse recalled that Mr A arrived shortly before 2.00pm and that Dr B saw him when he returned to the surgery at 2.00pm. She did not recall the time that Mr A left. The receptionist recalled that Mr A arrived at approximately 1.25pm and noted:

"He seemed short of breath, but however we still chatted about the weather etc and I must say he did not seem to be in any great distress, apart from his breathlessness, and he was quite cheerful. [Dr B] arrived back early that day (he often does) at about 1.45pm and he saw [Mr A] immediately. My recollection was that he was with [Mr A] for about 25 minutes. When [Mr A] came out, which must have been approximately 2.10pm, he paid his bill, told me that he was feeling a bit better, and off he went."

Dr B provided me with a computer print-out of his "Day Book", which lists patients seen that day. He advised that patients were entered on the computer "when they paid or at some time after that". Mr A's name was entered in the computer at 3.07pm.

Mrs A waited in the car for her husband and estimates that she waited not longer than ten minutes.

Collapse

When Mr A returned to the car he drove them to the pharmacy so that he could fill his prescription. On the way to the pharmacy (a drive of a few minutes) Mr A told his wife that the doctor had given him an injection and said to him that he would feel better in about 20-30 minutes. After getting the prescription filled (at 2.57pm) Mr A then proceeded to drive home. Mrs A asked him how he was feeling, and he replied “not so good” and complained that his chest was tight. She recalled that he rubbed his arm and she noticed a sticking plaster on the inside of his elbow.

On arriving home about ten minutes later, Mr A went up the steps to open the front door, and slowly collapsed. She was unable to revive him. Mrs A telephoned their son and told him of his father’s collapse. Her son arrived approximately ten minutes later but his father was already dead. He telephoned for an ambulance at 3.33pm, and it arrived at 3.43pm. The ambulance report stated:

“Deceased.

Pt [patient] who saw his GP 1 hr ago c̄ [with] SOB [short of breath]

Drove home c̄ [with] wife and collapsed at top of outside stairs. Wife says pt stopped breathing and was pulseless straight away. Wife then phoned son to come and assist.

Son arrival at home then called for amb[ulance] > 20 Mins before amb[ulance] arrival. o/e [on arrival] Nil life signs – monitor asystole.

GP phoned who will issue death certificate.”

Mrs A telephoned Dr B and told him of her husband’s collapse and death. Dr B responded that he was “sorry to hear that”. Mrs A asked Dr B what sort of injection he had given to her husband. Dr B said, “IM [intramuscular] Ventolin.”

Within half an hour of the ambulance leaving, Dr B arrived and completed a death certificate, recording Mr A’s cause of death as the result of his lung disease.

Examination and treatment

Dr B recalled that Mr A was acutely short of breath and that his prostate problems were mentioned only “as he was leaving”. Dr B recorded Mr A’s PEFV (Peak Expiratory Flow Volume) as 120 (low). (Mr A’s score had been 118 in May 2001, when he was seen by his respiratory specialist. Mr A’s condition at that time was stable.)

Dr B recorded the following about his examination of Mr A:

“Severe attack of SOB.

CVS [cardiovascular system] √

CHF [congestive heart failure] 0

160/80 [pulse]

PEFV 120

Inj ventolin c̄ [with] relief PEFV 160

Prednisone 20mg 2 ii [daily]
Synermox
Hytrin 2mg 1 daily
See Wed[nesday].”

Dr B decided to give Mr A an intramuscular injection of Ventolin, as opposed to administering it via a nebuliser, because “a rapid response was desirable and Ventolin given by this route has a quicker result than when given by nebuliser in my experience”. He denied that he administered the Ventolin intravenously.

Dr B advised me that, after he administered the intramuscular injection of Ventolin, he observed Mr A for a few minutes before transferring him to his partner’s empty room. While Dr B saw other patients he checked on Mr A “from time to time”. Dr B recalled:

“He improved greatly and his peak flow improved to 160. He also assured me that he felt much better. We then discussed his prostate problem and I prescribed an antibiotic, steroids and Hytrin on the understanding that a full assessment of his prostate would be made when he returned for review in 2 days’ time. His condition was such that I permitted him to return home. He was with me for at least 25 minutes and when he left he was in good condition as evidenced by his peak flow and on his own assurances. [Mr A] collapsed and died at 3.30pm. This was certainly a surprise to me and I am sure a great shock to his family. I would point out that the interval between his consulting me and his death was such that there could be no possible connection between any treatment given by me and his death.”

Death certificate

Mrs A was unhappy that Dr B issued a death certificate without first calling the Police, and felt that he had inappropriately recorded her husband’s lung disease as the cause of his death. Dr B responded to Mrs A’s concerns regarding the death certificate as follows:

“[Mrs A] is critical of the fact that I issued a death certificate. I have been in practice for 40 years and I have no doubt that his death was due to his chronic obstructive airways disease. (I did not certify his death as due to pulmonary failure which is quite a different matter.) I would point out that if I am satisfied as to the cause of death and there are no suspicious circumstances then the regulations oblige me to issue a certificate – I have no discretion in the matter.”

Independent advice to Commissioner

The following independent expert advice was obtained from Dr Niall Holland, a general practitioner:

“The complaint

That on 20/8/01 [Dr B] provided inappropriate care to [Mr A]:

- Did not admit [Mr A] to a hospital for his shortness of breath
- Did not consult with [Mr A’s] respiratory specialist
- Administered IV Ventolin
- Did not keep [Mr A] under observation after administering the Ventolin
- Did not contact the police following [Mr A’s] sudden death
- Certified [Mr A’s] death as being a result of pulmonary failure

Preamble

Commenting on this case is complicated by the dispute about a number of the facts that are quite relevant to the determination of the appropriateness of [Dr B’s] actions.

In dispute:

The time of the consultation	1.40pm or 2.45pm
The site of the injection of the Ventolin	Ventolin IV or IM
The time spent with [Dr B]	10 mins or 25 mins
The interval between the injection and death	30 mins or 90 mins
The purpose of the consultation	prostate problems or breathing difficulties

Advice required

Did [Dr B] provide services to [Mr A] with reasonable care and skill?

[Mrs A] indicates that she believed that [Mr A] was attending ‘primarily for a problem regarding his prostate’ but it is clear that he was also seeking a further prescription for inhalers.

[Dr B] appears to have directed his treatment primarily at the problem of difficulty with breathing that he perceived [Mr A] to have. Clearly he did have moderate to severe airway disease as verified in the specialist’s letter of 3 months prior. He was not a patient well known to [Dr B], as he usually saw his partner. It is likely that [Mr A] did have a degree of shortness of breath that could be of concern to a doctor unfamiliar with the patient’s usual presentation.

However he was well enough to drive and to walk into the surgery. His wife who was with him in the car was not particularly concerned about his breathing. The letter by the receptionist, who was clearly familiar with him, does not indicate any particular concern for his condition and he was able to carry on a conversation with her.

There is clearly some discrepancy between [Dr B's] assessment of the severity of the problem and that of [Mr A's] wife or the doctor's receptionist given that [Dr B] considered an injection to be necessary.

The notes indicate that [Mr A] had 'Severe attack of SOB' with a 'PEFV 120'. The notes then show 'CVS (tick), CHF 0, 160/80'. This would usually indicate that an examination of the cardiovascular system was found to be normal, no sign of congestive heart failure and a blood pressure of 160/80.

His colour, respiratory rate, pulse rate, lung air entry and sounds are not recorded. This is important additional information to determine the severity of the attack.

The notes do not provide any measures by which a third party can determine the severity of his condition apart from the peak flow reading but that is often an unreliable guide to severity in severe COPD [also known as CORD]. I note the specialist's letter records this as 118 in May 2001, while the patient was stable, which is very similar to the presenting reading gained by [Dr B] (120).

The notes indicate he was given 'Inj Ventolin with relief PEFV 160'. This was followed by Prednisone 20mg 2 daily and Synermox and Hytrin 2mg 1 daily and an indication that he was to be seen 2 days later.

The preceding notes do indicate recent peak flow readings of 200 in April 2001 and October 2000. The notes show that Hytrin had been prescribed in 1997.

The prescription of prednisone and Synermox as indicated by the notes is quite usual for an acute exacerbation of COPD.

Did [Dr B] misunderstand why [Mr A] was there and treat this as an acute exacerbation when he was only there for repeat medication and advice about his prostate? Not knowing his usual condition, did he think that the patient was more distressed than he really was? If the answer to these questions is yes, then [Dr B] has misunderstood the patient's wishes and condition and fallen short in his clinical assessment. However, the evidence on which to base answers to these questions is in dispute. On the balance of evidence available, I take the view that the patient had a mild exacerbation of his COPD.

[Dr B] has attended to his patient promptly. [Dr B] does seem to have made a reasonable examination (though he has not noted the sputum colour, pulse and respiratory rates or any respiratory signs). He has been concerned for his patient's condition and initiated treatment. He has not dismissed the patient's airway problem as unimportant and he has prescribed prednisone and Synermox appropriately. He has also prescribed for the prostate problem with what seems to be appropriate treatment given that the patient has had it before.

Was [Dr B's] assessment and treatment of [Mr A] on 20/8/01 appropriate?

This question is not independent of the previous one or of subsequent ones where the medication is covered in more detail. I have to assume from the treatment that [Dr B] believed [Mr A] to have an acute bronchitis complicating his chronic obstructive airways disease that was sufficient to cause respiratory distress.

If he were acutely distressed, it is important to rule out a pneumothorax which is a common complication of the bullous emphysema that [Dr B] was shown to have on his previous chest x-rays. To some extent this can be ruled out clinically though the gold standard would be to do a chest x-ray. As there is no comment in the notes on the state of the lungs, I do not know if [Dr B] had tried to exclude this complication. The colour of the sputum is also an important guide as to whether new infection is present.

In the circumstances, and for reasons stated below, I do *not* believe that it was appropriate to use an injection of Ventolin as this is usually reserved for a severe life-threatening exacerbation.

The question remains open as to whether the patient was observed for a safe period after the injection, as the times of attendance are in dispute. However it is usual to provide continuous observation in a moderate to severe exacerbation which is the only occasion on which Ventolin injection can be justified.

The problem is that, were this exacerbation severe enough to warrant IV or IM salbutamol (Ventolin), then the management should include oxygen therapy and admission. If it were not that severe then [Dr B] does have to justify why he was injecting salbutamol at all.

What are the expected standards and were they followed?

The Auckland District Health Board provides a useful guide to the standard treatment of an acute exacerbation. I have accessed this via the Internet and appended the printout [attached as Appendix 1].

As noted elsewhere, if the exacerbation were not severe, then regular use of nebulised or otherwise inhaled ipratropium and salbutamol (Ventolin), with or without oxygen, would be a common and standard treatment. This may be initiated in the surgery and then continued at home as many of these patients do have their own nebulisers. Treatment with Synermox and prednisone as provided by [Dr B] is a common and appropriate adjunct.

If the exacerbation were severe enough to warrant an injection of Ventolin then admission to hospital with oxygen, x-ray to exclude a pneumothorax and supportive ventilation would be the usual standard.

Should [Mr A] have been admitted to hospital?

On the facts available I do not believe it would be usual to admit this patient. My impression is that this is a mild exacerbation rather than a moderate or severe one. A patient who is affected by a moderate to severe exacerbation does not stand and chat with the receptionist and does not come right with a single salbutamol injection.

Was it necessary for [Dr B] to consult with [Mr A's] respiratory specialist about his presentation?

It is common to manage this degree of COPD in general practice and so consultation with the specialist would not normally be warranted. If his condition was such that he could not be managed in general practice then referral to hospital would be the usual next step and this may be arranged in conjunction with respiratory specialist advice. In most centres it would usually be arranged by contacting the junior hospital staff admitting that day.

Did [Dr B] institute the appropriate treatment for [Mr A's] condition?

[Mr A] has had 3 months of inhalers prescribed in early June and again in early July. If this attendance was also for inhalers as stated by his wife then his consumption rate appears to be about three months of inhalers in each one-month period. He was overusing his medication and this suggests his condition may have been unstable. However high inhaler consumption is very common in moderate to severe COPD.

As noted elsewhere, I do not believe parenteral Ventolin, whether IV or IM was appropriate treatment for [Mr A's] condition as he presented on that day.

Was Ventolin administered appropriately and at the correct dose?

I have enquired of a number of general practitioner colleagues and we are in agreement that it is not usual practice to inject salbutamol (Ventolin) either intramuscularly or intravenously for acute on chronic COPD. If the patient's condition were severe enough to warrant this treatment, then admission to hospital for oxygen therapy and assisted ventilation would be the optimal response (see guideline). If ambulance transport were some time away, and the patient in severe respiratory difficulty, then Ventolin by injection plus oxygen might be a useful interim measure. It is not usual practice to give Ventolin by injection and then discharge the patient.

The problem with Ventolin by injection is firstly that it will only be effective if there is a reversible component to the shortness of breath and the specialist advice re [Mr A] was 'there is little to suggest reversible airways disease'. So it introduces additional risk without clear benefit. Secondly, a Ventolin injection will have only a short duration of action. If it were effective, and the patient were not under observation at the time it wore off, he would likely find himself in the same state as before the injection and in need of further therapy. Thirdly it does cause extra stress on the myocardium with speeding up of the heart rate and a risk of developing an irregular heartbeat.

The prescribing advice for a severe life-threatening exacerbation is to administer 5-10mcg/Kg intravenously. The dose given would have been appropriate (though maximal at this weight) if [Mr A] weighed at least 50kg. However it would usually only be given in conjunction with oxygen therapy.

What risks are associated with the administration of Ventolin?

Ventolin stimulates heart, lungs and muscles. While spasm of the airways is relieved, the heart is stimulated to beat faster and may be more prone to develop an irregular rhythm. Muscles develop a temporary tremor. Electrolytes in the blood may be disturbed. This combination does put additional strain on the heart particularly if the oxygen level in the blood is low.

Against this, to some extent patients do become desensitised to the effects of Ventolin and given [Mr A's] intake by way of inhalers he may have had a reduced sensitivity to these side effects.

What observation period and advice to the patient is required following the administration of Ventolin?

Given that it is only appropriate for a severe life threatening exacerbation, then the patient would usually be observed closely until transfer to hospital care as per the DHB guideline.

Are there any other matters relevant to the care provided to [Mr A]?

The difference between [Dr B's] advice as to the time of consultation and that of [Mrs A] is of concern as it is relevant to a determination as to whether there was any connection between the giving of the Ventolin and the patient's death.

The computer billing statement shows the patient to have been invoiced at 3.07pm. The chemist printout shows a time of 2.57pm. Both times support [Mrs A's] view of the time. Against this, the staff have signed letters indicating an earlier time of contact. However, these were written 11 months after the event. The ambulance statement indicates that he had been seen by his general practitioner about '1 hr ago' and ambulance arrival is timed at 1543 and departure at 1607 and, while approximate only, it does yield a consultation time more consistent with [Mrs A's] advice.

Had [Mr A] had an IV (or even an IM) injection of Ventolin without oxygen in the time scale suggested by [Mrs A], he would have been likely to have had a period of tachycardia and temporary relative hypoxia while the injection was working. This combined with the stress of walking and driving while already compromised by a flare in his COPD would put additional stress on what was likely to be a fragile cardio-respiratory system. In this way the Ventolin could have been a contributing factor to his death.

Were there an interval of an hour or more between the injection and death, as stated by [Dr B], then the likelihood of any substantial contribution to the cause of death by the injection is considerably less.

It is important to note that given the age of 77 years, with a 10-year history of COPD, and now of this severity, [Dr B] was at very high risk of dying at any moment from a cardiac event with or without the added effects of parenteral Ventolin. Intravenous Ventolin *is* used for the most severe cases and would not be were it very cardio-toxic. In the emergency setting, with oxygen therapy to maintain oxygenation at more than 92%, it is unlikely to have life threatening side effects.

Even if the Ventolin has contributed to [Mr A's] death, it has only done so because he was already at a very high risk of a sudden cardiac event.

Issues that need elucidation:

I note that the computer program generates a unique and consecutive number for each patient invoice that is generated and a separate unique consecutive receipt number for payments. Seven patients were invoiced over the period from the start of the surgery. Eighteen patients were invoiced over a three hour period assuming a start around 2.00pm indicating a relatively rapid consultation rate for the afternoon. This is consistent with the morning rate of 20 consults over 4 hrs. This suggests that, even with an early start, there was only a brief time available to any one patient during the first hour of the afternoon.

On the basis of the computer report, [Mr A] appears to have been the seventh patient invoiced during the afternoon. This would suggest he left the surgery about 1507hrs as indicated by the invoice generation time. It is usual practice to invoice patients at the point of departure and not to batch computer entries. The computer schedule reveals a pattern of invoicing that seems to reflect the pattern of consulting which is quite rapid. There seems to be a morning break somewhere between 0951 and 1058 and a lunch break between 1230 and presumably 1400 as it was 1421 when the first patient after lunch was invoiced. This 21 minutes is more time than appears to be usual for a consultation so could reflect time given to the care of [Mr A] as well as the patient who was invoiced at that time. There is an interval between 1603 and 1631 that may reflect the doctor going out to visit [Mr A] after his death, as it is the only substantial gap between invoices in the afternoon.

I note that [Mr A's] invoice differs from all other non-prescription invoices on the page in that it does not include a GMS component. Prescriptions (coded P) are issued without seeing the patient and therefore not eligible for GMS. [Mr A's] charge was \$20 and to be consistent with the other fees on this page he would therefore be an AI and the doctor would have been eligible for a GMS subsidy payment of \$15.00.

Why was this entered onto the computer at 1507 if he was seen around 1400?

Why was no GMS claim generated?

Why was no payment by the patient recorded or receipt number generated?

Did he pay or was he upset or in distress when he left and refusing or unable to pay?

Has this record been amended for some reason and the GMS component lost?

It would be usual for the patient to pay on departure, particularly patients in this age group.

In the event of a death immediately subsequent to a consultation, many doctors might not charge the patient, but it is still usual to claim the GMS.

Death Certificate:

In regard to the death certification, it would be usual for a general practitioner to issue the death certificate without autopsy and without contacting the police in an elderly patient such as [Mr A] who had severe disease, known to be associated with sudden death. There would be some wisdom in contacting the coroner under these circumstances, but no obligation to do so.

From the history provided, I believe that the direct cause of death should be shown as 'Acute Cardiac Arrest' with 'Chronic Obstructive Pulmonary Disease' as the antecedent cause.


In summary:

I do not believe that the use of injected Ventolin, whether it be IV or IM, is appropriate to the condition in which [Mr A] has presented. Injected Ventolin should be reserved for the most severe exacerbations and then used in conjunction with oxygen therapy as per the appended guidelines.

The Ventolin injection may have been a contributing factor in [Mr A's] death if the timing is as suggested by [Mrs A], but only because [Mr A] was already at high risk of a sudden cardiac event.

I believe that [Dr B] should review his practice of using parenteral Ventolin in treating acute exacerbations of COPD. It is now usual practice to deliver Ventolin by a respiratory route. The standard method is via a nebuliser that is checked periodically for its effectiveness. The doctor would be wise also to have oxygen available for use in severe respiratory distress."

Appendix 1



AUCKLAND DISTRICT HEALTH BOARD

COPD

[The Dept] [Research] [Teaching] [Scenarios] [Feedback] [Search] [Guidelines]
[Links]



ASSESSMENT

- A brief history and physical examination are usually appropriate prior to treatment. However, if the patient is acutely distressed, give oxygen and inhaled beta2 agonist immediately.
- A more detailed history and complete physical examination should be performed once therapy has been initiated.

THE IMPORTANT ISSUES ARE:

- Cause of the present exacerbation - infection, non-compliance, smoking, other illness eg abdominal pain, chest injury, pulmonary oedema, PE, electrolyte abnormalities
- Duration of deterioration (with increasing duration of the attack, exhaustion and muscle fatigue may precipitate ventilatory failure)
- Severity of both acute and chronic symptoms, including exercise limitation and ability to perform ADLs
- Details of all current medications
- Prior hospitalisations and Emergency Department visits
- Significant co-existing disease
- Resuscitation status
- Is the patient known to the COPD nurse?
- Social factors impacting on presentation - caregivers and patients ability to cope at home

PHYSICAL EXAMINATION

Evaluate severity and search for precipitant.
Perform spirometry and peak flow measurement whenever practical.

ASSESSMENT OF PATIENT WITH ACUTE EXACERBATION OF COPD

SYMPTOMS/ SIGNS/ INVESTIGATION	MILD	MODERATE	*SEVERE AND LIFE-THREATENING
Accessory muscle use	Mild	Moderate	Marked or minimal
Altered consciousness	No	No	Yes
Physical exhaustion	No	No	Yes, may have paradoxical chest wall movement
Talks in	Sentences	Phrases	Words
Pulse rate	<100	100 – 120	>120

Pulsus paradoxus	Not palpable	May be palpable	Palpable [#]
Central cyanosis	Absent	May be present	Likely to be present [#]
Wheeze Intensity	Variable	Variable	Often quiet
SpO2	> 94%		<90% (may be N).
Peak expiratory flow (% of patients normal PERF)	>60%	40 – 60%	<40% or <100 litres per min.+
CXR	If signs of infection	Usually	Required
ABG	Usually not required	Usually required	Hypercapnia, hypoxaemia, respiratory acidosis, metabolic alkalosis, Increased A-a gradient, Indicates Acute vs chronic
Electrolytes			May show precipitants Hypokalaemia, hypophosphataemia, hypomagnesaemia
FBC – polycythaemia			
ECG - arrhythmias			

[#] cyanosis and paradoxical pulse may be absent, but when present indicate severe obstruction

Patients usual state must be taken into count. A small deterioration in a patient with severe disease where exhaustion and progressive respiratory failure may be precipitated by a mild exacerbation and is more significant than in a patient with mild disease.

TREATMENT OF ACUTE EXACERBATION OF COPD

TREATMENT	MILD	MODERATE	SEVERE AND LIFE-THREATENING
Admission necessary	Probably not	Probably	Yes – DCC or Respiratory Unit consult
Oxygen	Monitor effect by oximetry. Maintain oxygen saturations >92% or as close as possible to usual for patient. A small minority have a reduced hypoxic respiratory drive, these patients should have their respiratory status close monitored rather than be deprived of oxygen. Hypoxia kills.		
Nebulised beta₂ agonist salbutamol with 8L/min O₂	5mg salbutamol + 2mls saline	5mg salbutamol + 2mls saline 1 to 4 hourly	5mg salbutamol + 2mls saline nebulised continuous ⇒ 30 min. Consider IV salbutamol 5 - 10µ g/kg repeated pm or 0 - 0.3 µ g/kg/min
Nebulised ipratropium bromide	Rarely necessary	Consider 250mcg 4 hourly	500mcg ipratropium bromide

			with beta ₂ agonist 2 hourly for 4 hours then 6 hourly
Oral corticosteroids prednisolone	30 - 40mg	30 - 60mg	30 - 60mg / daily initially
or			or
Intravenous steroids hydrocortisone	Not necessary	Not necessary	commence IV therapy 200 6 hourly for 24 hours, then review
Theophylline / Aminophylline	Reserve for those unresponsive to other treatment		
	IV aminophylline 5 - 7mg/kg then 0.5 - 0.9mg/kg/hr IV. Use ½ this load dose of aminophylline if the patient is maintained on regular oral theophylline. Level therapeutic 55 - 110mmol/L		
Antibiotics	Amoxicillin 500mg TDS or	Amoxicillin 500mg TDS or	Cefuroxime 1g IV 8 hrly or Amoxicillin / clavulanic acid 500mg TDS
Indicated if infective exacerbation ie fever, leukocytosis, CXR changes, increased volume of sputum or purulence	Doxycycline 200mg then 100mg daily or	Doxycycline 200mg then 100mg daily or	Plus Erythromycin 500mg I 6 hrly
10 - 14 days	Amoxicillin / clavulanic acid 500mg TDS	Amoxicillin / clavulanic acid 500mg TDS or	Till oral tolerated
Treat pneumonia as usual		Cefaclor 500mg TDS or Roxithromycin 300mg daily	
Treat arrhythmias			
Observations	Regular	Continuous	Continuous
Correct electrolytes - hypokalaemia, hypophosphataemia, hypomagnesaemia			
Fluids	Oral	Oral / IV	IV
Ventilation	No	No	BIPAP if available
			Consider intubation and ventilation for impending respiratory arrest

DISCHARGE FROM EMERGENCY DEPARTMENT

- Mild worsening of chronic symptoms / signs
- Able to cope at home.
- Maximise treatment
- Check inhaler techniques, is another delivery method more appropriate
- Stop smoking
- Steroids - oral

Follow up

- Respiratory clinic - consider for home oxygen if PaO₂ < 55mmHg when stable
 - General Practitioner review
 - COPD Nurse
 - Social worker
-

Code of Health and Disability Services Consumers' Rights

The following Rights in the Code of Health and Disability Services Consumers' Rights are 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.*
 - 2) *Every consumer has the right to have services provided that comply with legal, professional, ethical, and other relevant standards.*
-

Opinion: Breach – Dr B

Mrs A complained that Dr B did not admit Mr A to hospital, failed to consult with his respiratory specialist, inappropriately administered IV Ventolin, failed to keep him under observation and discharged him home, where he died a short time later.

In my advisor's opinion, the key issue was whether Dr B's treatment of Mr A was appropriate in the circumstances. Despite the conflicting information, my advisor concluded that it was not. I concur with this advice and set out my reasons below.

Time and duration of consultation

There is dispute as to the time Mr A saw Dr B, the reason for the consultation and the appropriateness of the treatment given.

Mrs A believed that her husband arrived 15 minutes early for his 3.00pm appointment. She has provided supporting evidence (the time the prescription was filled, the time the ambulance was called, and the report contemporaneously written by the ambulance staff referring to Mr A's appointment with the doctor "approximately an hour ago"). I also note that Mr A's invoice was printed on Dr B's computer at 3.07pm.

Dr B recalled that Mr A arrived at approximately 1.40pm or 1.55pm. His staff recalled (some 11 months after the events) that Mr A arrived before 2.00pm. An appointment book, which could establish the time of Mr A's consultation, is not available.

On the information available to me, I accept Mrs A's timeline of events and supporting evidence and conclude that the consultation and treatment (administration of Ventolin) took place between 2.45pm and 3.07pm.

Treatment

Dr B considered Mr A to be acutely short of breath when he saw him. He concentrated on this aspect of care, and considered administration of an intramuscular injection of Ventolin appropriate. He chose to give Mr A Ventolin via injection (rather than nebuliser) because "Ventolin given this route has a quicker result". He denied giving Mr A IV Ventolin. Dr B's record of the consultation records that an injection was given, but the route and dose are not recorded. Dr B advised me that Mr A's prostate problems – which Mrs A believed was the primary reason for the consultation – were mentioned only "as he was leaving".

Dr B's receptionist recalled Mr A as being short of breath when he arrived, but "not in any great distress ... quite cheerful ... and we chatted about the weather etc".

My advisor noted:

"His colour, respiratory rate, pulse rate, lung air entry and sounds are not recorded. This is important additional information to determine the severity of the attack. The notes do not provide any measures by which a third party can determine the severity of his condition apart from the peak flow reading but that is often an unreliable guide in severe COPD. I note the specialist's letter records this as 118 in May 2001, while the patient was stable, which is very similar to the presenting reading gained by [Dr B] (120)."

On the basis of this, my advisor concluded that Mr A was suffering from a mild exacerbation of his COPD. He stated:

"A patient who is affected by a moderate to severe exacerbation does not stand and chat with the receptionist and does not come right with a single salbutamol [Ventolin] injection."

My advisor was critical of Dr B's management of Mr A, particularly his decision to administer an injection of Ventolin, which should be reserved for severe, life-threatening exacerbations. He stated:

"... [I]t is usual to provide continuous observation in a moderate to severe exacerbation which is the only occasion on which Ventolin can be justified. The problem is that, were this exacerbation severe enough to warrant IV or IM salbutamol (Ventolin), then the management should include oxygen therapy and admission. If it were not that severe, then [Dr B] does have to justify why he was injecting salbutamol."

My advisor did not consider it critical to determine whether the dose was administered intravenously or intramuscularly as, in his view, neither approach was correct in the circumstances. He referred me to the Auckland District Health Board guidelines, which describe standard treatment for mild, moderate and acute exacerbations of COPD. The recommended treatment of acute exacerbation is hospitalisation with assisted ventilation and oxygen therapy. For mild or moderate exacerbation (as in Mr A's case), Ventolin via nebuliser is the appropriate treatment. My advisor also informed me that he had consulted a number of general practitioner colleagues, who agreed that it was not standard practice to inject Ventolin, either intramuscularly or intravenously, for acute on chronic COPD.

My advisor stated:

“If the patient's condition warranted this treatment then admission to hospital for oxygen therapy and assisted ventilation would be optimal. However, if ambulance transport was some time away, and the patient was in severe respiratory difficulty, the Ventolin by injection plus oxygen might be a useful interim measure. It is not usual practice to give Ventolin by injection and then discharge the patient.”

My advisor noted the potential for additional risk that an injection of Ventolin posed for a patient such as Mr A, without any clear benefit. Injected Ventolin (either IM or IV) adds extra stress to the heart by speeding up the heart rate, and increases the risk of an irregular heartbeat developing. At best, the benefits of injected Ventolin are short acting, with the patient likely to return to the previous state of breathlessness, and in need of further therapy, when the effect of the Ventolin wears off. Furthermore, injected Ventolin is only effective if there is a reversible component to the breathlessness, and this had been ruled out by Mr A's respiratory specialist.

I accept my expert advice. I am satisfied that Dr B's management of Mr A on 20 August 2001 was a significant departure from accepted standard practice. I accept that Dr B was not familiar with Mr A, and may therefore have misjudged his presentation. However, I have received no evidence that Mr A's previous medical notes were not available to Dr B. The notes clearly record Mr A's condition. Dr B could have consulted the hospital's respiratory team, under whose ongoing care Mr A remained, or arranged for his admission to hospital. He took none of these actions.

If Dr B considered that Mr A was acutely unwell and that Ventolin administration was appropriate (a view that my advisor did not share), Dr B should have provided oxygen support, monitored Mr A closely and arranged his transfer to hospital as quickly as possible. Dr B did not do this. Instead, he kept Mr A under observation for about 25 minutes. In all the circumstances, I am satisfied that Dr B did not provide services with reasonable care and skill and therefore breached Right 4(1) of the Code. I also accept my expert advice that, in giving Mr A an injection of Ventolin, Dr B introduced an unnecessary element of risk, which may have contributed to Mr A's sudden death.

Documentation

My advisor commented that it was difficult to determine the severity of Mr A's breathing problems as his colour, respiratory rate, lung air entry, chest sounds and the colour of his

sputum were not recorded. This was important information that needed to be obtained during the examination, and recorded. It is also not clear from Dr B's notes whether he gave Mr A an IM or IV injection and the dose is not recorded.

I consider Dr B's documentation to be inadequate in the circumstances. I also note with concern the discrepancies my advisor refers to in relation to Mr A's name being entered onto the computer, with no GMS code or receipt number being generated.

Clear, accurate and contemporaneous records are an essential component of good patient care. Had Mr A been admitted into hospital it would not have been possible for the treating doctors to determine adequately the treatment Dr B had given. In my opinion, Dr B's documentation fell below professional standards for a general practitioner. Accordingly, he breached Right 4(2) of the Code.

Opinion: No breach – Dr B

Consulting with respiratory specialist

Mrs A was also concerned that Dr B did not consult with her husband's respiratory specialist. Instead, he treated her husband's breathing problems with an injection of Ventolin.

As discussed above, I do not consider that Dr B instituted the correct treatment. However, in relation to the issue of consulting a respiratory specialist, my advisor commented that patients such as Mr A (experiencing a mild to moderate exacerbation) are routinely treated in general practice, and consultation with a specialist is not normally warranted.

My advisor commented that if a patient's condition cannot be managed in general practice, the usual next step is an admission to hospital, possibly in conjunction with the respiratory specialist. This would usually be arranged with the hospital staff admitting that day. My advisor also commented that he would not have admitted a patient presenting as Mr A did.

Accordingly, I am satisfied that Dr B did not breach the Code in relation to this aspect of Mrs A's complaint.

Other comment

Mrs A also expressed concern that Dr B did not contact the Police, despite Mr A's death being so sudden and so soon after the consultation. She also noted that "within half an hour of the ambulance leaving [Dr B] was at my residence to issue the Death Certificate".

It is common practice for the general practitioner or the treating doctor to certify the death of a patient, as noted by my advisor:

“It would be usual for a general practitioner to issue the death certificate without autopsy and without contacting the Police in an elderly patient such as [Mr A] who had severe disease, known to be associated with sudden death. There would be some wisdom in contacting the coroner under these circumstances but no obligation to do so.”

Dr B certified Mr A’s death as being the result of “C[hronic] O[bstructive] P[ulmonary] D[isease] (two years)”. My advisor commented that, in his opinion, Mr A’s cause of death would be more correctly recorded as “Acute Cardiac Arrest” with lung disease listed as the antecedent cause.

My jurisdiction does not extend to events that occurred following Mr A’s death. Accordingly, matters relating to Mr A’s death certificate are outside my jurisdiction. Should Mr A’s family wish to have the cause of death on the death certificate amended it would be appropriate to contact the Office of Births, Deaths and Marriages.

Actions taken

Dr B, in response to my provisional opinion, advised that he has reviewed his practice and provided a written apology.

Further actions

- A copy of this report will be sent to the Medical Council of New Zealand, with a recommendation that the Council consider whether a review of Dr B’s competence is warranted.
- A copy of this report, with details identifying the parties removed, will be sent to the Royal New Zealand College of General Practitioners, and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.