Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

A Decision by the Deputy Health and Disability Commissioner

(Case 21HDC02991)

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Introduction

1. This report is the opinion of Dr Vanessa Caldwell, Deputy Health and Disability Commissioner, and is made in accordance with the power delegated to her by the Commissioner.

2. On 26 November 2021 HDC received a referral from the Deputy Chief Coroner regarding the care provided to the late Mrs A in 2020 by her general practitioner (GP), Dr C, in relation to the increase of her oxycodone[1] dose.

3. The following issue was identified for investigation:

- *Whether Dr C provided Mrs A with an appropriate standard of care in 2020.*

4. The parties directly involved in the investigation were:

Mrs B	Complainant/daughter
Dr C	Provider

5. Further information was received from a general practice and the Coroner.

6. Ms D (Mrs A's sister) is also mentioned in the report.

[1] Oxycodone is an opioid drug used to relieve moderate to severe pain. Oxycodone can be formulated as either a long-acting or a short-acting medication. It is a Class B controlled drug pursuant to the Misuse of Drugs Act 1975.

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

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

Background

8. Mrs A had a significant medical history[2] and had been prescribed the controlled drug oxycodone since 2011, due to chronic pain. Her medical care was managed by GP Dr C from March 2014 until her death.

9. On Day 1, Mrs A's oxycodone prescription was increased by Dr C to alleviate her pleuritic pain[3] related to her recently diagnosed lung cancer. Unfortunately, two days after her appointment with Dr C, Mrs A passed away. The cause of death was found by a pathologist to be oxycodone toxicity, which led to central nervous system depression.[4] This report examines the adequacy of Dr C's prescribing of oxycodone to Mrs A.

Information gathered during HDC's investigation

10. On Day 1, Dr C saw Mrs A when she presented with significant pleuritic pain. He said that she believed this was related to her recent likely diagnosis of lung cancer. The contemporaneous clinical notes confirm that Mrs A presented to Dr C with 'pleuri[ti]c pain right chest/[axillae] ++[5]'.

11. Dr C said that during this consultation, Mrs A asked for her short-acting oxycodone dosage to be increased from 10mg tds[6] to 20–30mg tds due to the significant pleuritic pain she was experiencing. Dr C told HDC that he recalls Mrs A appearing well composed during this appointment, managing the grief of losing her husband appropriately, talking fondly of her children, and being optimistic about seeing a specialist for treatment of her recently diagnosed lung cancer.

12. Dr C said that Mrs A had informed him that she had already increased her oxycodone dose[7] herself from 10mg tds short-acting to 20–30mg tds short-acting due to the level of pain she was suffering and had experienced a positive effect. This was not recorded in the clinical notes.

13. The clinical records note that at that time of this consultation, Mrs A was on a variety of other medications, including metoclopramide hydrochloride,[8] atorvastatin,[9] omeprazole,[10]

[2] Mrs A's medical history included asthma, panic attacks, chronic pain post left C5/6 laminoforaminotomy, lung cancer, major neck surgery, and ongoing grief from losing her husband to lung cancer.
[3] Sharp chest pain that worsens during breathing.
[4] Slowing down of the body's neurological functions can result from substance overdoses, poisoning, or other medical conditions.
[5] A moderate amount of pain in the chest and underarm region.
[6] Three times a day.
[7] The increased dosage is unknown.
[8] Medication used to treat and prevent nausea.
[9] Medication used to lower high cholesterol levels and help reduce the risk of a heart attack or stroke.
[10] Medication used to reduce the amount of acid in the stomach to relieve indigestion, heartburn, and acid reflux.

amitriptyline,[11] losartan potassium,[12] hydrochlorothiazide,[13] Maxalt Melt,[14] Breo Ellipta,[15] salbutamol,[16] and zopiclone.[17] Dr C told HDC that Mrs A had been prescribed zopiclone and oxycodone for years (initially prescribed by her previous doctor) and she had significant tolerance and understood the associated risks, and she had experience with these medications.

14. Dr C stated:

> '[I]t was a question of achieving quality of life with medication [Mrs A] reported worked for her, despite my view that there were better options, in circumstances where there was soon to be specialist review.[18]'

15. Dr C said that Mrs A's request posed a dilemma, and he discussed his concerns with her in relation to the potential impact on her breathing and that it was preferable to add long-acting oxycodone 10mg bd.[19] Dr C stated that in response to this suggestion, Mrs A was very concerned that the long-acting oxycodone would not help alleviate her pain, and she was reluctant to try this as she had trialled the drug previously in 2013 and considered that it was not effective.

16. Dr C told HDC:

> '[I]t is [my] usual practice to try and get baseline analgesia with a long-acting form of the drug and have short acting for breakthrough only, and if requiring a lot of breakthrough doses, we would titrate up the long-acting form of oxycodone. This was a detailed discussion on pain controls, the risks, the degree of her pain and what was best long term.'

17. Dr C agreed to give Mrs A 10mg long-acting oxycodone twice daily, and an increased dose of short-acting oxycodone 20–30mg tds as needed in the case that the long-acting oxycodone did not work to alleviate her pain, but he cautioned her to use it as little as necessary.

18. Dr C told HDC that he stressed to Mrs A that she could contact him if she had concerns or if she had side effects. This is supported by a note in the clinical records stating 'phone consultations acceptable'. Dr C also noted that Mrs A had an appointment with her specialist in a few days' time to discuss her pain levels and quality of life.

[11] Medication used to treat depressive disorder and nerve pain syndromes, and to prevent migraine headaches.
[12] Medication used to treat high blood pressure and to help protect kidneys from damage due to diabetes.
[13] Medication used to treat fluid retention and high blood pressure.
[14] Medication used to relieve migraine attacks.
[15] Medication used to treat chronic obstructive pulmonary disease and asthma.
[16] Medication used to relieve symptoms of chronic obstructive pulmonary disease and asthma.
[17] Medication used to treat insomnia.
[18] Mrs A was to be seen by a specialist at the hospital to discuss her pain levels and quality of life.
[19] Twice a day.

19. Unfortunately, Mrs A passed away in her home. The cause of death was noted to be oxycodone toxicity that had led to central nervous system depression.

Police statements

20. Police statements provided by Mrs A's family include that they saw her right up until her death and she appeared well and like her normal self, other than complaining of a 'stitch[20]', which was a regular occurrence. They also said that Mrs A had been in good spirits and was preparing to undergo treatment for her recently diagnosed lung cancer.

Further information obtained from Dr C

21. On 13 November 2023 I wrote to Dr C advising him that I was considering investigating this complaint, and I provided him with a copy of the in-house clinical advice I had obtained. I also advised Dr C that I considered that this complaint could be resolved by way of agreeing to a breach of Right 4(1) of the Code of Health and Disability Services Consumers' Rights (the Code).[21] I proposed this option given the multiple departures in care identified by my in-house clinical advisor, which are discussed in the opinion section of this report.

22. On 18 December 2023 Dr C responded that he did not wish to challenge my clinical advisor's opinion, and he agreed to a breach finding in relation to the care he provided to Mrs A in September 2020.

Responses to provisional opinion

Mrs B

23. Mrs B was provided with the 'Background' section of my provisional opinion and had no further comments.

Ms D

24. Ms D was provided with the 'Background' section of my provisional opinion. Ms D was concerned that Dr C did not record in the clinical notes the conversation had with her sister regarding the fact that she had increased her medication dosage. Ms D considered that her sister's increase of the medication should have been a 'red flag' and should have been taken into consideration when Dr C formally increased her medication dosage.

Dr C

25. Dr C was provided with a copy of my provisional opinion. Dr C expressed that he valued his past relationship with Mrs A's family and wished to reach out to them to provide an apology. Dr C did not make any further comments regarding the proposed findings.

Opinion: Dr C — breach

26. At the outset, I acknowledge the loss Mrs A's family have experienced, and Dr C's ongoing engagement in HDC's investigation process to help achieve a timely resolution of this complaint. As discussed above, to assist in my assessment of the care provided to Mrs A by

[20] Localised pain felt on one side of the abdomen.

[21] Right 4(1) states: 'Every consumer has the right to have services provided with reasonable care and skill.'

Dr C, I obtained in-house clinical advice from GP Dr David Maplesden. Dr Maplesden advised that based on Mrs A's presentation, it was reasonable to try increasing the dose of oxycodone in the first instance. Dr Maplesden noted, however, that Dr C's clinical records of Day 1 do not accurately ascertain and document Mrs A's average daily oxycodone dose over the preceding 48 hours, to determine whether she was at risk of developing toxicity if she escalated her dose too rapidly. Dr Maplesden advised that he was mildly to moderately critical that there was no such documentation evident in the notes, but he noted that there is a possibility that Mrs A had rapidly increased her daily dose of oxycodone over the preceding 2–3 days. I accept this advice.

27. Dr Maplesden also advised that if an accurate account of Mrs A's average daily oxycodone use over the preceding two days was not obtained, this would be a moderate departure in the standard of care provided. Dr C told HDC that Mrs A had told him that she had been taking 20–30mg three times daily, but this was not recorded in the notes. This could have amounted to anywhere from 60–90mg per day and is not an accurate account of her average daily oxycodone use. An accurate daily dose of the medication was not established.

28. Given the short time frame in these circumstances, I would have expected documentation outlining Mrs A's average daily dosage to have been recorded. This would have enabled Dr C to review the risk of toxicity due to rapid up-titration and enabled a more accurate basis for calculating ongoing prescribing of the medication. I therefore accept Dr Maplesden's advice that the care provided in this regard amounted to a moderate departure from accepted standards.

29. In relation to the rate at which Mrs A's oxycodone dose was increased, Dr Maplesden noted that on the basis that she had at least doubled her usual dose over the previous two to three days, the escalation in opioid dose was more rapid than would be undertaken usually. Dr Maplesden advised that due to this, caution was required by Dr C in determining Mrs A's ongoing pain relief regimen. Caution was also warranted given that Mrs A was concurrently taking other medications known to cause respiratory depression in combination with oxycodone, such as zopiclone (at a higher dose than the maximum recommended by the manufacturer but sometimes prescribed in practice), and amitriptyline. Dr Maplesden noted that Mrs A also had a background level of respiratory dysfunction,[22] which may have been significant, and if she had significant renal impairment this would have increased the risk of accumulation and opioid toxicity.[23]

30. Dr Maplesden considered that Dr C did not adequately account for the speed at which Mrs A had apparently increased her opioid intake over the two to three days preceding her appointment, and the risks involved with accumulation and opioid toxicity that are often associated with rapid up-titration of medications, particularly when taking into account the other factors discussed above.

[22] Difficulty with breathing.

[23] Dr Maplesden had not seen Mrs A's blood test results when he provided his advice. These became available subsequently and showed that she had normal renal function.

31. Dr C told HDC that his usual approach is to get 'baseline analgesia with a long-acting form of the drug and have short acting for breakthrough only'. This is consistent with the MedSafe New Zealand Data Sheet (Medsafe Data Sheet) recommendations for standard practice. Therefore, I consider that in the circumstances Dr C has acted against his own usual practice and against the guidelines for safe up-titration of this medication.

32. Dr Maplesden advised that the regimen prescribed by Dr C may have been considered acceptable had there been a more gradual up-titration and close monitoring for any emerging signs of opioid toxicity. Dr Maplesden noted that 110mg oxycodone per day (the maximum dose for the regimen Dr C prescribed) was within the usual maximum dose recommended by the manufacturer, but such doses are usually achieved over a prolonged period as tolerance to lower doses develops. Dr Maplesden was critical of the standard of Dr C's documentation in relation to how the regimen prescribed was determined and the absence of a formal review and monitoring plan.

33. Dr Maplesden considered that Dr C's overall management of Mrs A's opioid regimen departed from accepted practice, and the degree of departure depended on what her regular dose had been at the time of the appointment.

34. While Dr C reported that Mrs A had increased her dosage herself, he did not document this, and I am unable to make a finding of what her actual daily use had been as at Day 1. However, I accept the possibility that given her recent diagnosis and the pain she was experiencing (which were the reasons for her appointment), she had decided to increase her own dosage in the preceding days.

35. I also note the statements from Mrs A's family that she was not exhibiting obvious signs of opioid toxicity such as being drowsy or confused on the day prior to her death. Noting that opioid toxicity is an acute event, I refer to the Medsafe Data Sheet, which states: 'The features of overdose may be delayed with a sustained release product such as Oxycodone Sandoz tablets.'

36. I acknowledge that Mrs A had been on high doses of oxycodone for an extended period. Further, I acknowledge that she experienced breakthrough pain likely due to her recent cancer diagnosis, for which she increased her opioid medication in response, and I consider that it was reasonable for Dr C to assist in adjusting her medication. However, when looking to increase her medication, I refer to this excerpt in the Medsafe Data Sheet, which states:

> 'The risk of respiratory depression is greater with the use of high doses of opioids, especially high potency and modified release formulations, and in opioid naïve patients. Initiation of opioid treatment should be at the lower end of the dosage recommendations with careful titration of doses to achieve effective pain relief. Careful calculation of equianalgesic doses is required when changing opioids or switching from immediate release to modified release formulations … The major risk of opioid excess is respiratory depression, including subclinical respiratory depression.'

37. Overall, I am concerned that Dr C did not adequately account for the speed of increase and risks of accumulation, noting that Mrs A passed away from opioid toxicity two days after her

appointment with Dr C. Furthermore, as noted above, Dr C's documentation did not contain an account of Mrs A's oxycodone use in the days prior to the appointment on Day 1, or his decision-making rationale around Mrs A's medication change or a record of discussions had with her. I accept Dr Maplesden's advice that Dr C's management departed from accepted practice, and I am critical that Dr C failed to document important information from his consultation with Mrs A on Day 1.

38. General practitioners hold a responsibility to their patients to provide a reasonable standard of care in line with accepted practice. With this in mind, in light of the departures identified by my in-house clinical advisor, and with the agreement of Dr C, I find Dr C in breach of Right 4(1) of the Code for failing to provide Mrs A with an appropriate standard of care in relation to increasing her oxycodone dosage and the rate at which this was undertaken, and the inadequacy of documentation associated with this increase.

Changes made since events

39. Dr C told HDC that in response to this case, he made changes to his practice to improve the care provided to his patients. This included further education on opioid titration. I consider this to have been appropriate remedial action.

40. Dr C stated that in response to this case he amended his practice to allow increases of oxycodone short-acting in smaller increments of 30–50% of the previous dose, with pain reviewed either in person or by phone within one to two days. This is so that the patient does not suffer if analgesia is inadequate, and also to ensure that the patient is safe with the increased dose, with a continued emphasis on the preference for baseline pain to be managed with a long-acting form of the medication.

Recommendations

41. Dr C has offered Mrs A's family an apology for the beach of the Code found in this investigation. I recommend that a written apology be sent to HDC within three weeks of the date of this report, for forwarding to Mrs A's family.

42. As Dr C has undertaken additional education, as outlined above, I consider that no further recommendations are necessary.

Follow-up actions

43. A copy of this report with details identifying the parties removed, except the advisor on this case, will be sent to the Medical Council of New Zealand, and they will be advised of Dr C's name.

44. A copy of this report with details identifying the parties removed, except the advisor on this case, will be placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

Appendix A: In-house clinical advice to Commissioner

The following advice was obtained from GP Dr David Maplesden:

'1. My name is David Maplesden. I am a graduate of Auckland University Medical School and I am a practising general practitioner. My qualifications are: MB ChB 1983, Dip Obs 1984, Certif Hyperbaric Med 1995, FRNZCGP 2003. Thank you for the request that I provide clinical advice in relation to issues raised by the Coroner about the care provided by [Dr C] of [the medical centre]. In preparing the advice on this case to the best of my knowledge I have no personal or professional conflict of interest. I agree to follow the Commissioner's Guidelines for Independent Advisors. This advice incorporates advice initially provided as a clinical steer on 2 December 2021.

2. I have reviewed the following information:

- Coronial documentation including: post-mortem report and toxicology; witness statements; statements from [Dr C]; GP notes [medical centre]; dispensing records [pharmacy]
- Response to HDC from [Dr C] (received 1 March 2022)

3. [Mrs A] was found deceased at her home on [Day 3]. She had been recently diagnosed with lung cancer, and her husband had died [a short time] previously. Statements provided to the NZ Police by family members and a friend suggest [Mrs A] was in good spirits up to the day before her death and was preparing to undergo treatment for her cancer (although she had yet to complete staging investigations). However, she had been receiving long-term psychological support for chronic pain issues and more recently for grief reaction. Coronial post mortem was performed with cause of death attributed to oxycodone toxicity. Toxicology also found zopiclone level at higher than would be expected with the prescribed dose (7.5mg nocte) but not at toxic levels (the level was consistent with the use of 15mg zopiclone daily which was the upper limit of the dose range more recently prescribed — see below). Drug levels of [Mrs A's] other regular medications (see below) were within normal limits for therapeutic use.

4. [Mrs A] was an ex-smoker. Her medical history included [an] injury which required surgery and resulted in chronic pain and disability. Since 2011 [Mrs A] had been prescribed regular oxycodone for pain with a regular dose in the past few years of 10mg rapid release oxycodone TDS. There is no suggestion in the clinical notes of increasing or erratic use of the medication. [Mrs A] apparently used zopiclone fairly regularly over at least the same period with a dose 7.5mg nocte prescribed. On 25 June 2020 the dose was increased to 7.5–15mg nocte in response to [Mrs A] reporting increased insomnia as [she] struggled with grief ([Dr C] consult). In the year prior to her death, additional regular medications included amitriptyline 25mg TDS (used as pain modulator/muscle relaxant for neck pain), losartan with hydrochorthiazide (hypertension), atorvastatin (lipid lowering), salbutamol and Breo Ellipta inhalers (asthma/COPD), omeprazole (gastro-oesophageal reflux). PRN medications were metoclopramide for nausea and Maxalt for migraine. Toxicology results also showed therapeutic use of paracetamol.

5. [Dr C] provided further background in his response to HDC. [Mrs A] underwent surgery for a C5/6 disc prolapse in June 2011. Recovery was complicated by multi-organ failure thought to be secondary to hypotension (clonidine plus opioids). On 19 December 2011 she was first prescribed oxycodone *for chronic neck pain in the context of renal impairment following recent multi-organ failure … contraindication other opiates.* She was later seen by the pain service and oxycodone continued on their advice at a dose of Oxycodone LA 20mg BD. This was later changed back to a previous dose of Oxycodone RA 10mg TDS due to adverse effects of constipation, headaches and thirst on the long-acting formulation. Multiple surgical procedures including medial branch neurotomy were tried to address [Mrs A's] chronic pain but were unsuccessful and she remained on Oxycodone RA at a stable dose of 10mg TDS. A diagnosis of lung cancer was made following chest X-ray in August 2020 undertaken because of persistent respiratory symptoms and pleuritic pain following a chest infection.

6. At review with [Dr C] on [Day 1] confirmation of [Mrs A's] diagnosis of lung cancer was discussed (awaiting further investigation and biopsy) and [Mrs A] reported new pleuritic right chest and axillary pain which was quite severe. [Dr C's] notes refer to changes made to [Mrs A's] analgesia regime at this time as follows: *trial 10mg long acting ocy and 20–30mg Sa tds prn.* [Dr C] confirms this was oxycodone controlled release (CR) tabs 10mg BD regularly and oxycodone rapid acting (RA) caps 20–30mg TDS PRN for breakthrough pain with [Mrs A] encouraged to take the lowest effective dose. Repeat prescriptions were provided for [Mrs A's] other regular medications including amitriptyline 25mg TDS and zopiclone 7.5–15mg nocte. There is no electronic prescription record of the new oxycodone regime and I presume a handwritten controlled drug prescription was provided.

7. Recent dispensing records have been reviewed and these confirm [Mrs A] had her oxycodone dispensed at 10-day intervals. She had been dispensed her usual dose of 30x10mg oxycodone RA caps on 7, 17 and 27 August 2020 and again on 7 September 2020. On [Day 1] she was dispensed 20 x oxycodone SR 10mg tabs and 60x10mg oxycodone RA caps. It is unclear if there was any accounting of the residual supply of oxycodone left following [Mrs A's] death to determine whether she had taken more than the maximum dose prescribed for her. It is not clear from the GP notes that [Mrs A] was being dispensed the oxycodone at 10-day intervals. Prescriptions were provided on a 3-monthly basis (for 90 x 10mg oxycodone RA, I cap TDS) with most recent prescriptions being 25 June, 28 July and 26 August 2020.

8. A response and copy of blood results was sought from [Dr C] with comments below incorporating that response. [Dr C] was asked to comment on the following issues:

- the rationale for the dose adjustments made to [Mrs A's] oxycodone on [Day 1] together with any published protocol or advice that would support the dose changes made
- the follow-up plan regarding monitoring and titration of [Mrs A's] analgesia

- any safety netting advice provided to [Mrs A] or her daughter regarding her medication change and general condition
- in prescribing the increased dose of oxycodone, what consideration was given to [Mrs A's] concurrent use of 15mg zopiclone daily and 75mg amitriptyline daily, and to her underlying respiratory condition

9. [Dr C] saw [Mrs A] on [Day 1] (see section 3). He notes [Mrs A] was obviously distressed with her pleuritic pain and she requested that *her oxycodone be increased from 10mg short acting oxycodone (Oxynorm) TDS that she had been on for a number of years for her neck pain to 20–30mg tds as required for her significant pleuritic pain from her lung cancer … She reported that she had already increased the dose herself due to the level of pain she was experiencing.* [Dr C] states he discussed with [Mrs A] his concerns that the high doses of opioids [Mrs A] was apparently taking of her own accord might have a negative impact on her respiratory function and: *I further discussed that it is my usual practice to try and get baseline analgesia with a long-acting form of the drug and have short acting for breakthrough only, and if requiring a lot of breakthrough doses we would titrate up the long acting form of oxycodone. This was a detailed discussion on pain control, the risks, the degree of her pain and what was best long term.* [Mrs A] expressed concern at the suggestion of using the long acting form of oxycodone because of her past experience (see above) although she conveyed the impression her main issue with the formulation was lack of efficacy. [Dr C] states: [Mrs A] *was very concerned the long-acting oxycodone would not help and reluctant to try this or something different when she needed to get through each day. On this basis I agreed to give her an increased dose of oxynorm to 20–30mg in case the long acting oxycodone did not work, cautioning her to use as little as necessary while understanding her need to get relief from pain and respecting that she did not want to have to keep coming back to me.* [Mrs A] had apparently agreed to trial the Oxycodone LA as 10mg BD which was prescribed, together with Oxycodone RA 20–30mg TDS. [Mrs A] informed [Dr C] she was due shortly for specialist review of her lung cancer and she intended to discuss her pain and impaired quality of life with the specialist. [Dr C] states: *A plan was made that* [Mrs A] *could ring me or book with me and report if analgesia was not working or if she had any side effects. I stressed my availability to assist her.*

10. With respect to zopiclone prescribing, [Dr C] states he did not initiate that medication and *I had tried to get her to change to amitriptyline to assist her sleep and pain and replace the Zopiclone and halt any increase in dosing of Zopiclone, which she understood had the risk of dependence and falls*.

11. The clinical notes for the consultation of [Day 1] read:

NEW diagnosis lung cancer 2 x tumours right lung

awaiting further investigation

pleyric pain right chest/ auxillae ++

plan

trial 10mg long acting ocy and 20–30mg Sa tds prn

await sepecialist reports reveiw prn

phone consults acceptable

\wt 89

Prescriptions were provided for [Mrs A's] regular medications together with the oxycodone as described above (20 x oxycodone SR 10mg tabs and 60x10mg oxycodone RA caps).

12. Comments

(i) [Mrs A] had been taking oxycodone 30mg daily (10mg of the RA form TDS) regularly for many years for management of chronic non-malignant pain. This was relatively common practice at the time it was initiated (and remains so to some extent) but would not be regarded as consistent with current best practice [1]. Similarly, long-term prescribing of zopiclone is common practice[2] but would not be regarded as best practice for management of chronic insomnia[3]. Nevertheless, when [Mrs A] reported on [Day 1] recent onset of pleuritic pain likely to be related to her underlying malignancy and not adequately relieved by her current dose of oxycodone, it was reasonable to try increasing the dose of oxycodone in the first instance. Per [Dr C's] response, by [Day 1] [Mrs A] had apparently already increased her oxycodone dose because of her pain levels although her precise oxycodone requirement/intake over the preceding 24–48hrs is not clear. The dispensing records noted in section 4 suggest [Mrs A] had been taking her oxycodone as prescribed at least until 7 September 2020 when she collected her most recent supply of 30 x 10mg tablets. Any increase in dose had therefore been undertaken in the 2–3 days prior to the consultation in question. It does not appear [Mrs A] was showing signs of opioid toxicity on [Day 1] but it is not possible to accurately predict her current intake of oxycodone on this basis. I believe it was important to accurately ascertain and document [Mrs A's] average daily dose of oxycodone over the preceding 48 hours to determine whether she was at risk of developing toxicity if she had escalated her dose too rapidly, and to determine an appropriate opioid regime ongoing. I am mildly to moderately critical there is no such documentation evident in the notes of [Day 1] but I accept the possibility that [Mrs A] had rapidly increased her daily dose of oxycodone over the preceding 2–3 days in response to her pleuritic pain. If an accurate account of her average daily oxycodone use over the preceding two days was not obtained, I would be at least moderately critical of this omission.

[1] BPAC. Helping patients cope with chronic non-malignant pain: it's not about opioids. Best Practice Journal. 2014; Issue 63 and: https://www.hqsc.govt.nz/our-programmes/health-quality-evaluation/projects/atlas-of-healthcare-variation/opioids/ Accessed 2 December 2021

[2] https://bpac.org.nz/2021/benzo-zopiclone.aspx Accessed 2 December 2021

[3] https://bpac.org.nz/2017/insomnia-1.aspx Accessed 2 December 2021

(ii) While [Mrs A] was not a palliative care patient at this point, I believe accepted principles of opioid dose titration used in palliative care [4] might be regarded as applicable in this case. Accepted practice for a non-opioid-naïve patient such as [Mrs A] would be to convert the current dose of rapid acting oxycodone required to a long-acting formulation, with up to 15% of that dose prescribed as a rapid acting formulation to be taken Q4–6 hrly PRN. I have assumed [Mrs A] had reasonable renal function (requested blood tests not provided) with risk of accumulation and opioid toxicity increased when using SR preparations in patients with significant renal impairment. In [Mrs A's] case, her current dose of oxycodone is not entirely clear but on the basis she may have at least doubled her usual dose from 30mg to 60mg over the previous 2–3 days, although she was apparently tolerating this without evidence of opioid toxicity I believe particular caution was required in determining her ongoing regime because the escalation in opioid dose to date was more rapid than would be usually undertaken. Caution was also warranted given [Mrs A] was taking concurrently other medications known to cause respiratory depression in combination with oxycodone: zopiclone (at a higher dose than the maximum recommended by the manufacturer[5] but sometimes prescribed in practice), and amitriptyline. The New Zealand Formulary[6] states: *Profound sedation, respiratory depression, coma, and death may result from the concomitant use of opioids with benzodiazepines, zopiclone, tricyclic antidepressants, or other drugs causing CNS depression (including alcohol). Concomitant prescribing of these drugs should only occur in patients for whom alternative treatment options are inadequate. If an opioid is prescribed concomitantly with a benzodiazepine, tricyclic antidepressant, or other CNS depressant, prescribe lowest effective dose and minimum duration of concomitant use and monitor patients closely for signs and symptoms of respiratory depression and sedation*. Furthermore, [Mrs A] had a background level of respiratory dysfunction which may have been significant. If [Mrs A] had significant renal impairment, the risks of accumulation and opioid toxicity were further increased.

(iii) Had [Mrs A] gradually doubled her oxycodone dose over several days to perhaps 60 mg daily, and was tolerating this dose without evidence of opioid toxicity, the following regime might have been appropriate using the cited principles: Initiating oxycodone SR 30mg BD (SR forms available in various strengths including 5, 10 and 15mg tabs) with 10mg oxycodone RA (approximately 15% of the background dose) PRN Q 4–6hrly for breakthrough pain. [Dr C] states he considered these principles of opioid titration but [Mrs A] was reluctant to trial the higher dose of SR oxycodone because of her previous adverse experience with the formulation. The compromise was to prescribe a lower dose of the SR formulation and a higher dose of the RA formulation for breakthrough pain although the maximum total daily dose of oxycodone was similar for both regimes. It could be argued that if [Mrs A] was requiring this rapid an escalation in her opioid requirement, and she was not obviously at end of life and had yet to have staging of and treatment for her underlying lung malignancy, consideration might have been given

[4] https://www.hospice.org.nz/resources/palliative-care-handbook/ Chapter on 'Pain' Accessed 2 December 2021
[5] https://www.medsafe.govt.nz/profs/datasheet/z/zopicloneactavistab.pdf
[6] https://nzf.org.nz Section 4.7.2 Opioid analgesics.

to hospital admission to expedite staging and optimise analgesia in an environment where she could be monitored for opioid toxicity particularly if it was felt she was likely to be using all the PRN doses prescribed. However, I note an outpatient specialist appointment was apparently imminent which might be regarded as a mitigating factor.

(iv) In summary, I do not believe [Dr C] took adequate account of the speed with which [Mrs A] had apparently increased her opioid intake over the 2–3 days preceding the appointment in question (if this was the case although precise intake remains unclear) and the risks of accumulation and opioid toxicity that might be associated with such rapid up-titration particularly when other factors described above were taken into account. On the other hand, the regime prescribed might be regarded as acceptable had there been a more gradual up-titration to the presumed current oxycodone dose of around 60mg daily, and provided there was close monitoring for any emerging signs of opioid toxicity. There is no suggestion from witness accounts that [Mrs A] was exhibiting obvious signs of opioid toxicity such as drowsiness or confusion on the day prior to her death. While 110mg oxycodone per day (maximum dose for the regime prescribed by [Dr C]) is well within the usual maximum dose recommended by the manufacturer of up to 400mg daily, such doses are usually achieved over a prolonged period as tolerance to lower doses develops. I am critical of the standard of documentation in relation to how the regime prescribed was determined and the absence of a formal review and monitoring plan. The provider response indicates adverse effects of opioids (including risk of respiratory depression) and principles of opioid titration were discussed. I am unable to state what dose of oxycodone would be likely to result in the post-mortem blood levels reported, or whether there is any circumstantial evidence that [Mrs A] took a higher dose of oxycodone than that prescribed to her by [Dr C]. I believe [Dr C's] overall management of [Mrs A's] opioid regime, based on the discussion above, departed from accepted practice to a mild to moderate degree assuming she was taking at least 60mg daily (of her own volition) at the time of the review in question and there was no evidence of current opioid toxicity. Had the regime been prescribed on the basis [Mrs A] was taking 30mg oxycodone regularly up until the appointment of [Day 1], I believe the prescribing would be a severe departure from accepted practice (increase from 30mg daily to 110mg daily if maximum prescribed dose was taken). [Dr C's] response indicates he has undertaken further education on opioid titration and this is an appropriate remedial action.'