HEALTH & DISABILITY COMMISSIONER
TE TOIHAU HAUORA, HAUĀTANGA

Multiple failings in care of woman following stroke

1. On 20 June 2022, the Health and Disability Commissioner (HDC) received a complaint from Mr A about the care provided to his wife, Mrs A, by Health New Zealand | Te Whatu Ora Waitematā (Health NZ). The complaint concerns the delayed diagnosis of stroke, the failure to provide appropriate medical treatment, and poor coordination of services.[1]

Information gathered

2. Mr A told HDC that, in late October 2021, Mrs A began to experience unusual neurological symptoms, which included recurrent but short-lived episodes of hand weakness, numbness and tingling and, occasionally, speech problems. Mrs A's general practitioner (GP) at her local medical centre referred her to hospital for assessment of a possible transient ischaemic attack (TIA).[2]

3. On 7 December 2021, Mrs A was admitted to Waitākere Hospital with right-handed weakness/sensory changes and dysphasia (speech problems). A neurological examination and head CT scan were normal. The differential diagnoses were documented as 'ulnar neuropathy,[3] TIAs'. Mrs A was discharged the following day, but no formal follow-up was advised, and the diagnosis at that stage remained unclear. The discharge summary stated that Mrs A's symptoms were unusual for a stroke or TIA. Health NZ told HDC that, in the absence of persisting symptoms at the time, and with an atypical history/demographic for TIA, usually further investigation would be arranged as an outpatient, but it is not feasible to perform urgent advanced stroke imaging or a neurological consultation with every patient. Health NZ accepted that the lack of further outpatient diagnostic imaging or referral to a neurologist at the time did not meet an appropriate standard of care.

4. On 21 January 2022, Mrs A had a consultation with her GP at her local medical centre because she was experiencing 'fogginess', dizziness, low mood, and pins and needles in both hands. She was diagnosed with probable vitamin B12 deficiency and prescribed a course of vitamin B12 injections. The GP told HDC that Mrs A's vitamin B12 levels were checked only after her first vitamin B12 injection.

5. On 3 February, Mrs A had a phone consultation with a registered nurse at her local medical centre. Clinical notes of the discussion show that Mrs A reported ongoing numbness in her hand, which had been intermittent since November 2021, and that she had been experiencing slurred speech for one week. The nurse documented that Mrs A did not want to present to the medical centre and did not think her symptoms were serious enough for

[1] Mr and Mrs A believe that the COVID-19 vaccine was the underlying cause of Mrs A's health issues. Mr A said that the symptoms began shortly after Mrs A was vaccinated, and it is their view that the vaccine was likely responsible for the vascular disease that caused the stroke.
[2] A TIA is a mini stroke. Unlike a stroke, TIAs are brief and resolve fully. However, TIAs can be a warning of an imminent stroke.
[3] A weakness of the ulnar nerve.

the Emergency Department (ED). Mrs A was advised to go to the ED if she got worse, and a follow-up appointment was arranged. Mrs A was seen again by her GP on 8 February and 2 March for ongoing neurological symptoms, and a referral was made for Mrs A to be seen in the outpatient neurology service. Mrs A presented to the ED before an appointment could be arranged.

6. On 28 February, Mrs A presented to Waitākere Hospital with a COVID-19 infection and fatigue. Mr A told HDC that, because of the COVID-19 restrictions, he had to provide Mrs A's history to staff and leave her at the door. He said that the history of right-hand weakness, slurred speech, and heavy menstrual bleeding from mid-February were noted by staff, but Mrs A was advised to return home and to take ibuprofen and paracetamol. Health NZ told HDC that Mrs A was advised to follow up with her GP if her symptoms worsened.

7. Mrs A re-presented to Waitākere Hospital ED on 5 March with worsening neurological symptoms. Mr A told HDC that Mrs A had developed right-sided weakness and was unable to walk and speak. He said that he explained Mrs A's symptoms to staff, including that she had been experiencing episodes of difficulty retrieving words, associated with brief seizure activity and two to three minutes of shaking, followed by 15 minutes of grogginess or unresponsiveness, and that these symptoms had been present for some months. Health NZ told HDC that, although neurological symptoms were identified by the ED and general medicine teams on 5 March, a stroke was considered unlikely because of Mrs A's long history of intermittent neurological episodes and previous normal CT scan results.

8. A full detailed history was not obtained until 6 March. Health NZ told HDC that none of the collateral history supported an acute event within the prior 24-hour period, and the normal CT scan of 7 December was 'genuinely misleading'. In response to the provisional opinion, Mr A told HDC that, when he entered the hospital on 5 March, he told the admitting nurses that he believed Mrs A was having a stroke.

9. On 6 March, Mrs A was transferred to [another] Hospital for a neurology assessment and magnetic resonance imaging (MRI) following a normal CT scan. In response to the provisional opinion, Mr A told HDC that Mrs A waited more than 10 hours for a CT scan after her admission on 5 March and that this extensive delay meant any chance of timely intervention was lost.

10. Health NZ told HDC that the MRI was unable to be completed that day as Mrs A needed to be 'cleared' of COVID-19. In response to the provisional opinion, Mr A said that Health NZ 'placed greater importance on a faint/residual positive test than on treating [Mrs A's] obvious and visible neurological symptoms'. Mr A said that the decision to delay urgent imaging in favour of COVID-19 clearance 'placed procedure above patient safety and directly contributed to harm'.

11. Health NZ said that stroke was considered an unlikely diagnosis, and the normal CT imaging was falsely reassuring. Health NZ said that there would have had to have been a clear justification for transferring Mrs A to [another] Hospital on 5 March for an urgent MRI, which on weekends was available only for emergency cases. Health NZ said that Mrs A did not meet this threshold.

12. Mrs A was taken out of COVID-19 isolation in the afternoon of 6 March; however, a neurology review (non-contact) was not completed until 9 March.[4] Health NZ agreed that there was a missed opportunity to discuss Mrs A's presentation with the on-call neurology service on 6 March but that, as an in-person review was not available on the weekend Mrs A presented, a consultation by phone may also not have identified the correct diagnosis.

13. The preliminary impression of neurologist Dr B on 9 March was a functional (psychological) neurological disorder. On 10 March, an MRI showed that Mrs A had experienced a stroke. On 3 May, Mrs A was discharged from [another] Hospital (where she had been transferred) following rehabilitation, with a diagnosis of Moyamoya disease.[5] Health NZ told HDC that this is a rare condition and that all clinicians were challenged by the unusual combination of Mrs A's presenting symptoms, which made proving a diagnosis challenging.

14. Health NZ accepted that the stroke diagnosis was delayed by five days and that there was a missed opportunity to perform an MRI scan earlier. Health NZ also accepted that Mrs A was past the mandatory COVID-19 isolation period (10 days) on 6 March. Dr B also stated that he regrets not having assessed Mrs A in person. Health NZ told HDC that it agrees there were opportunities to improve the care provided to Mrs A, but it does not agree that 'in the complex clinical context of [Mrs A's] presentation there was a severe departure from established standards of care'.

Changes made

15. Health NZ told HDC that, since these events, the regional neurology consulting service at Waitākere Hospital has been increased and improved significantly and is now available Monday to Friday.

Responses to provisional report

Mrs and Mr A

16. Mrs and Mr A were given the opportunity to comment on the 'information gathered' section of the provisional report. Where relevant, their comments have been incorporated into the final report. In addition, Mr A told HDC:

> The repeated delays, dismissals, and prioritisation of process over symptoms all contributed to [Mrs A's] stroke being diagnosed five days late. These failings had devastating consequences for her long-term health and independence.

Health NZ

17. Health NZ was given the opportunity to comment on relevant sections of the provisional report, and it accepted the findings and recommendations made. However, Health NZ also stated:

[4] Health NZ told HDC that the review was meant to occur on 7 March, but the referral form recorded that Mrs A was in Waitākere Hospital rather than [another] Hospital. Accordingly, a new referral had to be completed.
[5] A rare, progressive cerebrovascular disorder caused by blocked arteries at the base of the brain in an area called the basal ganglia.

> Mrs A's delayed diagnosis was not the result of a systems failure or failure to follow appropriate pathways but the result of clinical judgement that ultimately, unfortunately, proved incorrect. Clinical judgement is not infallible, and within the complex clinical context of this presentation that should be acknowledged.

18. Dr D from Health NZ said:

> I would like to apologise again to Mrs A, her husband and whānau for the distress that this episode has caused. I understand how devastating her illness has been and continues to be and am only sorry for the actions HNZ Waitemata has made that have contributed to making her experience more difficult. I would like to reassure […] [Mr and Mrs A] that HNZ Waitemata takes their experience seriously, and is taking steps to educate the clinical team, to minimise the chance of this situation recurring.

The local medical centre

19. The local medical centre was given the opportunity to comment on relevant sections of the provisional report. In response, the medical centre provided some additional information about vitamin B12 deficiencies,[6] including a handout given to patients. The handout states that paradoxical or functional vitamin B12 deficiency occurs when total serum B12 is normal or high, yet metabolic indicators show 'true intracellular deficiency'. The handout also states: 'This situation reveals the limitations of using total serum B12 as the sole diagnostic marker'.

Opinion

20. As part of my assessment of this complaint, I sought independent clinical advice from general medicine specialist Dr David Cole (Appendix A) and GP Dr Fiona Whitworth (Appendix B).

Health NZ — breach

21. Dr Cole noted that TIA was indicated as a differential diagnosis and advised that Mrs A's symptoms on 7 December were consistent with a TIA or TIA mimic such as a focal seizure. I accept Dr Cole's advice that, given that TIA was a possibility, it was reasonable to do a CT scan first. However, Dr Cole advised that this is useful only to exclude other pathologies and cannot diagnose a TIA, so further investigation should have been considered and advice sought from a neurologist. Regarding Mrs A's discharge on 7 December, Dr Cole advised that, if hospital follow-up was not an option, advice should have been provided to Mrs A's GP about what to do if her symptoms continued. Dr Cole advised that the lack of further investigation of Mrs A's symptoms and the insufficient follow-up advice provided on 7 December constitute a moderate departure from accepted standards. I accept this advice.

22. Dr Cole advised that Mrs A's symptoms on 5 March were consistent with a stroke and that obtaining a detailed history, preferably by a senior clinician, was critically important.

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[6] See the journal article about paradoxical vitamin B12 deficiency at https://www.iomcworld.org/articles/paradoxical-vitamin-b12-deficiency-normal-to-elevated-serum-b12-with-metabolic-vitamin-b12-deficiency-91903.html.

However, it appears that the earliest detailed history was not taken until 16 hours after Mrs A's presentation to ED. Dr Cole advised that the history that was eventually taken was suggestive of an acute event, and advice should have been sought from a neurologist. Health NZ disagreed that the history and/or symptoms were supportive of an acute event. Health NZ agreed that there was a missed opportunity to discuss Mrs A's care with the on-call neurology service but said that this may not have assisted in identifying the correct diagnosis. I acknowledge Health NZ's comments in this respect; however, it is my view that the ambiguity of Mrs A's symptoms should have prompted a neurology review, irrespective of whether that review would have identified the correct diagnosis. I also note that Dr Cole was mildly critical of the error in the neurology referral which delayed Mrs A's eventual neurology review by two days.

23. Dr Cole also advised that an MRI scan should have been done without delay. He acknowledged the impact of COVID-19 restrictions but considered that guidelines should have been in place to perform necessary radiological interventions safely. He said that diagnostic procedures should not be delayed unless there are exceptional reasons, which there were not in this case. I acknowledge Health NZ's comments that MRI scanning at [another] Hospital in the weekends was for emergency cases only. However, Mrs A presented to hospital on Saturday 5 March and did not receive an MRI scan until Thursday 10 March. Accordingly, I do not consider the delay in Mrs A receiving an MRI scan to be reasonable in the circumstances and agree with Dr Cole's advice that this failure constitutes a moderate departure from accepted standards.

24. Overall, Dr Cole considered that the care provided to Mrs A during her 5 March presentation constitutes a moderate to severe departure from accepted standards. While I accept Dr Cole's advice, I also acknowledge Health NZ's comments that the clinicians were challenged by the 'unusual constellation of presenting symptoms', which made a diagnosis challenging, and I accept that this was a mitigating factor in this case.

25. Health NZ had a responsibility to provide an appropriate standard of care to Mrs A. Dr Cole has identified deficiencies in the care provided by Health NZ, and I have accepted this advice. Given the number of staff and specialties involved in Mrs A's care throughout her several presentations to hospital, I consider that these shortcomings are attributable to Health NZ rather than individual clinicians. Accordingly, I find Health NZ in breach of Right 4(1) of the Code of Health and Disability Services Consumers' Rights (the Code) for failing to provide services to Mrs A with reasonable care and skill.

The local medical centre — adverse comment

26. Dr Whitworth advised that overall, the clinical care provided by the GP team at Mrs A's local medical centre was consistent with good clinical practice. However, she identified two areas where care could be improved.

27. Dr Whitworth was mildly to moderately critical that Mrs A's vitamin B12 levels were not checked prior to her first vitamin B12 injection and that, in the absence of these test results, it is unclear why a diagnosis of vitamin B2 deficiency was made without undertaking a baseline level. In response to the provisional opinion, the local medical centre provided HDC with resources about paradoxical (functional) vitamin B12 deficiency. One of the documents

states that paradoxical or functional vitamin B12 deficiency reveals the limitations of using total serum B12 as the sole diagnostic marker. While I acknowledge this further information, a baseline serum B12 level is still an indicator that helps identify or confirm the presence of a deficiency, even though it may only be one of a number of possible diagnostic markers. Accordingly, I agree with Dr Whitworth's advice and encourage the medical centre and its GPs to reflect on Dr Whitworth's comments.

28. Regarding Mrs A's call with a medical centre nurse on 3 February, Dr Whitworth is moderately critical that there is no documentation around whether Mrs A was asked to present to either ED or the urgent GP clinic when she was reporting symptoms of ongoing neurological compromise. I accept Dr Whitworth's advice in this regard and encourage the medical centre to reflect on Dr Whitworth's comments.

Recommendations

29. I recommend that Health NZ provide a written apology to Mrs A for the failings identified in this report. The apology is to be provided to HDC for forwarding, within three weeks of the date of this report.

30. I recommend that Health NZ use an anonymised version of this report to conduct training to relevant staff around the presentation and management of TIAs and TIA mimics, safe discharging and safety-netting processes, gathering relevant patient history, and seeking specialist input. Evidence of this training is to be provided to HDC within six months of the date of this report.

31. A copy of the final report with details identifying the parties removed, except Health NZ Waitematā, Waitākere Hospital, and my independent advisors, will be placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

Dr Vanessa Caldwell
Deputy Health and Disability Commissioner

Appendix A: Independent clinical advice to Commissioner

The following independent advice was obtained from Dr David Cole, general medicine specialist:

'**Independent clinical advice to Health and Disability Commissioner**

Complaint:	**[Mrs A] /Health New Zealand Te Whatu Ora Waitematā**
Our ref:	**22HDC01497**
Independent advisor:	**Dr David Cole**

I have been asked to provide clinical advice to HDC on case number 22HDC01497. I have read and agree to follow HDC's Guidelines for Independent Advisors.

I am not aware of any personal or professional conflicts of interest with any of the parties involved in this complaint.

I am aware that my report should use simple and clear language and explain complex or technical medical terms.

Qualifications, training and experience relevant to the area of expertise involved:	My name is Dr David Cole. I am a Consultant General Physician employed by Health NZ | Te Whatu Ora Waitaha Canterbury, formerly Canterbury District Health Board (DHB). I graduated from Sheffield University Medical School, England, in 1982 with a Bachelor of Medicine and Surgery awarded with Honours (MB, ChB, Hons). My postgraduate qualifications comprise Membership of the Royal College of Physicians (MRCP, UK), Doctor of Medicine (MD, Sheffield University) and Fellowship of the Royal Australasian College of Physicians (FRACP). I have sub-specialty interests in endocrinology, diabetes and obstetric medicine. I am an honorary Clinical Senior Lecturer at the University of Otago.
Documents provided by HDC:	1. Letter of complaint dated 20 June 2022 2. Statement from Dr [C] (General Medicine) 3. HNZ Waitematā response dated 29 September 2022 4. Clinical records from HNZ Waitematā covering the period December 2021 to March 2022 5. Clinical records from HNZ 6. HNZ response dated 3 August 2022 7. HNZ Waitematā response dated 2 May 2025
Referral instructions from HDC:	Health New Zealand | Te Whatu Ora Waitematā 1. Whether the care provided by the General Medicine team at Waitākere Hospital on 7 December 2021 was appropriate in the circumstances. In particular, whether the appropriate

	investigations were undertaken into [Mrs A]'s symptoms of right-hand weakness/sensory changes and dysphasia and whether appropriate follow-up was arranged. 2. Whether the care provided by the General Medicine team at Waitākere Hospital during the 5 March 2022 admission was appropriate in the circumstances. In particular, whether the appropriate consideration was given and appropriate investigations were undertaken into whether [Mrs A] had suffered a stroke and whether her care was escalated adequately. 3. Whether it was appropriate in the circumstances on 7 March 2022 for [Mrs A]'s scheduled MRI scan to be delayed as she was still considered COVID positive. 4. Any comment that you wish to make on the fact that the neurology review was delayed due to the incorrect hospital location being documented on the referral form. 5. Any other matters that you consider warrant comment, in respect of the care provided to [Mrs A] at Waitākere Hospital and/or [another] Hospital.

Factual summary of clinical care provided complaint:

Brief summary of clinical events:	**Complaint from [Mr A] regarding his wife, dated 20 June 2022.** Mr [A] reports his wife, [Mrs A] (45 years of age and previously well), as having developed a stroke over the course of five days, having presented to Waitākere Hospital, being admitted there and then transferred to [another] Hospital. The stroke resulted in the loss of speech and loss of function of the right side of her body. She had been working prior to this. At the time of the complaint, Mr [A] was having to give up his work as she now needed full-time care. He reports them attending Waitākere Hospital on 2 March 2022. [Mrs A] was seven days into a COVID-19 infection. She was felt to be having seizures, memory loss and weakness. She was seen by a doctor, advised to take ibuprofen and paracetamol, and discharged. He recalled being told the hospital was over-run with COVID-19 patients. They re-attended on 10 March at 19:00, following which she was admitted. She now needed a wheelchair with the weakness and her memory [was] worse, and seizures ongoing. At this point, a RAT test (COVID-19 test) was negative. Other tests were done. Mr [A] stayed with her overnight. A CT scan (of the brain) was done in the morning. It was decided to transfer her to [another] Hospital

to be seen by a Neurologist. She was transferred to a COVID Isolation Ward for the next four to five days and, in that time, had a large stroke.

Having put in a claim to ACC on 20 March relating to his wife, the claim manager said there had been a failure to give [Mrs A] the medical treatment required. ACC needed to be certain that the outcome would have been different if that treatment had been given (presumably for the claim to proceed).

Mr [A] had been under extreme stress as a result. He felt the time taken for the ACC claim could have been faster. The DHB had been unable to provide over half the allocated support for his wife over the previous week.

Provider Response (1)

Dr [C], General Medicine and Stroke Physician, Waitematā District Health Board, dated 4 August 2022.

Dr [C] reports meeting [Mrs A] on the morning of 10 March 2022 […] at [another] Hospital. He found her to have speech disturbance, both understanding others and expressing herself (receptive and expressive dysphasia), a right facial droop and weakness of the right-sided limbs (hemiparesis). An MRI scan (later) that day showed changes indicating a stroke resulting from a blockage to the blood supply to part of the left side of the brain ("large left MCA territory infarct secondary to occlusion of proximal left MCA"). This was "subacute", indicating that the blockage had occurred recently (generally referring to a timeframe of between several days to several weeks beforehand) rather than more immediately before the time of the scan. A further scan was done as an urgency to provide more detail about the nature of the blockage and determine whether the affected brain tissue was irreversibly damaged or might be salvageable (CT perfusion and angiogram). The result of this was discussed with the on-call Neurologist (based at [another] Hospital). The specific intervention that was being considered was "clot retrieval" whereby the clot is removed via a fine tube (catheter) that is passed up the blood vessel to extract it. In his response, it is stated "she was deemed unsuitable for the intervention", meaning that the scan had shown that at this point the damage could not be reversed and such a procedure would not help.

Having confirmed that she had a stroke, changes were made to her treatment to help manage this. After a stroke, swallowing may be affected and so she was made "nil by mouth" to reduce the

	risk of aspiration (fluid or food going down the wrong way and into the lungs, which can result in pneumonia). The medication "tranexamic acid", here being used to control vaginal bleeding by its action of increasing the coagulability or clotting of blood, was stopped. Aspirin, which reduces the coagulability of blood and slightly reduces the risk of further strokes, was introduced. Dr [C] updated her husband of the situation. The following morning her case was discussed again, at the Stroke Radiology Conference, and arrangements then made for transfer to [another] Hospital with a view to further investigation, treatment and rehabilitation. Dr [C] dates admission to Waitākere Hospital as 5 March 2022, and [Mrs A] as having speech disturbance (dysphasia) and right-sided weakness at that time, together with vaginal bleeding. Also that she was COVID-19 positive. **Provider Response (2)** **Dr [E], Health NZ | Te Whatu Ora Waitematā, dated 29 September 2022.** This is stated to be an overview based on the responses of clinicians involved in the care of [Mrs A] during her attendances and inpatient stay at Waitematā Hospital around March 2022, as collated by Dr [E]. [Mrs A] was recorded as presenting to the Emergency Department at Waitematā Hospital on Saturday 5 March at 19:48. Her only speech was "Yes" and "No". She was unable to move her right arm and unable to weight bear on her right leg. There was a history from her husband of right-sided weakness that had been getting worse since December 2021. There had been episodes comprising difficulty finding words and associated seizures of two to three minutes shaking followed by 15 minutes of "grogginess". For two weeks she had also been experiencing heavy vaginal bleeding, with this ongoing. She was initially reviewed by the Emergency Medicine SMO (Senior Medical Officer or Consultant/Specialist). A CT head scan was ordered and later referred to as having been completed during the admission process and did not show evidence of a stroke. A RAT test for COVID-19 infection was negative, but a different test for the infection, described as more accurate, was also done and this was positive. [Mrs A] was put into an isolation bed in the Emergency Department pending availability of a bed on

	a ward designated for patients with an active COVID-19 infection. The following morning, 12 hours after she came to the hospital, she was reviewed by a General Medicine Physician. A recent photograph showed that the facial droop observed now was not present then. A number of diagnoses were considered (this did not include stroke). An inpatient MRI and neurological review were planned, which, because of her active COVID-19 status and the lack of isolation beds at Waitākere Hospital, required transfer to [another] Hospital, where a bed was available, and then a visiting Neurologist would be able to see her on the following day, Monday 7 March. She was moved to [another] Hospital. On the Monday, she was reviewed by the receiving team at [another] Hospital. The Neurology review that was planned did not happen. The referral made from Waitākere Hospital and sent to [another hospital] Neurology Department, who provide the visiting Neurology service, had incorrectly stated she was still at Waitākere. A new referral was sent when this was realised, but by then the visiting Neurologist had left. The MRI was also delayed (it needed to be designated urgent to get done whilst still in COVID-19 isolation). It was deferred until isolation had been completed. On Tuesday 8 March, it was realised that [Mrs A] did not require COVID-19 isolation. [Mrs A], having had a positive RAT (COVID-19) test on 23 February, was now past the requirement for in-hospital isolation. (Based on that test, isolation requirements should have finished on the day of her admission to Waitākere Hospital on 5 March.) Mr [A], having informed the House Officer (junior doctor) about the timing of the first positive test, prompted the doctor to request de-isolation. On Wednesday 9 March, believing incorrectly that [Mrs A] was still in COVID-19 isolation, the Visiting Neurologist reviewed her notes rather than seeing her in person. Reasons were given why this was done. The MRI was completed the next day, showing a subacute stroke, prompting review by Dr [C], a stroke physician. The description of his involvement concurs with his individual response above. Dr [F], another Visiting Neurologist, speaking to Mr [A] on Friday 11 March, prior to the transfer of his wife to [another] Hospital, obtained additional history (background) from him. [Mrs A] had been experiencing progressively more frequent episodes of right upper limb shaking and weakness, sometimes with the inability to speak, since November 2021. There had been a “marked deterioration over several days with persistent weakness and

	dysphasia (speech disturbance)" prior to admission to Waitākere Hospital. It is unclear whether the comment that "it was difficult to determine an exact time of onset (of the stroke) as symptoms had fluctuated and developed progressively rather than a single event" was documented at the time or suggested when the case was being reviewed. Examination by Dr [F] found [Mrs A] to have a severe expressive dysphasia (speech defect) and a flaccid right hemiplegia (no movement in her arm or leg). There was no immediate restorative intervention possible at this (late) stage, but further angiography (studies of the blood vessels to the brain) would be needed to try and determine the cause of the occlusion (blockage) to the blood vessel. This required transfer to [another] Hospital. [Mrs A] was transferred to the care of the Neurology Service in [another] Hospital and subsequently to their Inpatient Rehabilitation Team. She was discharged on 3 May 2025, two months later, with outpatient follow-up planned. The response from Dr [E] concludes that a stroke was considered unlikely by the admitting Emergency Department and General Medicine teams at Waitākere Hospital and presents their rationale for this. He reviews the circumstance delaying [Mrs A] being seen by a Neurologist. It was thought that even if she had been seen by a Neurologist earlier this would not have affected the outcome. In his summary, he says it is doubtful that the outcome could have been improved even if the diagnosis had been made on 5 March, the day of admission, as she had a progressive occlusive vasculopathy. Endovascular clot retrieval would not have been possible (there being an occlusive narrowing of the blood vessel rather than a clot). Opening up the blood vessel (by stenting), an alternative emergency intervention, was unproven (not proven to be of benefit) and would be difficult and have risks. Dr [E] also finds that the presentation was unusual and the diagnosis difficult. He refers to the rarity of the final diagnosis of Moyamoya disease. **Clinical Notes** **Waitākere Hospital admission on 7 December 2021.** From the hospital records on 7 December 2021, Mrs [A], 45 years of age, was admitted under the care of the Department of General Medicine, having been referred there by her GP (General

	Practitioner, or family doctor). I was unable to locate a referral letter. The records have three people variously listed in the hospital record as the Consultant or Specialist, with one of those as the Consultant on the Discharge Summary. [Mrs A] is described as having three brief episodes of right-hand weakness over a month. The third episode involved the arm, included numbness, and when calling out to her husband he found her words to be incomprehensible for about a minute. She thought she had been speaking clearly. When seen at the hospital, which was a week later, she was quite well with a normal clinical examination. The differential diagnosis (a list of possible diagnoses) was put down as, primarily, "ulnar neuropathy, TIAs". Ulnar neuropathy is a weakness of the ulnar nerve which supplies part of the hand but would not affect speech. The acronym "TIAs" stands for "Transient Ischaemic Attacks", also known as "mini strokes", but unlike a stroke they are brief and fully resolve. They can be a warning of an imminent stroke. Investigations included plain CT brain (x-ray scan), which was normal. A CTA (probably referring to a CT Angiogram, which would be to look at cerebral blood vessels) was considered but, "after discussion with floor manager" this was not done. I cannot tell from the notes whether the "floor manager" was a member of the medical, nursing or administrative staff. No name was mentioned. A prescription for "antiplatelets" was discussed. Antiplatelet medication, usually aspirin, is used to reduce the chances of a TIA progressing to a stroke. An ultrasound scan of the carotid arteries was intended depending on the CT scan findings. This would be to look for narrowing of the neck arteries which, if of severe degree, can cause TIAs. Other tests that would be done to look for a cause for TIAs were requested: blood tests and ECG telemetry (heart monitoring). Just prior to her discharge the nursing notes record a brief numbness and weakness in her left hand, the opposite side to her previous symptoms. After an overnight stay, [Mrs A] was discharged without a clear diagnosis. The discharge summary stated her symptoms to be unusual for a stroke or TIA. No ultrasound of the carotids appears to have been requested or done. Antiplatelet medication was not prescribed. No follow-up at the hospital was arranged. She was advised to present to hospital (or medical attention) if she developed any further neurological symptoms.

	Waitākere Hospital attendance on 28 February 2022. The reason for this attendance was a mild COVID infection. She attended the Emergency Department because of fatigue, fever and cough, having tested positive for COVID eight days prior (presumably a home RAT test). Tests for COVID were also positive at the hospital. There is an entry from Infection Control (Specialty Nurse) confirming this, and designating the patient "Blue Stream", i.e. requiring isolation if needing to stay in the hospital. A diagnosis of mild COVID infection having been made, she was discharged by the Registrar (middle grade doctor). She was given a COVID-19 Discharge Leaflet. On the discharge summary, the supervising consultant was named as "Dr Emergency Medicine Consultant". The nursing record confirms that there had been no seizures, that her cognition was normal and she was moving independently. There is reference in the "Previous Medical History", about recurrent episodes of right-hand weakness. This section is for information about other medical issues from the past and not directly relevant to the current problem. The entry appears to have been copied and pasted from the record of her admission in December. **Waitākere Hospital admission on 5 March 2022.** **Saturday 5 March** The presenting problems were listed as weakness and PV (vaginal) bleeding. The attendance at the Emergency Department was marked 19:48. A nursing assessment was timed 21:08. The medical assessment was timed 23:40. The WDHB Screening and Clinical Assessment Tools (a check list and algorithm to determine infection status) was done. This was untimed but probably on presentation. The nursing assessment notes vaginal bleeding, new confusion, decreased mobility and reduced oral intake for two days, and that this was day 10 of a COVID infection. Right-sided weakness had got worse and a facial droop noted. The narrative of this entry is hard to follow. The timing of the onset of the weakness and facial droop is unclear. The note appears to say that right-sided weakness was noted at the time of the CT scan from December, and that her husband reported it had got worse since because of the COVID infection. That her husband

	was helping her with feeding, and that she had not been eating and drinking well. Also that she had (a?) seizure episode "for the past three days, for two mins as claimed". She thought [Mrs A] was alert but confused, because her husband was answering the questions. The right hand had "less motor function". She was assessed as frail, unsteady, and needing assistance to move. The medical assessment noted the presenting problems as, firstly, weakness and, secondly, PV (vaginal) bleeding. The weakness was recorded as having been progressively worse since December and mentions episodes of word finding difficulty and brief seizure-like episodes. The admission from December was referred to and briefly summarised, as was a referral to the Neurology Outpatients, made because of worsening of these symptoms (sent by her GP). Her recent attendance for COVID infection was noted, with worsening neurological symptoms since, now being unable to move her right arm and unable to bear weight with her right leg. Although she could only say "yes" and "no" (which the nursing note indicated was by head movements) she was thought to be understanding speech normally. She had also had heavy vaginal bleeding for two weeks. The examination records a Glasgow Coma Score (GCS) of 10 (out of a possible 15, with 15 being normal). This is a predictor of illness severity, usually used in the setting of trauma. In the setting of trauma, a score of 9–12 is considered moderate severity and indicative of moderate risk for death or long-term disability. She had a facial droop, no movement in her right arm, nor could she move her right leg. Her left side was normal. She was anaemic, with a low haemoglobin (84g/l, normal 115 to 155). There is no mention of anyone being with [Mrs A], nor where the description of progressive weakness since December had come from. There is no detail around the progression, for example whether there had been a gradual, intermittent or sudden change(s). The impression of the admitting clinician was of "progressive neurology with apparent left MCA territory abnormality" and of dysfunctional uterine bleeding (a common, benign cause of increased vaginal blood loss) with consequential anaemia. A (plain) CT head was requested. An intravenous iron infusion, to address the iron deficiency resulting from blood loss, was ordered and given. Tranexamic acid, to increase coagulation and control

	the vaginal bleeding was prescribed. If the CT scan did not show a neurosurgical problem, the plan was to consider further imaging on Monday, two days later. The infection screening identified [Mrs A] as having an active infection. The RAT test done on this occasion was negative, a second "PCR" test had then been ordered, and this was positive. **Sunday 6 March — Waitākere Hospital.** [Mrs A] was admitted to the General Medical Service by the Registrar (middle grade doctor) whose entry was timed 08:05. The assessment was that this was a functional weakness (physical symptoms without a physical cause), together with vaginal bleeding. The CT scan was normal and a short stay expected. There were no restrictions placed on eating or drinking. At 10:03, 14 hours after presenting to the hospital, [Mrs A] was seen by the admitting medical consultant. The note was written by the House Officer (junior grade doctor). The primary problem was described as "right-sided facial droop and expressive dysphasia". She was asked if the right side was new and said "no", but the aphasia was new (with dysphasia her answers may not have been reliable). After a neurological examination, with her right arm recorded as being unable to resist gravity and the right leg "somewhat reduced power" it was concluded she had a right facial droop and possible right arm weakness. Although it is stated she was discussed with a Neurology SMO, a subsequent entry (7 March) indicates this was not the case, rather there had been a discussion with … [another] Hospital "COVID" consultant. It was decided to monitor her, arrange an inpatient MRI scan, a neurological referral and an outpatient gynaecological referral. (An MRI scan is able to pick up more detail than a CT scan.) To obtain the inpatient investigations, having been (incorrectly) identified as having an active COVID infection and there being no "COVID" inpatient beds available at Waitākere, arrangements were made to transfer her to [another] Hospital to a COVID isolation ward there. The gynaecology referral described heavy bleeding and iron deficiency anaemia but gave no other context. This was requested as an outpatient. At 11:41, a note from the junior doctor records collateral history obtained from Mr [A]. The right-sided weakness had been going on for two days, and before presenting to hospital she had a

	seizure. This is later described as whole body shaking, frothing at the mouth and eyes rolling to the back of the head, very slow to recover and bedridden for several hours. It is unclear whether this refers only to that one occasion, or these were recurrent "… but is very slow to recover from these and is bedridden for a few hours". Mr [A] thought the weakness and seizures began after her second COVID vaccination a few months before. Initially seizures comprised shaking in the hands lasting two minutes but, after the COVID infection, were happening three to four times a day. The transfer note to [another] Hospital put the primary diagnosis as the problem of a right-sided facial droop and expressive dysphasia, with secondary diagnoses of heavy vaginal bleeding and COVID infection. The history handed over in this note had now changed, describing up to three to four seizures a day since getting COVID, multiple similar but shorter episodes in the past and with an outpatient referral to Neurology to rule out MS (multiple sclerosis) pending. It was not absolutely clear whether the term "episodes" referred to the right-sided weakness and aphasia and/or the seizures. The note goes on to say that her partner's collateral history was of symptoms that began three months ago and had NOT (my capitals) been exacerbated by the virus. This latter sentence was incorrect, may have been a typing error, but could have been misleading when read by others. The patient was transferred to [another] Hospital on the Sunday afternoon, arriving at 18:07 hours. The nursing note indicates the COVID ward was usually a General Surgery ward. The nurses on a surgical ward would be less familiar with medical problems. [Mrs A] had difficulty with her swallowing and so the oral tranexamic acid medication was changed to an intravenous preparation, but she continued to be given oral fluids and offered food. **Monday 7 March — [another] Hospital.** Infection Control for [another] Hospital confirmed the active COVID status. The assessment process behind this was not evident. Mr [A] was present for the morning ward round by the receiving consultant. [Mrs A] was only able to make noises towards her husband and unable to speak. Right-hand and left-leg weakness was now recorded, with symptoms starting after the second COVID vaccination. It is unclear whether the weakness related to the background or actual examination at that time. Despite her well-documented hemiplegia (loss of function on one side), the impression described "Right facial droop and possible right arm

	weakness …" ending with ? MS (multiple sclerosis) ? functional. Her arrival in the hospital, which was specifically for the purposes of a Neurology assessment and an MRI, was not notified to the visiting Neurologist. The visiting Neurologist was not aware of her being at [another] Hospital and she did not get seen. By the time it was realised that the original referral, sent when she was still at Waitākere Hospital, had not shown the planned transfer to [another] Hospital, the Neurologist had left. Later that day, she was seen by the Speech Language therapist, who found her to have no comprehension of spoken commands. She was indicating "yes" to most questions. Swallowing was abnormal. Guidance on eating and drinking to more safely manage the swallowing was provided. **Tuesday March 8 — [another] Hospital.** Mr [A] asked when his wife could come out of isolation, having had her first positive RAT test on 24 February, meaning she was well past the required 10 days. Following clarification, the patient was moved out of isolation. **Wednesday 9 March — [another] Hospital.** [Mrs A]'s hospital notes were reviewed by the visiting Neurologist. Although he discussed the case with the General Medicine Consultant looking after her, he was not made aware that she was no longer in isolation. Because of anxieties about ongoing risk of infection, and believing her to be infectious, he did not see her in person. From his review of the notes and discussion with her doctor, he felt the MRI (still pending) would likely be normal, and that there was a psychological (functional or non-physical) cause for her illness. A recommendation was made for a Psychiatry review. **Thursday 10 March — [another] Hospital.** Dr [C], General Physician, reviewed the patient for the first time. A comprehensive list of the problems was made — there was a full neurological examination. Because of the dysphasia, no history was available from the patient. From the information available to him, his impression was of multiple sclerosis. There was a clear plan made, pending the MRI being done. With continued vaginal bleeding and progressive anaemia, he also requested an ultrasound of the pelvis to help determine the cause. The MRI was done and reported showing a subacute large left MCA territory infarction, a stroke. There was direct discussion

	with […] the on-call Neurologist, pending a CTA (CT scan to determine if the damaged brain tissue could be salvaged by clot retrieval or other techniques). [The on-call Neurologist] concluded that the stroke had occurred close to the time of her admission, and that the damage at this stage was irreversible. This was based on the hospital notes and information from the scans. The MRI report points out that, even in retrospect, the plain CT scan, done soon after the admission to Waitākere on March 5, did not show the stroke. When the history, or background, was again reviewed with her husband, now after the correct diagnosis had been made, he was able to say to the junior doctor at [another] Hospital that he had found his wife in the bathroom at 14:00 on the day prior to admission, her having been incontinent of urine. Although stated as happening on 5 March, this would have been on 4 March. He took her to the shower and she then had a seizure, with her whole body shaking, her eyes rolling, and then was unconscious for several minutes. He got her to her bed and did not identify any facial droop or right-sided weakness. [Mrs A] was generally weak but did not want to go to hospital. She was admitted the following evening. She had become unsteady on her feet, bumping into things, although he could not say if she had a focal weakness. The focal weakness was noted on admission. **Friday 11 March** The MRI was reviewed at a Neuroradiology meeting. Dr [F] (Visiting Neurologist) met with the patient and her husband together with the medical team to discuss the findings. A plan was made to transfer [Mrs A] to [another] Hospital for further investigations to help determine the cause of the stroke. Although it is difficult to be certain, as the neurological examinations and interpretations varied, it seems the neurological deficits found on admission were probably essentially unchanged from that point on. This is supported by the nursing and allied health records.
Question 1: Whether the care provided by the General Medicine team at Waitākere Hospital on 7 December 2021 was appropriate in the circumstances. In particular, whether the appropriate investigations were undertaken into [Mrs A]'s symptoms of right-hand weakness/sensory changes and dysphasia and whether appropriate follow-up was arranged.	

List any sources of information reviewed other than the documents provided by HDC:	None
Advisor's opinion:	The description provided by [Mrs A] at this time was consistent with a TIA or TIA mimic, such as a focal seizure. Assuming the patient to be right handed (I cannot see this information formally sought, but she described holding a dog leash and phone in her right hand, supporting this supposition) then the speech centre for the brain will be on the left, which is the same side as that controlling the limbs on her right and sharing the same blood supply. TIAs are usually abrupt in onset, affecting the body in the same way a stroke might, but then completely resolving, usually lasting minutes, but can be up to 24 hours. This fits the pattern of her presentation. Having considered a TIA to be possible, it would be reasonable to do a plain CT brain scan in the first instance. A plain CT scan is useful to help exclude other pathology. It cannot diagnose a TIA and may well be normal. A carotid ultrasound, looking for any narrowing of the main arteries to the brain, would be important if an angiogram had not been done. In someone of her age, otherwise quite well and with no risk factors for atherosclerotic vascular disease, such as hypertension or currently smoking, further investigations should have been considered, and in the face of uncertainty, advice sought from a Specialist Neurologist. On the discharge summary [Mrs A] was advised to seek medical attention, "including a return to the Emergency Dept" if she had further episodes. The team did not appear to be expecting this. No other follow-up was arranged. From what we now know happened, the episodes continued and she went to her GP, who made a referral to Neurology Outpatients. If follow-up with the hospital was not an option, then advice to the GP about what to do if they did should have been given. Going to her GP was one of the options given to her if they did continue.

	Whether or not different management and further investigation prior to her admission in March could have avoided the stroke and identified the underlying problem is uncertain. Advice from a Neurologist would be needed to assess this. The GP referral to the Neurology Department was dated 8 February 2022. This was comprehensive. The provisional diagnosis requested at the top, in what is presumably an electronic form, was put down as ?MS. Although the provisional diagnosis may have been in some ways misleading, the accompanying detailed description raised concerns about TIAs or TIA mimics. The referral was triaged as semi-urgent the following day, but only a short time later she was admitted to hospital. No advice was given about driving, which should be considered when there is a possibility of TIAs or similar events.
What was the standard of care/accepted practice at the time of events? Please refer to relevant standards/material.	The standard of care was below accepted practice at the time of the event. This is based on a knowledge of expected medical training and reinforced by peer review.
Was there a departure from the standard of care or accepted practice? • No departure; • Mild departure; • Moderate departure; or • Severe departure.	Moderate departure.
How would the care provided be viewed by your peers? Please reference the views of any peers who were consulted.	Below standard.
Please outline any factors that may limit your assessment of the events.	Expert advice from a Neurologist would be required regarding further investigations, management and outcomes had the recurrent focal neurological events been recognised for what they were, and the necessary advice had been sought.

Recommendations for improvement that may help to prevent a similar occurrence in future.	Major recommendations: That the staff involved in this patient's care read the report that comes of this case and reconsider how this presentation might be managed in the future. Education around the presentation and management of TIAs and TIA mimics to the medical staff involved in the care of this patient might be helpful. Ongoing medical education might include interdepartmental meetings, including Neurological case presentations and with specialty input. Education around safe patient discharge, especially if the diagnosis is unknown. This advice needs to state what is not expected and, if GP follow-up is an option, to include GP guidance on what to do next. Minor recommendation: Be aware of the NZTA (New Zealand Transport Authority) guidelines on medical conditions and driving.
Question 2: Whether the care provided by the General Medicine team at Waitākere Hospital during the 5 March 2022 admission was appropriate in the circumstances. In particular, whether the appropriate consideration was given and appropriate investigations were undertaken into whether [Mrs A] had suffered a stroke and whether her care was escalated adequately.	
List any sources of information reviewed other than the documents provided by HDC:	
Advisor's opinion:	[Mrs A] presented with neurological deficits consistent with a stroke. She had a facial droop, expressive and receptive dysphasia (lack of understanding and use of speech) and a right hemiplegia (loss of power of the right-sided limbs). Of critical importance is a detailed history, to know when the deficits occurred prior to presentation. In this situation, where possible, this history should be taken by a more senior clinician, as detail and nuances are so important. If this is caused by an acute (abrupt) obstruction to a blood vessel, as

	most strokes are, then restoration of the circulation (reperfusion) can substantially improve outcomes. However, to be effective, this needs to be done as soon as possible after the event, and usually within 24 hours. A detailed history does not appear to have been obtained until later. The earliest collateral history recorded was about 16 hours after presenting to hospital. This was suggestive of an acute event over the preceding two days. For an established stroke, reperfusion at this stage would not have been of benefit, but this doesn't appear to have been known for sure until this point. Expert neurological advice was available by phone. [Mrs A] was now severely disabled. Without a clear diagnosis, early expert advice should have been sought. Expert neurological opinion would be needed to advise whether this could have changed management, and if, in retrospect, this might have had any impact on her condition. It is probable that an earlier diagnosis would have been made, and the correct treatment for a stroke initiated earlier (including review of the tranexamic acid treatment, a procoagulant). Functional illness, where there are physical symptoms without a physical cause, can be very difficult to diagnose but should only be considered when physical causes have been ruled out or become extremely unlikely. That was not the case here. When a referral was made to the Psychiatry Liaison team, for this reason, it was declined. According to the guidelines in place, [Mrs A] did not need to be in COVID isolation at the time of her stroke. By doing so, it made her stay more complicated and more unpleasant. It contributed to the delay in diagnosis. The responsibility for determining isolation status is shared but would be under the overall direction of Infection Control. There were references to her true status in the contemporaneous Emergency Department clinical notes, but this appears not to have been passed on or

	was missed. To put someone in isolation is of considerable impact. The vaginal bleeding further complicated management; tranexamic acid, to control the bleeding, would not have been used in the setting of someone with an acute ischaemic stroke. It promotes coagulation and acts in the opposite way to the agents that help in ischaemic strokes, such as aspirin. There are alternative methods to control vaginal bleeding, and urgent advice from gynaecology should have been requested.
What was the standard of care/accepted practice at the time of events? Please refer to relevant standards/material.	This was below the standard of care at the time of events.
Was there a departure from the standard of care or accepted practice? • No departure; • Mild departure; • Moderate departure; or • Severe departure.	Moderate to severe departure.
How would the care provided be viewed by your peers? Please reference the views of any peers who were consulted.	Below standard.
Please outline any factors that may limit your assessment of the events.	The lack of information around the source of the history at the time of presentation, and whether a detailed and careful history was sought from Mr [A] at presentation. It was not mentioned, so I have presumed it did not happen. Emergency departments can be extremely busy, with competing demands, making the enquiries necessary to get a detailed history difficult. I have not been able to find an ambulance report (if there was one). This might have shed further light on

	the acuity of her presentation at the time of admission.
Recommendations for improvement that may help to prevent a similar occurrence in future.	Major recommendations: The staff involved in this patient's care should review and learn from this case. Although the presentation was atypical, it is important to recognise the presentation of stroke, and the critical importance of doing so promptly. The development of thrombolysis and endovascular treatments has been a major advance in stroke care and outcomes, but effectiveness is time dependent, meaning minutes and not days. This may require formal updating as it is an evolving treatment. If Waitākere Hospital still does not have this, there should be an "Acute Stroke Team" or equivalent, with clear protocols and links to a Specialist Centre. If a detailed history is not possible from the patient, then a close relative or friend may be able to provide it, and they should be contacted without delay if the situation is urgent. This is best taken by an experienced clinician. There needs to be a low barrier for discussing cases with specialists. With the diagnosis uncertain, later described as "challenging", it should have been discussed directly with a Neurologist and early in the admission. This was a relatively young person who, other than the sentinel TIAs (or seizures) and COVID (from which she was recovering), had been completely well. She presented with a critical illness, and, at that time, the cause was unclear to the attending doctors. Although there can be perceived barriers to calling an expert, especially when out of hours, from a different hospital or from a higher-level centre, this should not stop needed advice being sought. Forums encouraging direct contact and open discussion, such as shared grand rounds where clinical cases are discussed, can help. Good relationships between centres and individuals are important. Moderate recommendations:

	There is a risk of aspiration in anyone suspected of having a stroke or other rapidly progressive neurological process. Unless there is reason otherwise, they should not be eating or drinking until cleared of having this risk and meanwhile provided with alternative fluids (usually via a drip). [Mrs A] was encouraged to eat and drink without restriction. A simple system that ensures accuracy and visibility of infection status is important for any hospital and not restricted to COVID infections. The response from Dr [E], the at Waitākere Hospital, says there was a lot of anxiety about COVID. An important function of Infection Control is to support rational practice at such times, by providing evidence-based reassurance and education. The vaginal bleeding should have prompted urgent gynaecology advice. If there are conditions going on that are having a significant impact, or distressing the patient, they should be addressed with a sense of urgency. The request to Gynaecology was for an outpatient appointment and it was almost a week before anyone thought to do an ultrasound scan to help define the cause. Referrals could be audited. When making written referrals, one line is insufficient. A succinct summary of the problem still needs to be accurate and requires context. Direct phone calls for advice are better and can be used to supplement or expedite written referrals but may not be practical because of insufficient resources or for other reasons. As above, referrals could be audited.
Question 3: Whether it was appropriate in the circumstances on 7 March 2022, for [Mrs A]'s scheduled MRI scan to be delayed as she was still considered COVID positive.	
List any sources of information reviewed other than the documents provided by HDC:	None
Advisor's opinion:	[Mrs A] had an unexplained stroke syndrome. Although by 7 March expediting the MRI scan would not have affected the outcome, it should still have

	been done without delay. The cause of her incapacitating neurological illness was unknown. If there were another cause, there may have been other treatment, and this should not have been further delayed.
What was the standard of care/accepted practice at the time of events? Please refer to relevant standards/material.	This was below the standard of care at the time of the event.
Was there a departure from the standard of care or accepted practice? • No departure; • Mild departure; • Moderate departure; or • Severe departure.	Moderate.
How would the care provided be viewed by your peers? Please reference the views of any peers who were consulted.	Below standard.
Please outline any factors that may limit your assessment of the events.	Access to MRI is variable, depending on demand and availability. Here the implication was that it could have been done but was not, this being solely because of the isolation.
Recommendations for improvement that may help to prevent a similar occurrence in future.	Whilst this occurred at the time of a COVID epidemic, guidelines should have been in place to perform necessary radiological investigations safely. Without a diagnosis, and especially in someone who is very ill, diagnostic procedures should not be delayed unless there are exceptional reasons, which there were not. Requests for scans must include accurate and succinct reasons for the scan, together with the context, for accurate triaging (as well as interpretation). To have done so here might have pre-empted the request for deferment.

Question 4: Any comment that you wish to make on the fact that the neurology review was delayed due to the incorrect hospital location being documented on the referral form.	
List any sources of information reviewed other than the documents provided by HDC:	None
Advisor's opinion:	Although this did not impact on the eventual outcome, it will have caused more distress, prolonging uncertainty and delaying care.
What was the standard of care/accepted practice at the time of events? Please refer to relevant standards/material.	It was an unfortunate error.
Was there a departure from the standard of care or accepted practice? • No departure; • Mild departure; • Moderate departure; or • Severe departure.	Mild departure.
How would the care provided be viewed by your peers? Please reference the views of any peers who were consulted.	It was an unfortunate error.
Please outline any factors that may limit your assessment of the events.	None
Recommendations for improvement that may help to prevent a similar occurrence in future.	The delay could have been avoided by the receiving hospital, having admitted the patient, advising the visiting specialist. If this was routine for inter-hospital transfers of this type, the problem would be avoided. The specific reason for the transfer was to enable a neurological review.

Question 5: Any other matters that you consider warrant comment, in respect of the care provided to [Mrs A] at Waitākere Hospital and/or [the other hospital].	
List any sources of information reviewed other than the documents provided by HDC:	None
Advisor's opinion:	This is a minor point, but the signage of the discharge documentation from the 28 February "Dr Emergency Medicine Department" is inadequate. There is no indication of the line of responsibility nor who to contact about the attendance, if that were needed.
Name: Dr David Cole Date of Advice: 3 June 2025'	

Appendix B: Internal clinical advice to Commissioner

The following internal advice was obtained from general practitioner Dr Fiona Whitworth:

'**CLINICAL ADVICE — MEDICAL**

FROM	:	Dr Fiona Whitworth
CONSUMER	:	[Mrs A]
PROVIDER	:	[The local medical centre]
FILE NUMBER	:	C22HDC01497
DATE	:	7/10/2024

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1. My name is Dr Fiona Whitworth. I am a graduate of Oxford University Medical School, and I am a practising general practitioner. My qualifications are: MA 1991, BM BCh 1994, DCH 1996, DCRCOG 1996, MRCGP 1999, PGCMed Ed 2011, FRNZCGP 2013, PGDip GP 2016, FAEG 2020. Thank you for the request that I provide clinical advice in relation to the complaint from [Mr A] about the care provided by Waitākere Hospital and [another] Hospital. In preparing the advice on this case, to the best of my knowledge I have no personal or professional conflict of interest. I agree to follow the Commissioner's Guidelines for Independent Advisors.

   I have been asked to provide a steer on whether the care provided by [the local medical centre] was appropriate between December 2021 and March 2022 (inclusive) and what departures, if any, may have been made.

2. **Documents reviewed.**
   10/9/2024 GP notes and response [by the local medical centre]

3. **Provider response(s)**
   [The medical centre] has provided a full set of GP notes. They have not, however, been asked to comment on the care provided so this has not been submitted. Without this, some of the clinical reasoning may be unclear (treatment of vit b12).

4. **Clinical Steer**
   Overall, the clinical care provided by the GP team was consistent with good clinical practice.

   However, I am moderately critical that it is not documented whether [Mrs A] was asked (or not) to attend ED or the urgent GP clinic on 3/2/2022 as a matter of urgency when she had a telephone call to the nurse at the clinic. She was presenting with features of ongoing neurological compromise — possible crescendo TIA/CVA [cerebrovascular accident].

Regarding the use of tranexamic acid:
Tranexamic acid is contraindicated "*active thromboembolic disease, or history of thromboembolic disease unless treated*".[1]

However, when initiated by the GP on 2/3/2022 there had been no diagnosis of active or previous thromboembolic disease. I am therefore not critical of its use at this time. The doctor did additionally check both a D-dimer and coagulation screen. It is unclear why this was started in hospital when a CVA had been confirmed — I note this was not continued on discharge and its use had controlled [Mrs A's] menstrual loss.

5. Clinical Timeline and Comments
PMH

25/5/2022 Moyamoya-like occlusive vasculopathy.

2012 Ectopic pregnancy right salpingectomy and left Tubal Ligation

1/10/2019 Mirena inserted.

7/12/2021 GP Consultation Dr […]
45 yr old noted to have intermittent left-hand weakness 5–6 times per week and has to use other hand to hold it. Also noted to have speech changes at the same time "hard to get words out of her mouth". She was noted to be an ex-smoker and FH father MI aged 53.

Examination — normal neurological examination and gait.

A diagnosis of possible TIA was made, and she was admitted to Waitākere Hospital for review.

Comment
This is acceptable GP clinical practice with identification of possible disease and transfer to secondary care. The referral letter is clear.

7/12/2021 Waitākere Hospital admission
Right-hand weakness but normal neurological examination CT head normal. No CT angiogram completed at this time. No antiplatelet medication commenced.

The diagnosis was unclear.

21/1/2022 GP Consultation Dr […]
It is documented that she presented with "*fogginess, dizziness, low mood, pins and needles both hands. No period 2/12, had tubal ligation*".

[1] https://nzf.org.nz/nzf_1581

She was diagnosed with probable vit b12 deficiency and a course of replacement injections given. Blood tests were ordered.

Comment
It is not clear whether the bloods were done before the nurse gave the vit b12 injection. I am unclear as to why a definitive diagnosis has been made without the blood results. On notes review, there were no recent previous vit b12 levels undertaken. I am mildly critical that the tests were not completed prior to the injection regimen being started. However, this does not impact on her later clinical trajectory.

The panel of blood tests are appropriate.

Vit B12 >1470 — implying bloods taken after the injection.

TC 5.2mmol/l; ldl 3.3 mmol/l

Kidney function normal

Hba1c normal — no diabetes

21/1/2023 Nurse Clinic

Vit b12 given.

28/1/2023 Nurse Clinic

Vit b12 given.

3/2/2022 Phone call to Nurse-led Clinic.
It is documented that she reported ongoing numbness — R>L hand that had been intermittent since November 2021. It was also noted that she was presenting with slurred speech for 1 week and that her family were noticing this more.

It is documented that she is struggling to get words out. It is documented that she "*doesn't want to come into [clinic], doesn't think acute enough for ED"*. She was advised to go to ED if worse over the weekend and appointment made for the week for review.

Comment
I am moderately critical that she was not asked to attend ED or the urgent GP clinic with this presentation of ongoing neurological compromise — possible crescendo TIA / CVA.

8/2/2022 GP Consultation Dr […]
It is documented that there is a history since Nov 21 of intermittent neurological symptoms — slurred speech and weakness/tingling upper limbs — mainly affecting right hand. The speech disturbance was thought to be more dysarthria.

On the morning of presentation, she had had left-hand weakness. It was noted that she was concerned about temporal sequence from COVID vaccination.

Examination Cranial nerve, speech upper limb and cerebellar testing normal.

A diagnosis of new MS was considered. She was referred to neurology for consideration of MRI and return advice given.

Referral sent that day and triaged as P3 — see inside 8 weeks.

Comment
The actions are consistent with standard general practice care. However, another option would have also been to have discussed her care with the on-call medical team for advice.

2/3/2022 Telephone consultation Dr […]
Noted to be COVID positive. She has had a 2-week period and passed out after feeling hot and sweaty, noted to have numb hands. It is documented there was no shaking but that her eyes rolled back and teeth were grinding. There was no documented post-ictal phase. There were specifically no issues with speech or weakness in arms and legs.

A diagnosis of Loss of consciousness ? vasovagal was made. Safety-netting advice was given, and she was sent for bloods: FBC, D-dimer, coagulation, CRP, and ferritin.

She was prescribed tranexamic acid 1g tds [three times daily] for up to 4 days when menstruation has started.

Comment
The clinical diagnosis of a syncopal episode is reasonable. As she was COVID positive, it was reasonable to not see her in clinic at this time but to give safety-netting advice.

Heavy periods can contribute to syncope, and therefore the use of tranexamic acid was not unreasonable and is part of the Health pathways abnormal uterine bleeding pathway.[2] The GP has checked for underlying clotting issues and also done appropriate baseline tests. It is not clear what information was given re side effects of tranexamic acid.

2/3/2022 Telephone consultation Dr […]
Discussion re tranexamic acid use and clotting. Noted that she is COVID positive and advice given to start medication after the result of D-dimer is available.

[2] https://aucklandregion.communityhealthpathways.org/15976.htm

5/3/2022 Waitematā Hospital admission

Episodic left MCA hypoperfusion with limb-shaking TIA since November progressing to left MCA infarction. Noted to have also bilateral multifocal intracranial stenoses. ? cause.

Also noted to have heavy menstrual bleeding

6/3/2022 CT head normal

10/3/2022 MRI head subacute large left MCA territory infarction secondary to occlusion of proximal left MCA.

CTP — showed proximal left MCA occlusion — advised an established infarct and not for clot removal — aspirin started.

Neurology involved.

Telemetry 24 h nad.

Heavy bleeding noted — admission Hb 84 iv ferrinject given in ED. Gynaecology registrar recommended referral for pelvic ultrasound as an outpatient. Tranexamic acid started, which improved bleeding.

An inpatient pelvic ultrasound thickened endometrium and adenomyosis not excluded. Gynaecology team advised blood transfusion and addition of Provera 20mg od and referral to OPD gynaecology (noted this is safe in acute stroke).

It is later stated that not for tranexamic acid given acute stroke.

She was transferred to [another hospital] for further management.

8/3/2022 Telephone consultation Dr […]

Conversation is with husband. It is noted that she was admitted on 6/3/22 with symptoms of a stroke (aphasia, left facial droop and right-body weakness) but that a CT scan head was normal. That she was awaiting an MRI head. It is stated that she deteriorated on day 8 of COVID-19 infection.

The thought was of a complication of COVID-19 with CVA.

7/3/2022 Decline from gynaecology — request for community-based ultrasound and treatment pathway. Re heavy menstrual bleeding.

11/3/2022 Referral to gynaecology re heavy menstrual bleeding

15/3/2022 Cerebral angiogram

Bilateral anterior circulation intracranial vasculopathy with a Moyamoya-type pattern, of uncertain aetiology.

Addendum to report 7/4/2025

I note the email response from Dr […] 12/3/2025.

This recounts the clinical history. It notes that vit b12 levels were checked after the first injection.

It is therefore still unclear as to why a diagnosis of vit b12 deficiency was made without undertaking a baseline level.

I am mild to moderately critical of this omission.

The reply does not otherwise change my previous advice.'