HEALTH & DISABILITY COMMISSIONER
TE TOIHAU HAUORA, HAUĀTANGA

Failure to detect lesion on patient's MRI

1. On 10 February 2021 HDC received a complaint from Mr A via the Nationwide Health and Disability Advocacy Service, raising concerns about the management of a lesion on his scalp and his delayed diagnosis of cancer.

2. On 17 January 2020 Mr A underwent a brain magnetic resonance imaging (MRI) scan to investigate asymmetrical hearing loss, an issue that was unrelated to Mr A's scalp lesion. The reporting radiologist, Dr B, produced a report on 20 January 2020 noting that the MRI showed no evidence of acoustic neuroma,[1] and that a computed tomography (CT)[2] scan could better assess the extensive opacification[3] of air cells, which might reflect ear dysfunction.

3. On 24 February 2020 Mr A underwent a surgical procedure unrelated to the lesion, during which his scalp wound was washed out, and daily dressings were applied postoperatively. Mr A was reviewed on 4 March 2020 and a biopsy was undertaken for the scalp lesion, which was suspected to be a tumour. On 18 March 2020 a PET CT scan[4] confirmed a diagnosis of a very rare form of squamous cell carcinoma[5] on Mr A's scalp.

4. In light of these findings, on 15 June 2020 an amendment was added to the initial MRI report by another radiologist. The amendment identified a soft tissue mass measuring 4.8 x 2.7cm in the left occipital scalp extending from the skin surface to the occipital bone. The amendment also noted that this lesion represented biopsy-proven squamous cell carcinoma.

5. Dr B told HDC that although this incidental finding was unrelated to the primary purpose requested for the MRI imaging, he regrets that he failed to identify and report on the lesion present on Mr A's scalp when he reviewed the brain MRI, which he was able to identify retrospectively.

6. Mr A underwent extensive surgeries on 8 April 2020 and 2 July 2020, followed by radiotherapy and chemotherapy. However, he passed away subsequently. I take this opportunity to extend my sincere condolences to Mr A's family for their loss.

7. Dr B has told HDC that he deeply regrets that his oversight contributed to the missed diagnosis of Mr A's brain MRI and extends his sincere apologies for this. Dr B has stated that

[1] A non-cancerous tumour that grows in the ear and can affect hearing and balance.
[2] A medical imaging technique used to obtain detailed internal images of the body.
[3] Opacification of the middle ear can result from a diverse range of causes, including inflammatory, neoplastic, vascular, fibro-osseous, and traumatic factors.
[4] Positron emission tomography (PET) scans detect early signs of cancer, heart disease, and brain conditions.
[5] A form of skin cancer.

he has taken this matter very seriously and is committed to learning from this experience to ensure it is not repeated in the future.

8. Independent radiology advice was obtained from Dr Allan Christopher Thomas regarding the care provided to Mr A by Dr B (**Appendix A**).

9. Dr Thomas advised that while he acknowledges that the purpose of this referral was to report on hearing loss, for a lesion of this size and with these characteristics overlying the left occipital squame, it should at least have been mentioned with appropriate clinical follow-up action and excisional biopsy recommended. Dr Thomas considers that failing to mention the lesion in the MRI report was a severe departure from the standard of care, and 'grossly below' the expected standard, regardless of whether the reporter was a general radiologist, interventional radiologist, or neuroradiology fellowship trained. I accept this advice.

10. Dr Thomas said that when reviewing this case, he consulted two separate interventional radiologists who were not neuroradiology fellowship trained, and both identified the lesion over the left occipital squame and reported on the temporal bone findings.

11. In response to my provisional opinion, Dr B stated that although he regrets that he failed to report on Mr A's lesion, he does not consider this to be a severe departure from the standard of care. Furthermore, Dr B considers that the 'blind' reading report provided by HDC's independent advisor is not truly 'blind', as the advisor had a heightened awareness that images might have an abnormality, and this was not the environment in which Dr B was reporting when he completed his review of Mr A's MRI. While I acknowledge these comments, and that it is a known drawback that when HDC engages independent advisors, inherently they have an awareness HDC's function, I disagree that the advisor's reading is not 'blind'. When a 'blind' reading is requested, efforts are made to avoid framing bias, and we ask the advisor to mimic their usual reporting environment when completing their review. When assessing a complaint, it is important that I seek advice from an appropriate peer to help form the basis of my opinion. Therefore, although I concede that it is impossible for advisors to mimic the reporting environment, I am confident that adequate steps are taken to mitigate any potential bias.

12. Right 4(1) of the Code of Health and Disability Services Consumers' Rights (the Code) states that every consumer has the right to have services provided with reasonable care and skill. While I acknowledge that there are known perceptual errors associated with the interpretation of radiology imaging, I accept Dr Thomas's advice that due to the size of the lesion in this case, at least a comment in the MRI report was warranted, and that it is vital for the reporting radiologist to look for lesions that may be 'clinically silent' and unrelated to the referral. Accordingly, I consider that Dr B's failure to report on Mr A's scalp lesion was a severe departure from the standard of care, and therefore I find Dr B in breach of Right 4(1) of the Code.

13. In response to my provisional recommendations, Dr B said that he has made the following changes to his practice:

a) He is extra vigilant not just about assessing the skin but also about all areas of his practice.

b) He has adjusted his reporting practice to reduce the risk of similar oversights in the future by reviewing the skin surface of the scalp and surrounding tissue as the final part of his MRI brain reporting process. Dr B stated that since implementing this change, he has found it helpful for picking up things outside the main focus of the referral and has noticed a few cases where the skin surface showed possible lesions (noting that as far as he is aware, none have been of significance).

c) He has reflected on this case and the deficiencies in care identified, and that the missed finding on the brain MRI contributed to Mr A's delayed diagnosis. Dr B said that with hindsight, he recognises that his focus when reporting on the MRI scan may have been too narrow.

d) He no longer undertakes out-of-hours reporting when his attention may be reduced.

14. A copy of this report with details identifying the parties removed, except the name of my advisor, 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 Allan Christopher Sebastian Thomas:

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

Complaint:	**[Mr A] / [radiology service provider]**
Our ref:	**C21HDC00286**
Independent advisor:	**Dr Allan Christopher Sebastian Thomas**

I have been asked to provide clinical advice to HDC on case number 21HDC00286. 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:	I hold the qualifications of Bachelor of Medicine, Bachelor of Surgery and Doctor of Medicine in Radiology, both from the University of the West Indies. I have also earned the title, Fellow of the Royal College of Radiologists and an International Masters Diploma in Neurovascular Diseases. I was appointed to a substantive post of Consultant Neuroradiologist at Queen's Medical Centre (QMC) NHS Trust, Nottingham and my contract began on 5th May 2003 and I left that Trust, in good standing, to join the University Hospital Birmingham, Queen Elizabeth, Trust (UHB) on the 6th October 2008. I then joined the Waikato DHB in August 2019, having left the Queen Elizabeth Hospital, again, in good standing. I have worked intermittently at Capital and Coast DHB between August 2020 and the end of 2022. I am registered with the Medical Council of New Zealand (no. 82054) & the General Medical Council (GMC No. 4260002).
Documents provided by HDC:	1. Referral documentation and imaging for MRI brain taken 17 January
Referral instructions from HDC:	Dr Allan Christopher Sebastian Thomas 1. Complete a blind review of the MRI scan and report your findings

Question 1: Complete a blind review of the MRI brain scan and report your findings and clinical assessment.

CLINICAL DETAILS: Left sided sensorineural hearing loss. TECHNIQUE: Axial/coronal T2 ; MR cisternography

FINDINGS: Unremarkable appearances of the brain for the patient's age. The grey-white matter differentiation is normal throughout the cortices and within the basal ganglia and thalami. There is no evidence of previous large vessel stroke or haemorrhage, and the ventricles are normal.

No evidence of an intracranial tumour. No evidence of mesial hippocampal sclerosis, neuronal migrational abnormality or demyelination.

There are subcortical and deep white matter hyperintense foci seen on T2. These are non-specific in nature but likely to represent small vessel ischaemic changes.

Normal appearances in the pituitary fossa and at the foramen magnum. No evidence of cerebellar tonsillar descent.

There is fluid signal occupying the mastoid air cells and middle ear clefts in both temporal bones. No nasopharyngeal space-occupying process is noted.

There is no evidence of a neurovascular conflict with the 7th and 8th nerves and there is no gross evidence of an acoustic neuroma. The membranous labyrinths are normal.

The frontal air sinuses are absent, and the antra are hypoplastic. The paranasal sinuses are otherwise clear.

The orbits are normal.

The vessels of the circle of Willis are grossly unremarkable. The dural venous sinuses are patent.

There is an approximately 4.5 x 2.7 x 3.5 cm soft tissue intensity lesion overlying the left occipital squame. There is mild remodelling of the bone, and it extends to the epidermis. Appearances may be due to a large sebaceous cyst. Direct inspection and consideration for excisional biopsy should be made.

IMPRESSION:
Unremarkable appearances of the brain. Bilateral mastoid and middle ear cleft effusions. Hypoplasia of components of the paranasal sinuses. Large subcutaneous lesion overlying the left occipital squame, probably a sebaceous cyst, but should be examined and considered for excisional biopsy.

 Signature:
Name: Dr Allan Christopher Sebastian Thomas
Date of Advice: 1 December 2024’

Further advice was provided on 13 January 2025:

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

Complaint:	**[Mr A] / [radiology service provider]**
Our ref:	**C21HDC00286**
Independent advisor:	**Dr Allan Christopher Sebastian Thomas**

I have been asked to provide clinical advice to HDC on case number C21HDC00286. 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:	I hold the qualifications of Bachelor of Medicine, Bachelor of Surgery and Doctor of Medicine in Radiology, both from the University of the West Indies. I have also earned the title, Fellow of the Royal College of Radiologists and an International Masters Diploma in Neurovascular Diseases. I was appointed to a substantive post of Consultant Neuroradiologist at Queen’s Medical Centre (QMC) NHS Trust, Nottingham and my contract began on 5th May 2003 and I left that Trust, in good standing, to join the University Hospital Birmingham, Queen Elizabeth, Trust (UHB) on the 6th October 2008. I then joined the Waikato DHB in August 2019, having left the Queen Elizabeth Hospital, again, in good standing. I have worked intermittently at Capital and Coast DHB between August 2020 and the end of 2022. I am registered with the Medical Council of New Zealand (no. 82054) & the General Medical Council (GMC No. 4260002).
Documents provided by HDC:	1. Letter of complaint from Advocacy dated 10 February 2021

	2. [The provider's] response dated 12 November 2021 (including [Dr B's] response & protocols/ policies) 3. Radiology report dated 20 January 2020
Referral instructions from HDC:	1. The standard of the reporting and follow up advice on the report by [Dr B] (MRI brain on 17 January 2020) including whether there are any matters which should have been documented in the reports. 2. The adequacy of the imaging protocols used for each scan, in light of the presenting problems and purpose of the scans. 3. Whether at any stage, additional scans should have been recommended based on the imaging protocol or the outcome of imaging. 4. The reasonableness of the responses provided by [the provider] and [Dr B]. 5. Any other aspects of the reports or scans that you consider warrant comment.

Factual summary of clinical care provided complaint:

Brief summary of clinical events:	[Mr A] developed a cyst on the back of his head in October 2019. This was treated initially by his GP on 16th October 2019; however, it returned. On 21st November 2019 he presented at [a public hospital] as his condition was deteriorating. He was treated and discharged. [Mr A] was referred to the [public hospital] by his GP for further assessment on 28th November 2019. This referral was declined. A further referral was sent to [the public hospital] on 10th December 2019 which was subsequently triaged as routine. [Mr A] was advised the waiting time may be six months. On 17th January 2020, [Mr A] had a MRI scan for hearing loss. A mass seen on the scan was not reported. On 17th February he again re-presented to the [hospital] as the cyst was increasing in size and very painful. He was treated and discharged with no further follow up. [Mr A] visited his GP again on 21st February. A further referral was sent to [the public hospital] and again no action was taken. [Mr A] had surgical treatment at [a clinical centre] on his eye on 24th February 2020. His scalp wound was washed out during this procedure, and he required daily dressings … He was reviewed by the ENT Service on 4th March 2020

	for his hearing loss and a biopsy was taken for a suspected tumour on his scalp. This was corroborated by a PET CT scan on 18th March 2020. [Mr A] had surgery for a large squamous cell carcinoma on 8th April 2020. He had further surgery on 2nd July 2020 and has had subsequent remedial treatment. He has now been advised that his condition is terminal. [Mr A] submitted a written complaint to [the public hospital] on 18th March 2020.

Question 1: The standard of the reporting and follow up advice on the report by [Dr B] (MRI brain on 17 January 2020) including whether there are any matters which should have been documented in the reports.	
List any sources of information reviewed other than the documents provided by HDC:	
Advisor's opinion:	The standard of the reporting of this MRI study, although protocolled for imaging of the temporal bones, was grossly below the standard expected for a radiology SMO, whether a general radiologist, interventional radiologist or neuroradiology fellowship trained. While one's attention could be drawn to the temporal bones and the hearing neural pathways for this referral one would expect a lesion of this size, overlying the left occipital squame to be at least mentioned with appropriate, clinical, follow up action recommended.
What was the standard of care/accepted practice at the time of events? Please refer to relevant standards/material.	I note that [Dr B] listed his review areas for imaging studies in brain. He admits his review does not routinely include commenting on lesions in the skin. His review steps are inspection of: • the brain structure/configuration • review the brain signal • assess for diffusion restriction or blooming • look for an intracranial mass • review the paranasal sinuses • review the mastoid air cells and middle ears • review at the orbits.

	He states that "In particular where a clinical history of hearing loss is provided, I review the vestibulocochlear nerves and posterior fossa". Even if one were concentrating on the cerebellum and intracranial features therein, the mere size of this lesion would demand making a comment on clinical inspection, biopsy and excisional biopsy. This would be the standard expected from an SMO.
Was there a departure from the standard of care or accepted practice? • No departure; • Mild departure; • Moderate departure; or • Severe departure.	There was a severe departure from the standard of care expected in this case.
How would the care provided be viewed by your peers? Please reference the views of any peers who were consulted.	I asked two, consecutive, interventional radiologists, who were not neuroradiology fellowship trained, to review this study. Both identified the superficial lesion over the left occipital squame, as well as reporting on the temporal bone findings as directed by the history. While I am a fellowship trained neuroradiologist, and very much accustomed to reporting on similar studies, the size and characteristics of this skin/superficial lesion would have demanded at least a comment, but also recommendations for further clinical management.
Please outline any factors that may limit your assessment of the events.	
Recommendations for improvement that may help to prevent a similar occurrence in future.	As has taken place within the [provider] network, this study should be reviewed in their errors/discrepancy meeting. This forum should at least sensitize the reporting team to the need to take more care with reporting areas of focus for the referring doctor but also looking for the lesion that is clinically silent. Or, as in this case, had been managed in the past, but unbeknownst to the patient's clinical teams, had slowly grown and undergone de-differentiation. Our skill in radio-diagnosis is to provide, not only answers about the clinical question at hand, but to provide re-assurance

	that there is no surreptitious pathology present. Follow up review of a sample of [Dr B's] imaging reports has been performed and I presume no areas for concern were revealed. [Dr B] has committed to including skin lesions in his brain reports in future. However it is not just existence of this skin lesion but also its size, relationship to the skin and its apparent "eruption" through the dermis. Some feature should have been mentioned.

Question 2: The adequacy of the imaging protocols used for each scan, in light of the presenting problems and purpose of the scans.	
List any sources of information reviewed other than the documents provided by HDC:	
Advisor's opinion:	The imaging protocol for this clinical concern was adequate for diagnosis. The protocol also covered the skin lesion of concern, more than adequately enough to allow an SMO to report on it.
What was the standard of care/accepted practice at the time of events? Please refer to relevant standards/material.	The imaging protocol did meet the standards for assessment of the original clinical concern.
Was there a departure from the standard of care or accepted practice? • No departure; • Mild departure; • Moderate departure; or • Severe departure.	No departure from standard of care for the imaging protocol.
How would the care provided be viewed by your peers? Please reference the views of any peers who were consulted.	This selection of sequences, as well as variations of same on different 1.5 & 3.0 T scanners, is the standard for the investigation of sensorineural hearing loss with MRI.
Please outline any factors that may limit your assessment of the events.	
Recommendations for improvement that may help to	No recommendation required. One could institute a system where radiographers leave a virtual "sticky note" concerning obvious lesions

prevent a similar occurrence in future.	they have seen or point out the presence of a vitamin capsule placed over an underlying skin lesion. This would place more responsibility in their hands, however, ultimately the generation of a report and suitable recommendations for further management still lies with the radiologist.

Question 3: Whether at any stage, additional scans should have been recommended based on the imaging protocol or the outcome of imaging.	
List any sources of information reviewed other than the documents provided by HDC:	
Advisor's opinion:	No additional scans would have been required for the imaging management of this patient.
What was the standard of care/accepted practice at the time of events? Please refer to relevant standards/material.	The standard of care for the imaging management was met in this case. No additional scans were required.
Was there a departure from the standard of care or accepted practice? • No departure; • Mild departure; • Moderate departure; or • Severe departure.	
How would the care provided be viewed by your peers? Please reference the views of any peers who were consulted.	
Please outline any factors that may limit your assessment of the events.	
Recommendations for improvement that may help to prevent a similar occurrence in future.	

Question 4: The reasonableness of the responses provided by [the provider] and [Dr B].	
List any sources of information reviewed other than the documents provided by HDC:	

Advisor's opinion:	***[Dr B]:*** As regards his description of his reporting process, it is indeed reasonable and is an approach taken by many radiologists in the interpretation of brain and head & neck imaging. However his comments regarding the assessment of skin lesions as an indication to not review the epidermis is not true. There are many protocols used in head & neck cancer protocols looking at skin lesions on facial structures such as the cheek, lips, nose and eyelids. Even for sebaceous cysts that are less than 10 mm in size, these are commonly reported on by my general radiology colleagues when reporting screening MRIs of the brain. Even on the study in question one can demonstrate the site of previous skin surgery, presumably for a previously detected cancer, overlying the frontal bone on the left side. His response to the issue of the lesion being clearly visible, and reference to the number of images in [Mr A's] study, and hence the opportunities to identify the lesion, again points to the fact that it should have been seen. The imaging appearances are not specific enough to state categorically that it was malignant but at least a comment should have been made to pursue biopsy and or excisional biopsy, that is, removal of the lesion. [Dr B] has reflected on this case and has adjusted his reporting process as a result. This is the appropriate response to prevent this happening again and to better protect the patients whose scans he will be interpreting in the future. ***[The provider]:*** The response of [the provider] to this incident was reasonable and thorough. When it was brought to its attention that a significant miss had occurred it immediately sought to have the study appropriately reported, addendum

	added and informed the relevant clinical teams. In spite of [Dr B's] reporting environment and [the provider's] measures to ensure the adequacy of his surroundings for reporting, as well as the status of his reporting workstation platform, this error has occurred. Errors will occur in radiology reporting for a number of reasons, but training and adherence to process helps in avoiding errors. In the instance of a radiologist not quite coming to a differential diagnosis, or diagnosis, [the provider] has instituted very convenient ways of benefiting from peer review and being able to seek advice from more experienced colleagues. [The provider] has gone on to review a sample of [Dr B's] reported studies, after this incident, and presumably no significant issues have arisen (?). Using this case in discrepancy meetings for making reporting teams aware and to reinforce the need for consistency in reporting studies is entirely appropriate and correct.
What was the standard of care/accepted practice at the time of events? Please refer to relevant standards/material.	
Was there a departure from the standard of care or accepted practice? • No departure; • Mild departure; • Moderate departure; or • Severe departure.	I would categorize this instance as one of a severe departure from accepted practice.
How would the care provided be viewed by your peers? Please reference the views of any peers who were consulted.	I asked two interventional radiologists, who were not neuroradiology fellowship trained, to review this study. Both identified the superficial lesion over the left occipital squame, as well as reporting on the temporal bone findings as directed by the history.
Please outline any factors that may limit your assessment of the events.	I do not see any mitigating factors in this case.

Recommendations for improvement that may help to prevent a similar occurrence in future.	[The provider] has instituted measures to minimize errors in their radiology reporting and encouraged peer review and assistance when sought. Highlighting this case in their discrepancy meetings will go towards re-emphasizing their radiologists' consistency in their review progressions and steps for imaging studies of the brain, and other regions.

Question 5: Any other aspects of the reports or scans that you consider warrant comment.	
List any sources of information reviewed other than the documents provided by HDC:	
Advisor's opinion:	I have no further comments.
What was the standard of care/accepted practice at the time of events? Please refer to relevant standards/material.	
Was there a departure from the standard of care or accepted practice? • No departure; • Mild departure; • Moderate departure; or • Severe departure.	
How would the care provided be viewed by your peers? Please reference the views of any peers who were consulted.	
Please outline any factors that may limit your assessment of the events.	
Recommendations for improvement that may help to prevent a similar occurrence in future.	
 Signature:	
Name: Dr Allan Christopher Sebastian Thomas Date of Advice: 13 January 2025'	