Optometrist, Mr B

Optometry Clinic

District Health Board

A Report by the

Deputy Health and Disability Commissioner

(Case 16HDC00174)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Table of contents

Executive summary

1. In 2001, nine-month-old Master A was referred to the eye clinic at the public hospital (the eye clinic). He was started on occlusion treatment of the left eye to improve the development of the right (using a patch on the left eye). Following this appointment, Master A failed to attend several scheduled appointments.

2. In January 2005, Master A was seen by an optometrist at a private optometry clinic (the optometry clinic) who referred Master A back to the eye clinic to assess his pale discs, poor visual acuities (visual clarity) and the possibility of coloboma.

3. In November 2005 Master A was seen by an ophthalmologist at the eye clinic. The ophthalmologist examined Master A's fundi, finding pale and deeply cupped optic discs, more so on the left side, which were thought to represent bilateral optic disc colobomas.

4. No refraction was performed and there is no record of further investigations having been suggested or ordered, and there is no record of a treatment or follow-up plan.

5. On 16 May 2012 Master A returned to the optometry clinic and saw optometrist Mr B. A colour vision test was carried out, although both eyes were not tested. Visual field testing found a reduced visual field in the right eye and no response in the visual field of the left eye. Further visual field testing on 29 May 2012 (right eye) and 6 June 2012 (left eye), showed a bi-temporal visual defect.

6. Master A next presented to Mr B on 22 May 2014. Visual field tests for that day indicated both the right and left eye visual fields were significantly reduced. These findings prompted Mr B to refer Master A back to the eye clinic for further investigation. The most recent visual field test results and the full visual field testing undertaken in 2012 were not included with this referral.

7. On 23 July 2014 Master A saw an ophthalmologist at the eye clinic who recommended re-review after further visual field examinations; these were scheduled for December 2014. However, Master A's eyesight continued to deteriorate and Mr B referred him to the eye clinic for an MRI on 17 November 2014. On receipt of the MRI referral Master A was booked to see an orthoptist and ophthalmologist on 8 December 2014 but these appointments and the further visual field examination were cancelled by his family.

8. On 6 January 2015 Master A was seen for the visual field test. However, this could not be performed due to further marked vision deterioration, including a lack of light perception in both eyes. As a result, an urgent MRI scan was carried out on 9 January 2015 which identified a craniopharyngioma (brain tumour) had caused his lack of vision.

Findings

9. The DHB was found to have breached Right 4(1) of the Code[1] for the following reasons:

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

a) The manner in which the diagnosis of optic colobomas was made in 2005, despite evidence of a deterioration from the previously measured level of visual function, without taking adequate measures to exclude other pathology, and without any documented plan for follow-up.

b) The delay in performing the visual field tests that were noted to be required in July 2014.

c) The lack of robust processes regarding the management of non-attendance, as well as the orthoptic management of small children.

10. When Mr B identified a bi-temporal field defect in May 2012 it was found that he should have referred Master A to the eye clinic, noting the bi-temporal field defect in the referral. A bi-temporal visual field defect is commonly due to a tumour of the pituitary gland and Master A's deteriorating vision should have been considered to be due to a lesion. It was found that Mr B failed to recognise the importance of the bi-temporal field defect at this time and consequently failed to refer Master A to the eye clinic as a matter of urgency. Accordingly it was found Mr B did not provide services to Master A with reasonable care and skill in breach of Right 4(1) of the Code.

11. Criticism was also made in relation to Mr B only taking one recording for Master A's colour vision result in May 2012. Problems with the optic nerves can impact colour vision and only testing the colour vision of each eye separately (one eye at a time), can flag a potential acquired problem with an optic nerve.

12. Further criticism was made in relation to the adequacy of referral information when Mr B referred Master A to the eye clinic on 22 May 2014. Mr B did not include either the most recent visual field test results or the reliable full visual field testing that he had undertaken in 2012. Instead, it would have been prudent to include all relevant information, as failure to do so could lead to further delays, and inclusion of the results from the most recent and past visual fields would have shown the worsening of the loss, making the referral more complete.

Recommendations

13. It was recommended that the DHB complete the following actions:

a) Consider whether a policy is required to ensure that a full clinical assessment is carried out prior to any treatment being commenced on children who visit its eye clinic, and report to HDC on the outcome of its consideration.

b) Review its "Did Not Attend" policy with a view to ascertaining whether there should be a process to follow up any unattended appointment with a written response to the referrer and the patient (or the patient's carers) that should include a record of the receiving doctor's clinical assessment of the importance and acuity of the problem as described in the referral, and advice about what further measures should be taken. The DHB was required to report to HDC on the outcome of its consideration.

c) Use this report as a basis for training staff at its eye clinic, focusing particularly on the breaches of the Code identified, and provide evidence of that training to HDC.

Complaint and investigation

14. The Commissioner received a complaint from Mr A about the services provided to his son, Master A, by an optometrist, Mr B. The following issues were identified for investigation:

- *Whether Mr B provided Master A with an appropriate standard of care.*
- *Whether the optometry clinic provided Master A with an appropriate standard of care.*
- *Whether the DHB provided Master A with an appropriate standard of care.*

15. This report is the Opinion of Meenal Duggal, Deputy Commissioner, and is made in accordance with the power delegated to her by the Commissioner.

16. The parties directly involved in the investigation were:

Master A	Consumer
Mr A	Complainant
Mr B	Optometrist/provider
Optometry clinic	Group provider
DHB	Group provider

Also mentioned in this report:

Mr C	Optometrist
Ms D	Orthoptist
Dr E	Ophthalmologist
Dr F	Paediatrician
Ms G	Senior resource teacher
Dr H	Ophthalmologist

17. Information from the Optometrists and Dispensing Opticians Board, a medical centre, and ACC was also reviewed.

18. Independent expert advice was obtained from a consultant ophthalmologist, Dr Keith Small (**Appendix A**) and an optometrist, Geraint Phillips (**Appendix B**).

Information gathered during investigation

2001–2004 — Master A's orthoptist[2] care

19. In May 2001, Master A was referred by his general practitioner (GP) to the eye clinic at the public hospital for a "very inturning left eye".

20. After failing to attend an earlier appointment, on 9 October 2001 Master A had an appointment at the eye clinic with an orthoptist, Ms D. Ms D's examination findings included that Master A's right eye drifted up while he appeared to focus with the left eye.[3] It was also documented that Master A was hypermetropic.[4] He was started on occlusion treatment of the left eye to improve the development of the right (using a patch on the left eye). It was noted that Master A should have retinoscopy[5] in the future.

21. Master A was seen again by Ms D on 26 November 2001, 28 January 2002, 11 April 2002, and 11 August 2003. He was managing well with occlusion therapy, and relatively normal binocular function was found.

22. Retinoscopy was performed on 18 August 2003, and Ms D noted that Master A had a relatively mild degree of astigmatism[6] in his left eye. She also noted that she had been unable to examine his fundi,[7] and a further appointment was made for three months' time (18 November 2003) to do this.

23. Previously Master A had failed to attend several scheduled appointments at the eye clinic,[8] and he failed to attend the above planned appointment and a second one scheduled for 29 January 2004. Accordingly, as per the DHB's practice around non-attendance, he was discharged from the DHB.

2005–2006 — Master A's ophthalmology care

24. On 18 January 2005, Master A saw optometrist Mr C from the optometry clinic. He documented intermittent esotropia (in-turning) of the left eye, and reduced vision (6/24 in the right eye and "possibly" 6/24 in the left), and a moderate degree of long-sightedness with a slightly greater refractive error in the right eye. He referred Master A to the eye clinic asking that staff assess his pale discs and poor visual acuities that he had also identified at the appointment. Mr C documented his clinical findings in the referral and noted: "Poor

[2] Orthoptists are eye health professionals who care for patients with eye disorders.
[3] This is known as amblyopia (reduced vision typically in one eye that results from the brain suppressing input from the affected eye owing to unequal visual signals from each eye, leading to poor development of visual acuity in the affected eye). Often amblyopia is referred to as a "lazy eye" or a squint.
[4] A long-sighted defocus of the eye that can lead to impaired visual development; also known as a refractive error.
[5] Formal measurement of the refractive error of the eye (farsighted, nearsighted, astigmatism, etc) and the need for glasses.
[6] A type of refractive error in which the eye does not focus light evenly on the retina. This results in distorted or blurred vision at all distances. It is caused by an imperfection in the curvature of the eye's cornea (the clear, round dome covering the eye's iris and pupil).
[7] The part of the eye opposite the pupil.
[8] Master A failed to attend appointments at the eye clinic on 14 June 2001, 18 March 2002, 23 July 2002, 20 August 2002, and 2 October 2002.

view due to poor co-operation." He further documented: "Looks possibly like coloboma[9] but would appreciate your assessment."

25. Although the referral was assessed as semi-urgent (usually to be seen within 90 days) an appointment was not made until 12 September 2005. This appointment was cancelled by Master A's family and a subsequent appointment (17 October 2005) was not attended. On 28 November 2005, Master A (now five years old) was seen at the eye clinic by ophthalmologist Dr E. Master A's vision was measured as 6/12[10] for the right eye, and 6/60 for the left, with poor fixation of the left eye and a possible small left esotropia. Dr E examined Master A's fundi, finding pale and deeply cupped optic discs, more so on the left side, which were thought to represent bilateral optic disc colobomas.

26. No refraction was performed, and there is no record of further investigations having been suggested or ordered, and there is no record of a treatment or follow-up plan. Owing to non-attendance at two further appointments (March and April 2006), Master A was discharged from the DHB.

2006–2011 — various appointments relating to Master A's eyesight

27. On 22 August 2006, Master A presented to a locum GP complaining of excessive thirst and urination. Diabetes was queried, and Master A was referred to paediatrician Dr F at the public hospital. On 13 November 2006, Master A was assessed by Dr F, who noted that Master A had had vision difficulties identified in 2001, for which Master A had been seeing optometrists and attending the eye clinic. Dr F further documented: "[Master A's] Mother claims that his vision is not changed significantly and there has been no deterioration in that regards." Dr F found that Master A did not have diabetes. There was no clinical assessment of Master A's visual fields at the time of the paediatric assessment.

28. On 22 February 2008, Master A returned to optometrist Mr C. His visual acuity was recorded as 6/12 in the right eye and 6/60 in the left. On 6 March 2008, Ms G, a senior resource teacher with the Blind and Low Vision Education Network NZ (BLENNZ[11]), requested an orthoptist review for Master A following her assessment of him at school, where she had found visual acuities matching those of Mr C (6/12 right and 6/60 left) and evidence of a poor visual field in the left eye.

29. Master A did not attend the appointments made for him at the eye clinic with the orthoptists in 2008. Master A's next visit to Mr C was on 26 February 2010. He had scratched lenses and was returning for new ones. His visual acuities were 6/9 right (a slight improvement on his last vision test) and 6/60 left.

[9] A congenital flaw in the eye structure, which is non-progressive.
[10] Visual acuity reflects a comparison against normal vision. The first number is the distance in metres from the chart, to where the patient stands (6m), and the second number is how well the patient can read when standing at 6m, compared with a normal person. Thus 6/12 means that a patient standing 6m away from the chart can read only as well as a normal person standing 12m away. Normal vision is 6/6 (previously, in feet, 20/20). 6/12 vision (using both eyes) is required to obtain a licence to drive. The World Health Organization regards vision of 3/60 or worse (both eyes) as "blindness".
[11] BLENNZ provides ongoing weekly learning support for children and young people in New Zealand who are blind, deafblind, or have low vision.

2012–2014 optometry visits with Mr B

On 11 May 2012, Ms G referred Master A again to the optometry clinic, for a report on his vision so that BLENNZ could re-assess Master A's enrolment at its Visual Resource Centre. The BLENNZ referral stated:

> "[Master A] … has achieved (recently) very good acuities … Wearing his glasses is problematic. Please could you outline where he is at presently, including visual fields (due to coloboma)."

30. Master A was given an appointment with optometrist Mr B.[12] Mr B stated that he interpreted the BLENNZ request as "a request for a baseline assessment in the context of Master A's known bilateral colobomas that were potentially causing some visual field defects".

31. On 16 May 2012, Master A attended his appointment with Mr B. Mr B noted Master A's past ocular history to be "[h]yperopia,[13] L esotropia, amblyopia L coloboma?". Mr B documented that Master A would wear his glasses only when reminded to do so, and that he was reporting that his right forehead "feels like it burns". Mr B stated: "The impression I got when taking this history was that [Master A's] symptoms were related to his not wearing his glasses causing him headaches."

32. Mr B told HDC that he performed a full eye examination on Master A, including a visual field test. Mr B documented that no anomalies were found with Master A's pupil function, that the front and back part of his eyes were healthy, and that his colour vision was normal, but that he had pale optic discs (especially the left).

33. Mr B told HDC that he carried out a colour vision test as there was no record of colour vision having been tested at Master A's previous examination, and his intention with this test "was to determine whether or not Master A was one of the 8% of males who have abnormal colour vision so that advice regarding future employment options could be given".

34. Master A was found to have a reduced visual field of the right eye and no response in the visual field of the left eye. Mr B told HDC that because of the extent of visual field loss, he also carried out a threshold visual field test. He said: "In doing this I was intending to have a baseline visual field for future comparison."

35. Master A's refraction results for his visual acuities were recorded as right eye 6/12, left eye 6/120. Mr B said that because Master A's visual acuities were similar to those measured in 2008 and 2010, and while he noted that the optic discs were pale, "[t]hese did not appear any different from previous retinal photos taken in 2006".

36. Due to the results of the visual field loss, a further appointment was made to re-examine Master A. On 29 May 2012, Mr B attempted to re-examine Master A's visual fields. A visual field test was conducted on Master A's right eye. Mr B stated that the examination

[12] Registered with the Optometrists and Dispensing Opticians Board.
[13] A condition in which visual images come to a focus behind the retina of the eye, and vision is better for distant than for near objects. Also called farsightedness/longsightedness.

found that there was "fixation loss on the right field 25% of the time". He documented the result as: "[Right] superior temporal quadrantanopia[14] with macular sparing[15]". Mr B told HDC that Master A found the visual field test very difficult and performed it so slowly that they had to book a second appointment for the other eye.

37. On 6 June 2012, the visual field test was conducted on Master A's left eye. Master A's left eye was described as "L no visual field response apart from the inferior nasal quadrant and macular". Mr B stated that the fixation loss on the left field "could not be determined as there was no response in the temporal field of this eye where the blind spot is".

38. Mr B told HDC that he did not have confidence in the accuracy of the result, given the difficulty in getting Master A to do the test — in particular due to the fixation loss (Master A being unable to keep his eye centred).

39. Mr B told HDC that at the time, he felt that the visual field results were related to Master A's "known diagnosis" of bilateral coloboma, and therefore he did not investigate this any further.

40. On 7 June 2012, Mr B provided Ms G (of BLENNZ) the requested eye examination report. He documented in his report the following:

> "[Master A] needs reading glasses for all school work and close visual tasks at other times to compensate for his hyperopia. I have updated his spectacles as his prescription has changed. He has limited peripheral vision in his L eye due to the optic disc coloboma but his R visual field is normal apart from the superior temporal quadrant. He should have his eyes examined yearly to monitor any changes."

41. The optometry clinic sent out reminders for Master A's annual reviews on 26 May 2013 and 26 August 2013. However, Master A's family did not make an appointment.

42. Master A next presented to Mr B on 22 May 2014. At this visit, Master A complained of getting headaches and of his head getting hot, and said that he had not been wearing his spectacles as he found them uncomfortable.

43. Master A's visual acuity was recorded as 6/21 for the right eye and 6/120 for the left. The result for his right eye was significantly worse than his previous assessment of that eye. Visual field tests were also undertaken on this day, and the results indicated that both the right and left eye visual fields were significantly reduced. Mr B told HDC that there was "virtually no response to the visual field test for right eye".

Referrals to the eye clinic — 2014

44. On 26 May 2014, Mr B referred Master A to the eye clinic because of the deteriorating vision identified in Master A's left eye on 22 May 2014. The referral letter stated that by

[14] An anopia (defect in the visual field) affecting a quarter of the field of vision.

[15] Visual input from the macula (a small area lying slightly lateral to the centre of the retina that is made up mostly of cones and plays a key role in visual acuity) occupies a substantial portion of the brain's visual capacity. As a result, some forms of visual field loss that occur without involving the macula are termed "macular sparing".

2012 Master A had vision of 6/12 with the right eye and 6/120 with the left, and that at the time of writing the vision in the right eye had dropped to 6/21 (corrected).

45. The referral letter further stated that Master A's visual field tests were poor. Mr B documented that visual field testing "showed virtually no response in either eye", although he further documented: "I am not sure that this is very accurate though." Mr B said that he questioned the accuracy based on Master A's difficulties in conducting the tests. Mr B noted on the referral: "I am not sure what the cause of [Master A's] reduced R visual acuity is. Would you please see him to investigate this further?"

46. Mr B told HDC that his referral was to investigate the cause of Master A's reduced visual acuity and poor visual field, as his refraction and eye health appeared unchanged from 2012. Mr B did not include with the referral any of the visual field results, including those considered more accurate from 2012. He said:

> "[This was because] I did not feel that it added any information given my concern over its reliability, which I set out in the referral. We also often do not send these results if we have described the field defect in the referral, because the Eye Department like to do their own visual field tests."

47. Mr B stated that his expectation with the referral was that Master A would be seen at the eye clinic within approximately a week, and that a full assessment including visual fields would be completed there.

48. On 2 July 2014, Master A was seen at the eye clinic. Master A's visual acuity was recorded as 6/21 (right eye) and 6/60 (left eye). A finding of pale optic nerves was made and it was noted that visual field testing was required. At the DHB, visual field tests are conducted by its nurses and orthopists in a separate clinic.

49. On 23 July 2014, ophthalmologist Dr H saw Master A and documented that he would re-review Master A after he had his visual field examinations. An appointment was made for Master A to have these on 18 December 2014.

50. On 28 July 2014, Master A returned to Mr B as his vision seemed to be worse. He was now bumping into people. It was noted that Master A had not had any treatment at his previous appointments at the eye clinic (2 and 23 July). Mr B told HDC that he had not received any reports regarding Master A's specialist visits, and Master A's father told him that they "had not been given any reason for [Master A's] reduced acuity…".

51. Mr B stated that Master A was reporting sensitivity to bright light. Master A's right visual acuity was measured at 6/120, and he had only light perception in the left. It is documented that they discussed hysterical amblyopia,[16] and that Master A's father thought that "this [was] probably the problem as [Master A's] mother ha[d] left again. His vision was better when he was with her." Mr B told HDC that in the absence of any other diagnosis, and knowing that Master A had been seen at the eye clinic twice and also at BLENNZ without a

[16] A syndrome that is characterised by reduced visual acuity not caused by any type of eye disease.

diagnosis being given, he mentioned hysterical amblyopia as one possible diagnosis, but did not do any tests for this at the time as Master A was still under the care of the eye clinic.[17]

52. On 17 November 2014, Master A returned with his father to see Mr B, reporting further deterioration in Master A's vision. Mr B documented: "[Master A] [c]ame in holding father's arm, poor orientation on his own. Eyes appear no different apart from VA. Register with RNZFB. Send report to [the Eye Clinic]." Mr B referred Master A to the eye clinic again requesting an MRI be performed. Mr B documented on the referral: "His eyes look as they have done with no change noted. He could not see any letters but was able to follow a light with each eye." Mr B documented that his tentative diagnosis was hysterical amblyopia.

53. On receipt of the MRI referral, Master A was booked in to see an orthoptist and, immediately afterwards, an ophthalmologist for 8 December 2014. The DHB said that Master A's family cancelled both appointments. They also cancelled the 18 December 2014 visual field test appointment that had been made in July.

54. On 6 January 2015, Master A was seen at the public hospital by a registered nurse for the visual field test; however, owing to a further marked deterioration in Master A's vision, including no light perception for either eye, a visual field examination could not be undertaken. Dr H was informed of this and requested an urgent MRI scan. This was carried out on 9 January 2015 and identified that Master A had a craniopharyngioma,[18] which had caused his loss of vision.

Further information

The DHB

55. The DHB was unable to provide a copy of its "Did Not Attend Policy" that was in place during the period when the issues around "Did Not Attend" were present at the DHB (2001–2009). It said:

> "We would have used the same principles as outlined in [the DHB's current 'Did Not Attend policy' dated 2010] at the time of these events in terms of management of non-attendance. The intention behind this policy is that if patients do not attend appointments they are discharged to improve the utilization of clinics and staffing resources. A patient is only considered as a DNA (did not attend) if they did not attend an appointment and did not notify the hospital that they would be absent. If it is the patient's first or second appointment, prior to discharging the patient, they are first sent a letter asking them to arrange an appointment and if a patient's appointment was triaged as urgent, further attempts will be made to contact the patient before being discharged. Not attending a third appointment will result in the patient being advised they have been discharged."

56. In May 2015, the DHB began an internal Root Cause Analysis looking into these events. It made several recommendations, including that all children with a squint are to have a

[17] On 21 August 2014, at Master A's next GP visit, Master A's father raised Mr B's query regarding a "hysterical reaction" to Master A's family issues, as a possible cause of Master A's recent further deterioration in his vision. Master A was referred to the DHB's mental health services for this to be explored further.

[18] A type of brain tumour that impinges on the optic chiasma; craniopharyngiomas occur most commonly in children.

dilated fundus examination within the first three visits (to rule out an ocular source for the decreased vision or squint, and to provide a baseline for any future examination). The DHB put this into place immediately, and an audit showed 100% compliance.

57. The DHB said that it may have been "prudent" to perform visual field testing in July 2014, given the history of missed appointments and complex family and social issues, and also stated that its Ophthalmology Service staff should have noted that no dilated fundus examination of Master A's eyes had been documented.

58. The DHB has since met with Master A's family and apologised. It also added these events to its website as part of its annual adverse event report. In addition, a copy of its internal Root Cause Analysis Report was sent to the Health Quality & Safety Commission.

Mr B

59. Mr B stated, in regard to his findings on 29 May 2012:

> "[I]n someone who presents without a known history of an eye condition, that the findings … would be highly suggestive of a chiasmal or post-chiasmal lesion. But at the time I felt that the findings were consistent with [Master A's] known diagnosis of bilateral coloboma."

60. Mr B said that he regrets that he did not recognise the visual field result for what it really was, and he also regrets not questioning the diagnosis of coloboma.

61. Mr B further stated that he will now "always have an extremely low threshold for referring a patient with similar findings for assessment and a MRI at the earliest opportunity". He said: "[W]ith the benefit of hindsight, and knowing [Master A's] outcome, I can see that I should have acted differently." Mr B also said that he is "much more conscious now as to the possibility of multiple diagnoses in the same patient".

62. Mr B told HDC that, if appropriate, he would like to have the opportunity to express his regrets to Master A and his family and to apologise for not having recognised the signs of Master A's tumour. Mr B said that he has since undertaken a professional development course in "Lesions of the visual pathway", has kept up to date with other continuing education requirements, and has completed an audit of his competence to practise as an optometrist, initiated by the Optometrists and Dispensing Opticians Board.

63. The optometry clinic did not have a policy specifically addressing referrals. However, its optometrists were expected to refer to the Standards of Clinical Competence for Optometrists, as issued by the Optometrists and Dispensing Opticians Board. In particular, clause 5.9 of those standards required an optometrist to "refer the patient to other professionals in a timely and appropriate manner". Part of that competence requirement is the ability to recognise the need for referral to other professionals for assessment and/or treatment.

Responses to provisional opinion

64. The parties were all given the opportunity to respond to relevant sections of my provisional opinion.

65. The DHB acknowledged the breach finding and stated it is supportive of the proposed recommendations.

66. The optometry clinic had no further comment to make.

67. Mr B did not dispute the findings and provided a letter of apology for forwarding to Master A and his family.

68. Master A and his family did not provide any further comment.

Opinion: DHB — breach

Occlusion treatment by orthoptist before retinoscopy

69. In October 2001, Master A had an appointment at the DHB's eye clinic with orthoptist Ms D. Ms D started Master A on occlusion treatment of his left eye (a patch covering the left eye) to try to improve the development of his right eye. It was noted that Master A should have retinoscopy (formal testing of the eyes to ascertain what was wrong) in the future.

70. I note that my expert advisor, consultant ophthalmologist Dr Keith Small, advised me that "it is not considered normal or safe practice to commence treatment for amblyopia before formal measurement of refractive error and examination of the fundi (retina and optic nerves) has been done". However, I further note that Ms D did document that retinoscopy should be carried out in the future.

Diagnosis of colobomas

71. Dr Small raised several concerns with the adequacy of Master A's appointment with ophthalmologist Dr E in November 2005 — most notably, Dr E's finding of reduced vision in the left eye compared with previous findings, and his diagnosis of optic nerve colobomas.

72. In addition, Dr E did not perform refraction, and there is no record of a treatment or follow-up plan, or of any further investigations having been ordered.

73. Dr Small advised that in light of Dr E's finding, it would have been appropriate to perform refraction and to take further steps to eliminate a progressive optic nerve pathology. Dr Small advised: "In my opinion there was sufficient reason to organize neuro-imaging at this stage." He further advised:

> "[T]he manner in which the diagnosis of optic disc colobomas was made despite evidence of a deterioration from the previously measured level of visual function, without taking adequate measures to exclude other pathology, and without any documented plan for follow up was the principle error …"

74. I agree and am critical that Dr E did not carry out any further testing despite this finding.

75. In addition, I note the delays in performing the visual field tests that were noted to be required in July 2014. An appointment was made only for December of that year. As

acknowledged by the DHB, given the history of missed appointments and complex family and social issues, performing such tests at the time would have been prudent.

Processes and guidelines

76. Dr Small advised me that "[a] number of processes within the public hospital's eye clinic regarding the management of non-attendance as well as the orthoptic management of small children warrant review".

77. He further stated:

> "There should be a process to follow up any unattended appointment with a written response to the referrer and the patient or their carers. This should include a record of the receiving doctor's clinical assessment of the importance and acuity of the problem as described in the referral and advice about what further measures should be taken."

78. Regarding Master A's care in October 2001 (as mentioned above), Dr Small advised:

> "There should be a policy about the initiation of treatment for amblyopia that ensures a full clinical assessment (including cycloplegic refraction and fundal examination by a suitably qualified clinician) is carried out before treatment is commenced."

79. I further note optometrist Mr C's semi-urgent referral in January 2005 to the eye clinic, where the DHB did not give Master A an appointment until September 2005.

Conclusion

80. I note that the DHB has accepted that there were shortfalls in some of its processes in place at the time, and I also note that it has made some improvements to its processes. While it is pleasing to see this, the DHB was responsible for ensuring that it had robust systems in place at the time, so as to provide an appropriate standard of care to its consumers. I find that the DHB failed to provide Master A an appropriate standard of care for the following reasons (as outlined above):

- The manner in which the diagnosis of optic disc colobomas was made in 2005, despite evidence of a deterioration from the previously measured level of visual function, without taking adequate measures to exclude other pathology, and without any documented plan for follow-up.
- The delay in performing the visual field tests that were noted to be required in July 2014.
- The lack of robust processes regarding the management of non-attendance, as well as the orthoptic management of small children.

81. Accordingly, I find that the DHB breached Right 4(1) of the Code of Health and Disability Services Consumers' Rights (the Code).

Opinion: Mr B — breach

Failure to refer to an ophthalmologist — breach

82. The results of the visual field testing undertaken by Mr B on 29 May 2012 (right eye) and 6 June 2012 (left eye), particularly in the right eye, showed a bi-temporal visual field defect that he referred to as being a superior temporal quadrantanopia with macular sparing. My expert optometrist advisor, Mr Geraint Phillips, advised me that with such a finding, "the potential for chiasmal compression must always be considered". He further advised:

> "Given the nature and type of visual field results found at this time, particularly for the right eye, it is my opinion that it is the standard of optometric care to conduct further investigations to consider a compressive lesion on the chiasm."

83. It is now known that Master A's deteriorating vision was due to a "lesion affecting the chiasma". Mr Phillips advised that a tumour of the pituitary gland is the most common cause of a bi-temporal visual field defect, and that such a finding would normally lead a reasonable optometrist to refer the patient to the eye clinic for urgent assessment. Mr B did not do this.

84. While I acknowledge that Mr B's view at the time was that there was a previous history of potential field loss due to the diagnosis of coloboma, I note that Mr Phillips advised:

> "[Although it] is reasonable to say that optic nerve coloboma can cause field defects and that the subsequent development of further field loss due to the second condition could be difficult to separate from, and be masked by the initial loss … when the characteristic of a quadrantinopia not crossing the vertical mid-line is found, the potential for chiasmal compression must always be considered."

85. I find Mr Phillips' advice that, a bi-temporal visual field defect is commonly due to a tumour of the pituitary gland and that, Master A's deteriorating vision should have been considered to be due to a lesion, very compelling advice. I accept the advice of Mr Phillips that at this stage Mr B should have referred Master A to the eye clinic, noting the bi-temporal field defect in the referral. I find that Mr B failed to recognise the importance of the bi-temporal field defect at this time and consequently failed to refer Master A to the eye clinic as a matter of urgency. Therefore, I consider that Mr B did not provide services to Master A with reasonable care and skill and, accordingly, breached Right 4(1) of the Code.

Other issues

May 2012: colour vision test — adverse comment

86. Regarding Master A's visit of 16 May 2012 to Mr B, I accept the advice of Mr Phillips that overall "the examination and recordings … were reasonable and appropriate". However, I note that Mr B took only one recording for Master A's colour vision result. Mr Phillips advised that "[p]roblems with the optic nerves can affect colour vision and only by testing colour vision of each eye separately (one eye at a time) can a potential acquired problem with an optic nerve be flagged". I accept this advice and note that ideally such tests would involve testing one eye at a time.

May 2014: visual field results not included in referral — adverse comment

87. On 22 May 2014, Master A's visit to Mr B resulted in a referral to the eye clinic for further investigations. Mr B did not include either the most recent visual field test results or the reliable full visual field testing that he had undertaken in 2012.

88. I note that Mr B stated that his expectation with the referral was that Master A would be seen at the eye clinic within approximately a week, and that a full assessment including visual fields would be completed there. My view, however, is that to progress matters it would have been prudent to include all relevant information, as not to do so could lead to further delays. I accept Mr Phillips' advice that "including the results from the most recent and past visual fields would have shown the worsening of the loss, making the referral more complete". I am critical that this information was not included with the referral.

Opinion: Optometry clinic — no breach

89. In this case, I consider that Mr B's failure to recognise the importance of the bi-temporal field defect and to refer to an ophthalmologist in June 2012 does not indicate broader systems or organisational issues at the optometry clinic. Therefore, I find that the optometry clinic did not breach the Code directly.

90. In addition to any direct liability for a breach of the Code, under section 72(2) of the Health and Disability Commissioner Act 1994 (the Act), an employing authority is vicariously liable for any actions or omissions of its employees. A defence is available to the employing authority under section 72(5) if it can prove that it took such steps as were reasonably practicable to prevent the acts or omissions.

91. As set out above, I have found that Mr B breached 4(1) of the Code for failing to recognise the importance of the bi-temporal field defect and, consequently, failing to refer this to the eye clinic as a matter of urgency. At the time of this failure, Mr B was an employee of the optometry clinic and, accordingly, the optometry clinic is an employing authority for the purposes of the Act.

92. I note that at the time of these events, the optometry clinic did not have a policy specifically addressing referrals. However, its optometrists were expected to refer to the Standards of Clinical Competence for Optometrists as issued by the Optometrists and Dispensing Opticians Board. In particular, clause 5.9 of those standards required an optometrist to "refer the patient to other professionals in a timely and appropriate manner". Part of that competence requirement is the ability to recognise the need for referral to other professionals for assessment and/or treatment.

93. Given that the expectations on optometrists regarding recognising the need for referral and referring in a timely and appropriate manner is clearly set out in the Optometrists and Dispensing Opticians Board's "Standards of Clinical Competence for Optometrists", in my view it is reasonable that the optometry clinic did not have a policy specifically addressing the issue of referrals.

94. Accordingly, I do not find the optometry clinic vicariously liable for Mr B's breach of the Code.

Recommendations

95. I recommend that the DHB, in light of this report and my expert advisor's comments:

a) Consider whether a policy is required to ensure that a full clinical assessment is carried out prior to any treatment being commenced on children who visit its eye clinic, and report to HDC within three months of the date of this report on the outcome of its consideration.

b) Review its "Did Not Attend" policy with a view to ascertaining whether there should be a process to follow up any unattended appointment with a written response to the referrer and the patient (or the patient's carers) that should include a record of the receiving doctor's clinical assessment of the importance and acuity of the problem as described in the referral, and advice about what further measures should be taken. the DHB is required to report to HDC on the outcome of its consideration within three months of the date of this report.

c) Use this report as a basis for training staff at its eye clinic, focusing particularly on the breaches of the Code identified, and provide evidence of that training to HDC within six months of the date of this report.

96. In response to a recommendation in my provisional opinion, Mr B provided a written letter of apology to Master A and his family. This has been forwarded to Master A.

Follow-up actions

97. A copy of this report with details identifying the parties removed, except the experts who advised on this case, will be sent to the Optometrists and Dispensing Opticians Board, and it will be advised of Mr B's name.

98. A copy of this report with details identifying the parties removed, except the experts who advised on this case, will be sent to HQSC, and a copy will be placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.

Appendix A: Independent ophthalmologist advice to Commissioner

The following expert advice was obtained from Dr Keith Small, a consultant ophthalmologist:

> "[Master A] suffered gradual progressive visual loss due to a brain tumour (craniopharyngioma) which was not diagnosed until January 2015 when, at the age of 14, he had become totally and permanently blind. He had been found to have sub-normal vision and structurally abnormal optic nerves as a small child but at that time a clinical diagnosis was made of a non-progressive cause for this without any neuroimaging investigations having been performed. Subsequently when he presented on several occasions with other features of progressive visual loss justifying investigation, further opportunities to diagnose his brain tumour and prevent him from becoming blind were missed.
>
> I have been asked to consider the overall standard of care provided to [Master A] by [the public hospital eye clinic] between 2012 and 2016. I will also comment on the management prior to this, particularly when [Master A] was seen by an orthoptist at [the public hospital] as an infant and when he was first seen by an ophthalmologist there at the age of nearly five.
>
> **Summary of the Case with comments**
> [Master A] was referred to the eye clinic at [the public hospital] by his general practitioner in May 2001 at the age of about nine months. The referral states that he had an in-turning left eye. It appears that he was appropriately given an appointment for about two weeks later but that he did not attend that appointment and instead was brought to an appointment in October. The main abnormality found was a mild to moderate vertical misalignment with the right eye drifting up while he appeared to focus with the left eye. This was taken to suggest reduced vision in the right eye, he was thought probably to be hypermetropic (a long-sighted defocus of the eye that, particularly if asymmetrical, can lead to impaired visual development) and was started on occlusion treatment of the left eye to improve the development of the right. It was noted that he should have retinoscopy done in the future i.e. measurement of the refractive error or need for spectacles and an appointment to review him was made for one month.
>
> I note that it is not considered normal or safe practice to commence treatment for amblyopia before formal measurement of refractive error and examination of the fundi (retina and optic nerves) has been done. However, there appears to have been a loose plan to complete these aspects of the assessment subsequently.
>
> [Master A] was seen on three further occasions and evidence of relatively normal binocular function was found. In April 2002 a note was made to try and measure vision monocular as soon as possible but he was not seen again due to one cancelled appointment and two which were unattended until a note was made to his general practitioner in October 2002 that he had moved and would need to be seen [there].
>
> He was seen again at [the public hospital] eye clinic in August 2003 with a note that one eye tended to wander when he was tired. His visual function was found to be

normal for age and he was booked for a refraction the following week (this had not previously been performed). The refraction showed a relatively mild degree of astigmatism in the left eye and after two further appointments which were not attended he was discharged from the clinic in January 2004. His fundi had not yet been successfully examined.

Despite the failure to successfully examine [Master A's] fundi the finding that his visual function and red reflexes were largely normal was reasonably taken as evidence that at that stage he was unlikely to have any significantly sight-threatening pathology. There was not definite evidence of visual impairment at this stage and it was reasonable for him to have been discharged at that stage. He would have been expected to have a routine before-school eyesight test in the community at the age of four.

The next entry I have is a referral to [the public hospital] eye clinic dated 18 January 2005 from [Mr C] (optometrist) who had found that [Master A] had an intermittent esotropia (in-turning) of the left eye, reduced vision to 6/24 in the right eye and possibly 6/24 in the left and a moderate degree of long-sightedness with a slightly greater refractive error in the right eye. This referral stated that he had pale optic discs and suggested the diagnosis of 'coloboma' (in this situation this implies a stable congenital abnormality of the optic nerve as it leaves the eye).

Despite this referral being assessed as semi-urgent it appears an appointment was not made until September 2005. This appointment was cancelled, a subsequent appointment was unattended and [Master A] was seen on 28 November 2005 (now five years old). His vision was measured as 6/12 with the right eye, 6/60 with the left with poor fixation of the left eye and a possible small left esotropia. His pupils were dilated and the ophthalmologist [Dr E] examined his fundi finding pale and deeply cupped optic discs, more so on the left side, thought to represent optic disc colobomas. No refraction was performed, no further investigations appear to have been suggested or ordered and there is no record of a treatment or follow-up plan.

I note that this assessment in November 2005 found a reduction in vision in the left eye compared with previous findings. It would have been appropriate to perform a refraction and to take further steps to eliminate a progressive optic nerve pathology. In my opinion there was sufficient reason to organize neuro-imaging at this stage.

The entry 'DP' is made on 7.03.06 and the entry 'DA' is made on 27.04.06 but I am not clear what these entries refer to and what if any follow up was arranged from the September appointment. There are no further clinical records until a note that a new appointment had been requested in March 2008.

In the interim, [Master A] had been referred to the paediatric clinic at [the public hospital] for investigation of diabetes insipidus evidenced by excessive urination and drinking. This was potentially suggestive of disease affecting the posterior pituitary gland and consistent with the subsequently identified tumour in that region. The combination of this symptom and of progressive visual loss and pale optic nerves would be a definite indication for neuro-imaging. The referral letter very appropriately made a note that the general practice would attempt to follow [Master A] up and measure his growth and visual fields while awaiting the appointment. However, when

[Master A] was assessed by the paediatrician [Dr F] in November 2006, the significance of the visual abnormality was missed. The visual impairment was thought to be congenital rather than acquired and it is stated in his letter that there had been no deterioration in his vision and that [Master A] was being followed up by an optometrist. No mention was made of a clinical assessment of his visual fields at the time of the paediatric assessment and his height and weight were found to be normal. In addition, blood tests suggested no biochemical evidence of a pituitary problem.

No records are provided of the optometric involvement at this stage.

It appears that the paediatrician was falsely reassured by the diagnosis [Dr E] had made in 2005 of optic nerve colobomas and was unaware of evidence that [Master A's] visual problem was in fact progressive. Had Dr F realised there was progressive visual loss it would certainly be expected that he would have ordered neuro-imaging with the added history of excessive urination and drinking, The original diagnosis which was inadequately established therefore remains a fundamental issue at this stage.

The referral back to the eye clinic in 2008 was made by [Ms G], senior resource teacher with the Blind and Low Vision Education Network NZ. She had assessed [Master A] at school and found visual acuities of 6/12 right and 6/60 left and evidence of a poor visual field in the left eye. The appointment made for March 2008 at the eye clinic was not attended and I have no records of any further appointment sent until the next referral by the optometrist [Mr B] in May 2014.

This next referral (26/05/2014) states that by 2012 [Master A] had vision of 6/12 with the right eye and 6/120 with the left and that at the time of writing the vision in the right eye had dropped to 6/21 corrected. It notes that [Master A's] visual field tests were poor. It states that he had optic cups of 0.5 the diameter of each optic nerve (going against the diagnosis of disc colobomas) though the term 'disc coloboma' is used to describe the appearance of that optic nerve. I presume [Mr B] had been aware of and accepted [Dr E's] original diagnosis.

Departures from the accepted standard of care and other recommendations
I acknowledge that in a busy and demanding clinic situation it may well have been difficult to assess the eyes of a four year old child with a modest visual impairment and abnormal optic nerves as [Master A] presented to [Dr E] in 2005: Nonetheless, the manner in which the diagnosis of optic disc colobomas was made despite evidence of a deterioration from the previously measured level of visual function, without taking adequate measures to exclude other pathology, and without any documented plan for follow up was the principal error which led to [Master A's] subsequent avoidable blindness. This was a moderate departure from the accepted standard of care with very regrettable and severe consequences.

The failure to question this diagnosis on the subsequent occasions when [Master A] was referred to the [public hospital] eye clinic with further deteriorating vision also perpetuated the error and substantially contributed to the progression of that visual loss and subsequent blindness. A number of clinical staff were involved in this error and collectively are responsible for a mild departure from the accepted standard of care contributing to the severe consequences already noted.

A number of processes within the [public hospital] eye clinic regarding the management of non-attendance as well as the orthoptic management of small children warrant review. This may be applicable in other centres as well.

There should be a process to follow up any unattended appointment with a written response to the referrer and the patient or their carers. This should include a record of the receiving doctor's clinical assessment of the importance and acuity of the problem as described in the referral and advice about what further measures should be taken.

There should be a policy about the initiation of treatment for amblyopia that ensures a full clinical assessment (including cycloplegic refraction and fundal examination by a suitably qualified clinician) is carried out before treatment is commenced."

Appendix B: Independent optometrist advice to Commissioner

The following expert advice was obtained from Geraint Phillips, an optometrist:

"I have been asked to provide advice on case number 16HDC00174 concerning the care provided by [Mr B] to [Master A].

I can confirm I have no personal or professional conflict of interest in this case.

I have been supplied with (i) the response and clinical notes from [Mr B] and (ii) the response and clinical notes from [the DHB].

From these clinical notes, I have been asked to provide an opinion on the following issues:

1. The overall care provided to [Master A] by [Mr B].
2. The failure of [Mr B] to refer [Master A] to an ophthalmologist in 2012.
3. The adequacy of assessments undertaken by [Mr B] after 2012.
4. The timeliness and follow-up of referrals made by [Mr B].
5. Any other comments.

I will provide my opinions for the above in the following order. The words in italics are my interpretation of the clinical records.

2. The failure of [Mr B] to refer [Master A] to an ophthalmologist in 2012.

[Master A] had previously been seen by another optometrist at the practice in 2008 and 2010. In 2008, his best corrected visual acuity (BSCVA) was recorded as 6/12– in the right eye and 6/60– in the left. In 2010, the BSCVAs were recorded as 6/9–3 for the right eye and 6/60 for the left.

[Master A] was first seen by [Mr B] on 16th May 2012 as a request from [Ms G] at Blind and Low Vision Network (BLENNZ) who asked 'could you outline where he ([Master A]) is at presently, including visual fields (due to Coloboma)'.

[Mr B]'s clinical records for this 16th May 2012 visit include the following:

Presenting Complaint: 'Only wears glasses when he is reminded does not wear them. R forehead feels like it burns'.

Past Ocular History: 'Hyperopia, L esotropia, amblyopia L coloboma?'

General Health: 'G' (Good)

Family Ocular History: 'Nil'

Pupil Notes: 'PERRLA No RAPD' (No anomalies found with pupil function)

Anterior: 'Healthy' (the front part of the eyes were healthy)

Posterior: 'Pale discs espec L' (the left optic disc was paler than the right) 'Healthy fundi' (the rest of the back of the eyes were healthy).

Colour Notes: 'Pass 24/24' (this records that the colour vision result was normal but as there is only one result recorded and each eye isn't recorded separately, this result suggests that the test was administered binocularly not monocularly).

Perimetry: 'FDT screening R reduced, L no response See plot'. The results indicated a significant and overall reduction in the visual field of the left eye and a somewhat reduced visual field of the right eye, with more localised and deeper loss of the temporal side.

Photographs: For the right eye, the photo quality makes evaluating the paleness of the disc difficult. The left eye disc is clearly very pale.

Final Refraction: Right eye +2.00 VA 6/12 Left eye +1.75 VA 6/120

Advice Management Dispensing: 'Explained hyperopia, esotropia and amblyopia to Dad. [Master A] needs reading glasses for all school work and all cw (close work) at home. They will bring in old frame in to update lenses'.

It is my opinion that the examination and recordings for this 16th May 2012 visit were reasonable and appropriate, apart from the recording of the colour vision testing. Problems with the optic nerves can affect colour vision and only by testing colour vision of each eye separately (one eye at a time) can a potential acquired problem with an optic nerve be flagged. In this case, only one recording has been made for the colour vision result.

It was appropriate to repeat the visual fields another day with a threshold instead of a screening strategy. A repeat visual field test was conducted on 29th May 2012.

[Mr B]'s clinical records for the 29th May 2012 visit include the following:

Perimetry: 'Henson Full threshold

R sup temporal quadrant defect with macular sparing

6/6/12 L inf nasal quadrant only has vision'

(this implies that the right eye was tested on 29th May 2012 and the left eye was tested on 6th June 2012)

Exam Addendums: **Date** '7/06/2012'*

Description: 'Henson Full threshold visual field

R superior temporal quadrantopia with macular sparing

L no visual field response apart from the inferior nasal quadrant and macular'

Advice Management Dispensing: 'Report to [Ms G].

*This implies that this Description and Advice was recorded on 7th June 2012

Henson Visual Field Results: For the right eye, the attached Henson CFA 3000 visual field results show that it (the right eye) was tested on 29th May 2012. The results for the right eye showed a superior temporal defect on the right side of that eye's visual field. The defect respected the vertical midline, meaning that the zero points on the threshold plot were only on the right side of the vertical midline. The zeros on the Thresholds results plot indicate that the retina that corresponded to this area of visual field had no sensitivity to the testing machine's brightest stimulae shone into this area.

For the left eye, the attached visual field results show that it (the left eye) was tested on 6th June 2012. The results for the left eye show that for the superior and left inferior of the visual field, there are a significant number of zero points, with the right inferior being the only area showing a cluster of points that were seen.

Eye Examination Report to [Ms G]: (Blind and Low Vision Education Network NZ) The 'Visual field assessment' paragraph states:

'R superior temporal quadrantanopia with macular sparing

L no visual field response apart from the inferior nasal quadrant and macular'

Included within 'Advice given' is:

'He has limited peripheral vision in his L eye due to the optic disc coloboma but his R visual field is normal apart from the superior temporal quadrant'.

The finding of a 'superior temporal quadrantanopia' in the right eye was correctly made and reported but given that the pattern of loss was one of not crossing the vertical mid-line, the potential for compression on the optic chiasm should have been considered as a cause. Anatomically for both eyes, the nasal retinal nerves that receive input from the temporal visual field cross over to the other hemisphere at the optic chiasm. The chiasm is part of the visual pathway that conducts retinal input to the occipital cortex at the back of the brain. Anything compressing the chiasm can affect the crossing nasal fibres and cause reduction in the temporal visual fields. This type of field loss has the characteristic feature of not crossing the vertical mid-line and is termed bi-temporal hemianopsia.

Bi-temporal hemianopsia is by definition present in both eyes but in this case, the confounding presence of the left eye's coloboma which itself could potentially have caused some field loss, could have masked the left eye's bi-temporal hemianopic loss.

At this visit, there are no recordings of any referral for further investigation and the letter to [Ms G] dated 7th June 2012 states that 'He should have his eyes examined yearly to monitor any changes.'

Given the nature and type of visual field results found at this time, particularly for the right eye, it is my opinion that it is the standard of optometric care to conduct further investigations to consider a compressive lesion on the chiasm and that failure to refer represents a significant departure from the accepted optometric practice.

3. The adequacy of assessments undertaken by [Mr B] after 2012

The next clinical record of [Mr B] seeing [Master A] is on 22nd May 2014. At this visit, the clinical notes in the presenting complaints section include — 'get's headaches' and 'hard to see mouse arrow on VDU.'

The corrected VA is recorded as 6/21 for the right eye and 6/120 for the left.

FDT screening visual fields were undertaken on the day of the visit and the results indicated that both right and left eye visual fields were significantly reduced.

The Advice section includes the recording of 'VA in R eye worse. Refer to Eye Dept for assessment.'

[Master A] was referred to [the public hospital] and the referral letter states that 'His responses on FDT visual fields resting showed virtually no response in either eye — I am not sure that this is very accurate though.'

'I am not sure what the cause of his reduced R visual acuity is. Would you please see him to investigate this further?'

There are no recordings of whether any visual field results were included with the referral.

It appears that an appropriate assessment was conducted at this visit and the decision to refer was also appropriate. Including the results from the most recent and past visual fields would have shown the worsening of the loss, making the referral more complete.

It is my opinion that if the visual field results were not included with the referral, then that would constitute a moderate departure from the expected standard of care for this visit.

The next clinical notes are dated 28th July 2014. These notes recorded 'Has been seen 2x at Eye Dept since I saw him and has been seen at LVC (Low Vision Clinic) — no treatment.'

In the Advice section the following recordings are included: 'Discussed hysterical Amblyopia.' and 'Wants tinted lenses in own frame.'

The outcome of this visit appears to be that recorded as: 'Keep Rx the same.'

Given that it was reported that [Master A] had been seen twice at the Eye Dept since the referral from the last visit, it is my opinion that the accepted standard of care was met for this visit.

The next clinical records are dated 17th November 2014. The records include 'Vision is worse. Having trouble with orientation and mobility.'

The unaided Vas are recorded as 'LP' (light perception).

The Advice section includes: 'Came in holding fathers arm, poor orientation on his own. Send report to Eye Dept.' The referral letter states that 'my tentative diagnosis is Hysterical Amblyopia but I wanted to check this with you. Do you think he should have an MRI to check for other possible causes of his reduced vision?'

Given that the vision recorded at this visit was worse than previous and that there was evidence of more visual field loss from the symptoms, a report to the Eye Dept was appropriate and required. Therefore, it is my opinion that the expected standards of care were met for this visit.

4. The timeliness and follow-up of referrals made by [Mr B].

[Mr B] referred [Master A] with letters dated 26th May 2014 and 18th November 2014. As already mentioned, these were timely and appropriate but including a copy of the visual field results would have been more complete.

However, as already mentioned, it would have been appropriate to refer [Master A] following the Henson visual field tests on 29th May 2012 and 6th June 2012. It is my opinion that this failure to refer was a significant departure[19] from the expected standard of optometric care.

1. The overall care provided to [Master A] by [Mr B].

The main issues that have been highlighted in this case are the identification of a right superior temporal quadrantanopic visual field defect and the timeliness and follow-up of a referral for further investigations. It is clear that [Mr B] identified the presence of the quadrantinopia in 2012 but there was no referral at the time. A referral only occurred in 2014. A later tentative diagnosis was that of Hysterical Amblyopia but there is no record of any tests for this.

The context of this case is that there was a historic diagnosis of coloboma which explained why [Master A's] vision was reduced in the early years and he was already a client of the Blind and Low Vision Education Network when he started seeing [Mr B]. However, a second condition developed — a craniopharyngioma — which caused a particular type of visual field loss as well as further vision loss. It is reasonable to say that optic nerve coloboma can cause field defects and that the subsequent development of further field loss due to the second condition could be difficult to separate from, and be masked by the initial loss. It has also been stated that [Master A] found visual field testing difficult and that there were some fixation losses.

However, when the characteristic of a quadrantinopia not crossing the vertical mid-line is found, the potential for chiasmal compression must always be considered.

5. Any other comments.

I have no further comments."

[19] Mr Phillips advised HDC via email on 21/11/16: "[G]iven there was a previous history of potential field loss due to the diagnosis of coloboma and that the left eye showed a poor visual field pattern of loss for comparison to the right, it is my opinion that the failure to refer was a moderate departure from the expected standard of care."