

Audit of Suffolk Optometric Referrals

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Abbreviations

ACA	Anterior Chamber Angle
CCG	Clinical Commissioning Group
erefer	Online referral
ESP	Enhanced Service Provider (an optometrist performing referral refinement)
Evolutio	Evolutio Care Innovations Ltd (referral management organisation)
LOC	Local Optometric Committee
NCT	Non-Contact Tonometry (air-puff method of eye pressure measurement)

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- Evolutio Care Innovations Ltd,
- NHS Area Team,
- Suffolk Clinical Commissioning Groups,
- Local Optical Committee Support Unit, and
- Association of Optometrists.

1.0 Background and Previous Referral Audits

A good quality referral is an essential part of the clinical care of our patients (1). A referral that is clear and precise will help build trust with our local ophthalmology team and GPs.

Clinical audit is defined as a quality improvement process that seeks to improve patient care and outcomes. (2) It is accepted that it can be difficult for community optometrists to audit their own referrals as the feedback from secondary care is generally poor, with only 13% referrals receiving a reply.(3) An audit of optometric referrals was designed to assess local care provision against current good practice.

An electronic literature search was conducted in respect of previous audits of optometric referrals (Table 1). The references found from this search were used to influence the proposed audit in Suffolk.

Table 1. Details of online literature searches conducted in respect of audits of optometric referrals.

Website searched	Date of search	Search terms	Matches	Relevant papers
Optometry Today http://www.optometry.co.uk/clinical/	7 January 2014	referral, audit	54	4 Refs(4-7)
College website http://www.college-optometrists.org/ (Note: several relevant documents found in the Guidance section)	7 January 2014	referral, audit	1	1 Ref(2)
Ophthalmic and Physiological Optics, via College website, http://onlinelibrary.wiley.com/journal/10.1111/%28ISSN%291475-1313	7 January 2014	Referral AND audit	49	1 Ref (8, 9)

There are a number of logical steps to implementing a clinical audit.(6) They include:

- Decide on the topic,
- Find the standards for that area of clinical practice,
- Collect the data,
- Analyse the data and review the findings,
- Implement any changes to improve the practice/service, and
- Repeat the audit to see if the desired improvement has been achieved.

An audit by Khan et al. (8) examined referral letter information from community optometrists and compared to 2009 guidelines published jointly by the College of Optometrists and Royal College of Ophthalmologists on referring glaucoma suspect patients. UK optometrists are well equipped to screen for chronic open angle glaucoma, although there is a lack of standardisation with respect to equipment used.(9)

Many studies to date have investigated agreement between optometrists and a 'gold-standard' specialist ophthalmologist. (10, 11) In order to clearly establish whether the referral is appropriate the patient under consideration would need to be re-examined by an experienced optometrist or an ophthalmologist. This was considered expensive and time consuming for practitioners and patients. In this case the referral quality was judged by fellow optometrists against an agreed 'good practice' standard ascertained from the guidelines and consideration given to completing the audit process with change and completion of the audit loop. (12, 13)

Sheen & Macken (5) looked at the effectiveness of an optometric scheme but not specifically the quality of referrals. They did however record the number of referrals where vision and prescription details were not recorded or were recorded inadequately.

The College of Optometrists Clinical Audit Framework (14) includes guidance on conducting many types of audit including accuracy and feedback of referrals. This however is mainly concerned with tracking feedback from referrals rather than the quality of the referrals. It suggests the initial data to be collected for each patient referred should include date of examination, reason for eye examination, date of referral, reason for referral and referral method (GOS18/ letter/ telephone/ other).

1.1 Standards in respect of Optometric referrals

The topic for the audit is quality of optometric referrals. The College of Optometrists website was a useful tool to facilitate the establishment of audit processes and define standards from available frameworks. There was indeed a need for clear establishment of good practice to allow the audit process to be effective.(2)

Rules relating to referral changed from the year 2000, whereby an optometrist is not now obliged to refer all patients with any disorder. The optometrist has a statutory duty to refer a patient suffering from injury or disease unless, in his/her professional judgment, there is 'no justification to do so'.(15, 16) Parker looked at referral letter quality and the potential to reduce referrals.(7) An optometrist referral was considered necessary if there was no primary care alternative and College Guidance would have suggested referral, or if diagnosis, treatment or further investigations were indicated by secondary care. A referral was considered to be on the correct route if the referral pathway and stated urgency followed College Guidance and local referral protocols, making use of primary care enhanced services or GP referral when necessary.

Of particular interest to trainees, the College of Optometrists competencies (17) relating to this audit are:

1. Makes an appropriate judgment regarding referral and understands referral pathways (Section 2.2.6),
2. Is able to work within a multi-disciplinary team (Section 2.2.2),
3. Is able to work within the law and within the codes and guidelines set by the regulator and the profession (Section 2.2.3), and
4. Communicates effectively with any other appropriate person involved in the care of the patient (Section 1.2.5).

2.0 Methods

Suffolk optometrists were informed in the January and May 2014 Suffolk LOC Newsletters that the audit was to take place. Details of the audit, background information on standards and the referral quality audit checklist form were added to the Suffolk LOC website prior to commencing and optometrists informed of how to access this information. It was recommended that community optometrists used the tools in the Quality in Optometry website (18) to start auditing their own record keeping. This was a good place to start the audit process.(2) Referral guidance information is included in Appendix 1- 4. Appendix 5 and 6 show respectively the invite to participate in the audit and the checklist form used by

the audit team to assess referral quality. This tool was designed by the author and disseminated the referral into components as described in the guidelines.

The author and other optometrists from the LOC (the Audit Team) considered the quality of selection of optometrist referrals submitted during the months of July, August and September 2014. It was intended to audit 10% of the referrals from each individual optometrist, with a minimum of 2 referrals audited per practitioner or the number of referrals, whichever was higher. The highest standards of information governance were adhered to (2, 14, 18), including secure electronic transfer.

The audit was considering the quality of the referral and its apparent appropriateness given the information it contained. It was not a review of individual outcomes or whether the referral was correct. Results for each practitioner were entered on an Excel spreadsheet. This showed whether each specific aspect of a referral had been included adequately and graded as 'green', 'amber' or 'red'. Constructive comments were provided where the referral appeared not to meet with the Standards and Guidelines in any specific area. For the purposes of this audit the classification was as follows:

Green = the relevant information is present and legible.

Amber = some relevant information is missing or partly illegible.

Red = important information is absent or illegible.

As used by Davey et al. (19), who looked at referrals by optometrists, results were displayed in tables of numbers and percentages. Additionally for this Suffolk LOC audit, average optometrist performance was stated and chi-squared statistical analyses applied to investigate for association between referral quality and referral outcomes.

Referral forms specifically designed for commonly referred conditions are likely to improve referral quality.(19) The Evolutio online referral system available to Suffolk optometrists does include fields specifically for visual acuity, spectacle prescription and intra-ocular pressure. Suffolk LOC has received permission from Evolutio Care Innovations Ltd (who manage the referrals and Evolutio software) to view the referrals in order to carry out the audit.

3.0 Results

3.1 Audit of Individual referrals

The audit team considered 462 referrals from 182 optometrists, with a total of 6052 referral quality aspects graded. The results are shown in Table 2.

Table 2. The grading result (green, amber or red) for various aspects of referral quality.

Aspect of referral	Grade						Total (n)
	Green		Amber		Red		
	n	%	n	%	n	%	
Date of examination	425	92	22	5	15	3	462
Optometrist details	359	78	79	17	24	5	462
Patient details	425	92	30	6	7	2	462
GP details	370	80	90	19	2	1	462
Signs & symptoms	257	56	178	38	27	6	462
Reason for referral	431	94	30	6	1	0	462
Relevant tests & investigations	159	34	248	54	55	12	462
Copies of supplementary data	417	90	33	7	12	3	462
Optic disc description	72	57	37	29	18	14	127
Repeat of tonometry or visual fields	51	40	53	42	23	18	127
Non-Contact Tonometry average	88	69	25	20	14	11	127
Anterior Chamber	41	32	13	10	73	57	127
Diagnosis	344	74	96	21	22	5	462
Urgency	432	94	17	4	13	2	462
Legibility	338	73	115	25	9	2	462
Referral Quality	225	49	214	46	23	5	462
Total	4434	73	1280	21	338	6	6052

Some optometrists received reports for more than 10% of their referrals due to working in more than one practice. Some optometrists received reports for less than 10% of their referrals due to deselection by the audit team of duplicates, GP referrals, those submitted by trainees, acute referrals and non-symptomatic patients lost to HES follow-up.

Referrals were graded 'green' in respect of details of optometrist, patient, GP and date for 78%-92% of referrals. Green grading was found for 56% and 34% for signs/symptoms and relevant tests/investigations respectively. For glaucoma referrals 57% was classified 'red' in respect of including appropriate information of the anterior chamber. In respect of overall Referral Quality, 5% (n= 23 referrals, submitted by 21 optometrists) were considered poor (with a 'red' grading).

The majority of referrals were hand written and faxed (71%), as shown in Table 3.

Table 3. The format of referrals.

Format	n	%
Hand written/fax	330	71
Online	107	23
Typed/fax	25	6
total	462	100

Table 4. The proportions of referrals graded 'green' or 'amber'/'red' for typed and hand written reports.

Format	Referral grade				Total
	amber/red		green		
	n	%	n	%	
Typed	2	2	130	98	132
Hand written	122	37	208	63	330
All	124	27	338	73	462

Legibility was found to be partial or poor ('amber' or 'red') for 27% of referrals and this was influenced by whether the referral was typed (online or faxed) or hand-written; $\chi^2 = 60.36$, $p < 0.05$. For typed (online or faxed) referrals 98% were fully legible ('green'), reducing to 63% for those hand-written. For online referrals, 100% were fully legible.

3.2 Referral outcomes

The results of referral outcomes are shown in Table 5 and Appendix 7.

The outcomes of 3521 optometrist submissions were studied; 3224 referrals and 297 post cataract reports. The majority of optometrists work in multiple type practices (70%, n=116) and subsequently the majority of referrals submitted (68%, n=2198) were from these practitioners. Type of practice was taken from the address on the referrals examined by the audit team. Each optometrist referred, on average, 19 patients over three months, with 6% of reports (n= 202) rejected. An eighth (14%, n=444) of referrals had been forwarded to an ESP and of these 69% were discharged back to the care of the original optometrist (i.e. a hospital eye clinic appointment was considered unnecessary).

Table 5. Referral outcomes for optometrists working in different Practice types. ‘Reports’ includes referrals and post-cataract reports. The percentage discharged by ESP was calculated from number discharged by ESP divided by number sent to ESP. Ind= independent practice, multi= multiple practice (>3 practices), both= data from optometrists working in both independent and multiple type practices.

Practice type	Optoms		Reports		Referrals		Referrals per optom		Rejected reports		Referrals to ESP		Discharged by ESP	
	n	%	n	%	n	%	Av	max	n	%	n	%	n	%
Ind	48	29	1074	31	949	29	20	55	30	3	79	8	54	68
multi	116	70	2362	67	2198	68	19	92	165	7	352	16	240	68
both	2	1	85	2	77	2	39	55	7	8	13	17	13	100
total	166		3521		3224		19		202	6	444	14	307	69

The optometrists (‘Optoms’) included in Table 5 are those for whom reliable referral outcome data was available. ‘Reports’ includes referrals and post-cataract reports. ‘Rejected reports’ are reports rejected by administrators for non-clinical reasons e.g. illegibility or absence of optometrist, GP or patient details.

3.3 Deselection of outcome data

Raw data from Evolutio showed that 3762 referrals and reports were submitted during the three-month period of the study. Outcome data from 241 referrals was deselected, meaning that these results were not available for some optometrists. Reasons for deselection of data from analysis were:

1. Some data was potentially unreliable, as from optometrists with similar names that may have been confused by Evolutio, or
2. from non-optometrists or pre-registration optometrists.

3.4 Cross referencing between referral report and outcome data

Referral outcome data was available for 166 optometrists (appendix 7). Of these, 17 optometrists were identified as having submitted referrals judged to be of poor overall quality (red grading). The outcome data for 4 ‘poor’ referring optometrists was deselected from analysis as potentially unreliable (Section 3.3). The referral outcomes of these ‘poor’ referring practitioners and the remainder were compared and results shown in Table 6.

Table 6. Showing the outcomes of referrals submitted by optometrists who submitted poor referrals (graded for overall quality ‘red’) and those who submitted referrals of quality graded ‘amber’ or ‘green’. (ss = statistically significant effect). ‘Reports’ includes referrals and post-cataract reports.

Optometrist referral grading	Total		Rejected reports			Sent to ESP by triage			Discharged by ESP		
	reports	referrals	n	%	ss	n	%	ss	n	%	ss
Poor (red)	378	367	43	11		71	19		50	70	
Adequate/good (amber/green)	3143	2857	159	5	Yes	373	13	Yes	257	69	No
Total	3521	3224	202	6		444	14		307	69	

The 'poor' referring optometrists had 11% (n= 43) of referrals rejected out of a total submitted of 378. Optometrists who had not submitted a 'poor' referral had 5% (n= 159) of referrals rejected out of a total of 3143. The amount of rejected referrals is influenced by whether the referral was submitted by an optometrist found to have submitted poor referrals; $\chi^2 = 24.9$, $p < 0.05$.

The proportion of referrals sent to ESP reduces from 19% for 'poor' referring optometrists to 13% for 'adequate/good' referring optometrists. The amount of referrals sent to ESP by triage is influenced by whether the referral is submitted by an optometrist found to have submitted poor referrals; $\chi^2 = 10.8$, $p < 0.05$.

The amount of referrals discharged by ESP's is not influenced by whether the referral is submitted an optometrist found to have submitted 'poor' referrals.

3.5 Repeated omissions from referrals were:

- van Herick grading from glaucoma referrals. This is an important test in screening for Angle Closure Glaucoma (ACG)(20),
- Approximate size of lesion e.g. choroidal naevus,
- Average IOP for NCT on glaucoma referral. (If reading is indicated to 0.1mmHg then can average may be assumed although it is advisable to make this clear. Some referral forms are indicated 'Av. IOP' which is reassuring; this is included on the latest evolution referral form),
- Reference to use of Fluorescein in cases of ocular discomfort or pain,
- Shafer's sign in cases of 'flashes and floaters',
- Description of visual field, or copy of plot, especially when reason for referral is visual field defect,
- Visual fields or colour vision in cases of swollen discs or pupil anomaly,
- General health and medication,
- Onset of symptoms, including cases of 'flashes and floaters', reduced vision, pupil defect, ocular pain and distortion,
- Information regarding severity of symptoms, which eye affected and frequency,
- Not always clear whether symptoms were present,
- YAG capsulotomy, suspected retinal tear/PVD and child referrals were the most likely to demonstrate minimal information e.g. cases with only description of signs and symptoms as 'YAG please' or 'see to rule out tear'. Examples present of paediatric referrals without reference to funduscopy/red reflex/Bruckner's test, stereopsis or oculomotor balance.
- History often insufficient, with absence of reference to previous ocular history and family history.

3.6 Feedback to optometrists

Anonymised results of referral quality and outcomes for all optometrists in the county were shared via the Suffolk Local Optometric Committee (LOC) Newsletter, LOC website (www.suffolkloc.org.uk) and submitted for publication to a national optometry journal. Individual feedback regarding the quality of referrals was sent confidentially to each optometrist whose referral had been audited. Additionally, where possible, every optometrist was informed of the outcomes of their referrals, which included percentage of their referrals that were subsequently sent to an Enhanced Service Provider (ESP), or Optometrist with Special Interest, and the percentage of these that were discharged by the ESP, rather than sent to the eye clinic.

This audit had been agreed with the East Anglia Area Team of NHS England with whom anonymised results were shared. The Area Team was keen to take the learning from the audit and share it amongst optometrists to enhance the quality of patient care.

4.0 Conclusion

4.1 Legibility

Legibility is significantly improved if the referral is typed, or submitted online, and faxed reports are difficult to read, especially if the referral form has shaded boxes. The new Evolutio Ophthalmology Referral form is recommended (www.evolutio-uk.com).

4.2 Future considerations

Information gained will be discussed with other organisations and used to target training but the names of optometrists involved will not be divulged. Considerations for LOC, Clinical Commissioning Groups (CCG), NHS England East and local ophthalmologists:

- Some optometrists are submitting referrals to general practitioner via erefer; this is unnecessary,
- If referral is necessary for more than one condition, should more than one referral be submitted? Some referrals for multiple conditions appeared confusing,
- Narrow ACA management, including overview of methods of assessment (van Herick grading, Smith's method and OCT interpretation),
- Referral of patients with entropion. One referral of a symptomatic patient mentioned epilation had been performed. Taping of lids and/or lubrication ideal.

Considerations to improve the ability of the referral management team to correctly identify optometrists and ensure easier correlation between referral report and outcome data for future audits are listed as Appendix 8.

Training was given to the audit team regarding grading of referrals with documents prepared to support this aim. More documented specific description of grading criteria for each referral aspect has been prepared to ensure greater consistency between audit team members for future audits.

4.3 Final conclusions and summary

This audit was primarily concerned with providing individual feedback regarding the appropriateness of each referral and identifying common weaknesses to be addressed in future educational meetings. 'Appropriateness' was judged according to whether the relevant information was included (according to current Guidelines and Regulations) and was legible. Further information regarding appropriateness of referrals was gleaned after considering the amount of rejected referrals, number of referrals that were forwarded to a fellow optometrist (ESP) for refinement and the number of these that were not referred on to a hospital eye clinic.

Each optometrist (for whom the audit team considered one or more referrals) was sent reports regarding many aspects of their referrals, each with a copy of the original referral; 462 reports to 182 optometrists. The majority of these optometrists (166) also received anonymised referral outcome data.

An overall referral quality grading of 'red' was given regarding 23 referrals from 21 optometrists. These optometrists were advised in report feedback to read this Suffolk LOC Audit report and supporting references. They were also invited to contact a member of the audit team for a confidential discussion on referral issues if advice was required regarding how to implement improvement in referral quality.

A statistically significant link has been established between referral quality (as established by use of a referral quality grading form) and referral outcomes, which confirms the importance of appropriate referrals to patient care. Optometrists who submitted poor referrals were more likely to have greater number referrals rejected and more patients forwarded for the opinion of an ESP. Generally, patients are sent to ESP by triage when referrals are lacking the results of key investigations and are considered to be less likely to require subsequent HES investigations.

Most importantly it is hoped that greater awareness of referral issues resulting from distribution of this audit, and subsequent optometrist training, will improve quality of optometrist referrals in Suffolk. This will benefit the efficient processing of referrals and ultimately the quality of service to the patient. A method of auditing referrals has been demonstrated that can be carried out in other areas of the UK and will be repeated in Suffolk to investigate whether the desired improvement has been achieved.

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Appendices

Appendix 1. Relevant points from Guidance regarding Examining patients at risk from glaucoma (21):

- Where pressures are high or borderline, arrangements should be made for the test to be repeated, noting the time of day of each test *;
- Assessment of the anterior eye and angle (e.g. by slit lamp van Herick technique) is advisable for all patients suspected of having glaucoma
- Assessment of the optic nerve head would include assessing the size of the disc, cup/disc ratio, presence of any asymmetry between the two eyes, colour and width of the neuro-retinal rims especially superiorly and inferiorly, and unusual features such as notching, disc haemorrhage etc.
- Whilst visual field examination may sometimes produce anomalous results in the absence of pathology, the usefulness of baseline measures and ongoing comparisons should not be underestimated.

* Unless the optometrist participates in a funded repeat tonometry service, they would not be expected to bring the patient back for further tonometry on a different day. It would be reasonable to expect a non-contact tonometry repeat at the time of the test. (LOCSU, unpublished email communication 10 April 2014)

Appendix 2. Joint guidance from The College of Optometrists and the Royal College of Ophthalmologists on the referral of glaucoma suspects by community optometrists.(22)

This guidance includes the following points regarding glaucoma referrals:

- When practitioners consider it necessary to refer the patient, they should provide as much factual information derived from the eye examination as possible to the ophthalmologist. For optic disc assessment, practitioners should state whether the disc appears normal or abnormal, and if it appears abnormal, why this is so. Where practitioners have determined that it is clinically necessary to perform a visual field assessment as part of particular eye examination, a copy of the visual field assessment should also be provided.
- When referring a patient on IOP grounds alone, Goldmann applanation tonometry (or Perkins tonometry) is regarded as offering greater accuracy.
- Practitioners may consider not referring patients at low risk of significant visual field loss in their lifetime -
 - a. Patients aged 80 years and over with measured IOPs <26mmHg with otherwise normal ocular examinations (normal discs, fields and van Herick).
 - b. Patients aged 65 and over with IOPs of <25mmHg and with otherwise normal ocular examinations (normal discs, fields and van Herick).These groups do not qualify for treatment under current NICE guidance. Such patients may be advised that they should be reviewed by a community optometrist every 12 months.
- Procedure for using Non-contact Tonometers:

Practitioners should ensure the patient is prepared for the procedure. For example, they should instruct patients to loosen neck ties and not to hold their breath. Before considering referral, practitioners should take four readings per eye and use the mean as the result. Only

when the mean result is > 21 mmHg should the practitioner consider referring the patient for further assessment if this is the only abnormality found.

Appendix 3. The College of Optometrists guidance as to which specific conditions require emergency or urgent referral.(23, 24)

This information is for guidance only, and if local protocols are in place optometrists should refer according to the local protocol. These are the standards to be used to judge urgency of optometric referrals.

Guidance D9.03:

(a) Emergency referral

Chemical injuries;
CRAO<12 hours old;
Acute dacrocystitis, if severe or in children;
Acute glaucoma;
Hyphaema;
Hypopyon;
IOP \geq 45mmHg (independent of cause);
Sight threatening keratitis;
Orbital cellulitis;
Papilloedema;
Penetrating injuries;
Unexplained pre-retinal haemorrhage (in a diabetic patient with known proliferative retinopathy who is already being actively treated in the HES this would not need an emergency referral);
Symptomatic retinal breaks and tears;
Retinal detachment unless this is longstanding and asymptomatic;
Scleritis;
Sudden severe ocular pain;
Suspected temporal arteritis;
Unexplained sudden loss of vision;
Uveitis;
Vitreous detachment symptoms with pigment in the vitreous.

(b) Urgent referral (within one week)

Symptoms or signs suggesting:
Acute dacroadenitis;
CMV and Candida retinitis;
Comotio retinae;
CRVO with elevated IOP;
Sudden onset diplopia;
IOP>35 mm Hg (and <45mmHg);
Retinal detachment if not an emergency (see above);
Retrobulbar/optic neuritis;
Rubeosis;
Squamous cell carcinoma;
“Wet” macular degeneration/choroidal neovascular membrane, according to local fast-track protocol.

Appendix 4. Details to be included in a referral.

According to the Framework for Optometric referrals (24)(section 8.2) a good referral should contain the following:

- Date;
- Full name of referring optometrist and practice address;
- Full details of patient including name, address, telephone number, date of birth,
- reason for referral, supporting signs and symptoms;
- reports of relevant tests / investigations,
- copies of any supplementary data;
- Provisional diagnosis;
- Indication of urgency, and
- Referral correspondence should be legible and preferably typed.

According to Newsom (1)an effective referral should contain the following:

- Visual acuities,
- History and symptoms,
- Past ocular history,
- Why you are referring the patient, including a provisional diagnosis,
- Relevant signs, and
- IOP, disc appearance, visual fields and Van Herick for suspected glaucoma.
- It is also advised that the patient be given a copy of the referral, and
- handwriting is to be avoided.

Appendix 5. Invite to participate in the audit, distributed to all Suffolk optometrists and optometry practices via the Suffolk LOC May 2014 Newsletter.

Dear Colleague

Audit of Suffolk Optometric Referrals

A good quality referral is an essential part of the clinical care of our patients. A referral that is clear and precise will help build trust with our local ophthalmology team and GPs. An audit of the referrals of Suffolk optometrists is to be carried out by the Suffolk Local Optometric Committee (LOC) during the months of July, August and September 2014. The aims of this audit is to assess the quality of referrals and highlight areas where improvements can be made, which will then be addressed in future educational meetings.

The potential benefits to participants are:

1. Useful feedback regarding the quality of referrals will be sent confidentially to each optometrist whose referral is audited,
2. Anonymous comparison with your peers will be received, and
3. Identification of opportunities for targeted Continuing Education and Training (CET).

This audit will be overseen by Derek Dunstone and patient/optometrist data will be dealt with confidentially. Anonymised data from the audit and conclusions will be shared with all optometrists in the county and may be published.

This audit has been agreed with the East Anglia Area Team of NHS England with whom anonymised results will be shared. In the unlikely event that poor clinical performance becomes apparent from the referrals then the audit team from the LOC will offer support and suggestions for training as part of their feedback, whilst still keeping the practitioners names confidential. The advice and support of the Association of Optometrists and local Clinical Commissioning Groups (CCGs) is much appreciated by the LOC in respect of this project.

Details of the audit can be found on the 'referral schemes' page of the Suffolk LOC website www.suffolkloc.org.uk. If you have any questions regarding this audit please contact Derek Dunstone (derek@dunstoneinsight.com) or any other committee member. Participation is voluntary and so please let us know if you do not want your referrals to be included in the audit. The LOC hopes you agree that this is a great opportunity to gain useful feedback regarding referral quality.

Appendix 6. Checklist form used to assess referral quality.

Referral aspect	Grading			Comments
	Green	Amber	Red	
Date of examination				
Optometrist name & address				
Patient details including name, address, telephone number & date of birth				
Name and address of GP				
Signs and symptoms, including severity and onset				
Reason for referral				
Reports of relevant tests / investigations				
Copies of any supplementary data (when applicable)				
<i>Glaucoma referral: Adequate disc description (incl. normal or abnormal)</i>				
<i>IOP and visual fields (repeated if appropriate)</i>				
<i>Average readings for NCT stated</i>				
<i>Assessment of anterior eye and chamber angle</i>				
Provisional diagnosis				
Indication of urgency				
Legibility				
Referral quality				
Action to be taken by optometrist				
Referral format (delete as appropriate)	GOS 18, Letter- handwritten, Letter- typed, Practice specific performer, Accipter online referral			

Appendix 7. Outcome of referrals submitted July-September 2014 showing optometrist identification number (ID), number of referrals rejected, number of post cataract reports, number sent by triage to: Enhanced Service Provider (ESP)/ General Medical Practitioner (GP)/ Hospital Eye Service (HES). Also, total number of reports and referrals, number discharged by ESP and percentage of referrals rejected, sent to ESP and discharged by ESP (number discharged divided by number sent to ESP).

Optom ID	Rejected	Post Cat	ESP	GP	HES	Total reports	Total referrals	Discharge by ESP	Reject (%)	To ESP (%)	Discharge by ESP (%)
1	0	0	7	0	10	17	17	6	0	41	86
2	0	0	0	0	1	1	1	0	0	0	N/A
3	1	0	3	0	5	9	9	1	11	33	33
5	0	0	0	0	1	1	1	0	0	0	N/A
6	0	0	5	1	4	10	10	3	0	50	60
7	3	0	2	0	13	18	18	0	17	11	0
8	1	4	0	0	21	26	22	0	5	0	N/A
9	0	0	1	0		1	1	0	0	100	0
10	0	0	0	0	3	3	3	0	0	0	N/A
11	3	1	12	0	26	42	41	9	7	29	75
12	1	0	0	0		1	1	0	100	0	N/A
13	8	1	2	0	23	34	33	0	24	6	0
14	1	6	0	0	72	79	73	0	1	0	N/A
16	1	3	4	0	12	20	17	2	6	24	50
17	7	2	5	0	37	51	49	5	14	10	100
18	1	1	1	0	3	6	5	1	20	20	100
19	1	2	0	0	12	15	13	0	8	0	N/A
20	2	0	0	0	2	4	4	0	50	0	N/A
21	0	0	0	0	1	1	1	0	0	0	N/A
23	0	0	0	0	9	9	9	0	0	0	N/A
24	0	9	0	0	31	40	31	0	0	0	N/A
25	0	3	4	0	24	31	28	3	0	14	75
26	1	1	0	0	3	5	4	0	25	0	N/A
27	0	0	0	0	2	2	2	0	0	0	N/A
28	1	4	4	0	17	26	22	3	5	18	75
29	0	0	1	0	3	4	4	1	0	25	100
30	1	0	1	0	3	5	5		20	20	0
31	1	2	0	0	11	14	12	0	8	0	N/A
32	2	3	4	0	23	31	28	3	7	14	75
33	0	0	2	0	7	9	9	0	0	22	0
34	0	0	3	0	10	13	13	3	0	23	100
35	2	6	12	3	50	73	67	10	3	18	83
36	1	8	8	1	38	56	48	6	2	17	75
37	1	2	1	0	11	15	13	1	8	8	100
38	0	3	0	0	24	27	24	0	0	0	N/A
39	3	4	0	0	26	33	29	0	10	0	N/A
40	0	1	3	0	20	24	23	1	0	13	33
41	0	5	0	0	11	16	11	0	0	0	N/A
42	0	0	0	0	3	3	3	0	0	0	N/A
43	0	0	1	0	3	4	4	0	0	25	0
44	0	0	3	0	2	5	5	2	0	60	67
45	1	0	0	0	1	2	2	0	50	0	N/A
46	0	1	0	0	6	7	6	0	0	0	N/A
47	0	3	1	0	15	19	16	1	0	6	100
49	1	6	1	0	36	44	38	1	3	3	100

Optom ID	Rejected	Post Cat	ESP	GP	HES	Total reports	Total referrals	Discharge by ESP	Reject (%)	To ESP (%)	Discharge by ESP (%)
50	0	0	1	0	13	14	14	0	0	7	0
51	2	0	0	0	44	46	46	0	4	0	N/A
52	0	1	2	0	32	35	34	1	0	6	50
53	0	5	2	0	17	24	19	2	0	11	100
54	0	5	2	0	21	28	23	2	0	9	100
55	1	0	1	0	3	5	5	1	20	20	100
56	2	2	9	0	12	25	23	7	9	39	78
57	4	3	2	0	36	45	42	1	10	5	50
58	4	3	10	2	58	77	74	6	5	14	60
59	4	1	0	0	7	12	11	0	36	0	N/A
60	1	6	11	2	71	91	85	8	1	13	73
61	1	0	4	0	21	26	26	2	4	15	50
62	0	0	0	0	13	13	13	0	0	0	N/A
63	3	0	9	1	15	28	28	6	11	32	67
65	0	8	5	1	18	32	24	3	0	21	60
66	0	1	0	0	7	8	7	0	0	0	N/A
67	6	10	6	1	36	59	49	2	12	12	33
68	0	0	0	0	2	2	2	0	0	0	N/A
69	2	0	1	0	8	11	11	0	18	9	0
70	0	6	0	0	15	21	15	0	0	0	N/A
71	1	0	0	0	1	2	2	0	50	0	N/A
72	0	0	0	1	4	5	5	0	0	0	N/A
73	1	5	2	0	9	17	12	0	8	17	0
74	0	0	0	0	1	1	1	0	0	0	N/A
75	0	0	1	0		1	1	1	0	100	100
76	0	0	0	0	1	1	1	0	0	0	N/A
77	5	11	3	0	71	90	79	1	6	4	33
78	0	0	1	0	12	13	13	1	0	8	100
79	0	7	22	0	33	62	55	16	0	40	73
80	5	8	12	0	38	63	55	12	9	22	100
81	0	0	0	0	2	2	2	0	0	0	N/A
82	0	0	0	0	1	1	1	0	0	0	N/A
83	2	0	10	0	28	40	40	8	5	25	80
84	1	0	5	0	15	21	21	4	5	24	80
85	1	7	1	0	11	20	13	1	8	8	100
86	0	0	0	0	1	1	1	0	0	0	N/A
87	1	0	0	0	6	7	7	0	14	0	N/A
88	4	2	2	0	16	24	22	1	18	9	50
89	1	0	0	0		1	1	0	100	0	N/A
90	2	8	0	0	46	56	48	0	4	0	N/A
91	0	0	0	0	3	3	3	0	0	0	N/A
93	0	0	0	1	2	3	3	0	0	0	N/A
94	4	2	2	0	34	42	40	1	10	5	50
95	0	1	0	0	9	10	9	0	0	0	N/A
96	0	2	5	0	27	34	32	0	0	16	0
97	0	0	0	0	2	2	2	0	0	0	N/A
98	1	1	0	1	21	24	23	0	4	0	N/A
99	0	2	0	0	19	21	19	0	0	0	N/A
100	3	3	25	2	42	75	72	23	4	35	92
101	1	0	7	1	21	30	30	6	3	23	86
102	0	0	0	0	6	6	6	0	0	0	N/A
104	1	0	4	0	12	17	17	4	6	24	100
105	0	0	0	0	1	1	1	0	0	0	N/A

Optom ID	Rejected	Post Cat	ESP	GP	HES	Total reports	Total referrals	Discharge by ESP	Reject (%)	To ESP (%)	Discharge by ESP (%)
106	6	1	7	0	10	24	23	3	26	30	43
107	2	0	5	1	33	41	41	2	5	12	40
108	0	0	6	0	4	10	10	5	0	60	83
109	0	0	1	0	19	20	20	0	0	5	0
110	1	2	8	1	18	30	28	5	4	29	62.5
111	0	0	1	0	3	4	4	0	0	25	0
112	0	0	0	2	5	7	7	0	0	0	N/A
113	0	7	1	1	24	33	26	1	0	4	100
114	0	0	1	0	9	10	10	1	0	10	100
115	0	0	1	0	1	2	2	0	0	50	0
116	0	1	0	0	17	18	17	0	0	0	N/A
117	1	0	0	0	1	2	2	0	50	0	N/A
120	3	0	0	0	4	7	7	0	43	0	N/A
122	2	0	2	0	8	12	12	0	17	17	0
123	1	0	0	0	9	10	10		10	0	N/A
124	2	0	1	0	19	22	22	1	9	5	100
125	0	0	3	0	7	10	10	1	0	30	33
127	0	0	0	0	1	1	1	0	0	0	N/A
128	0	0	0	0	3	3	3	0	0	0	N/A
129	0	7	9	0	26	42	35	7	0	26	78
130	1	9	0	0	17	27	18	0	6	0	N/A
131	3	1	9	0	23	36	35	9	9	26	100
132	1	0	0	0	5	6	6	0	17	0	N/A
133	5	7	10	0	51	73	66	1	8	15	10
134	14	3	26	3	49	95	92	22	15	28	85
135	1	0	1	0	12	14	14	1	7	7	100
136	0	0	1	0	1	2	2	1	0	50	100
137	2	5	7	1	28	43	38	4	5	18	57
138	1	1	0	1	21	24	23	0	4	0	N/A
139	2	0	0	1	5	8	8	0	25	0	N/A
140	1	0	1	0	6	8	8	1	13	13	100
141	1	1	1	0	7	10	9	0	11	11	0
142	1	2	1	0	8	12	10	0	10	10	0
143	0	0	0	0	1	1	1	0	0	0	N/A
144	0	0	1	0	4	5	5	0	0	20	0
145	1	0	0	0	4	5	5	0	20	0	N/A
146	1	1	5	3	9	19	18	4	6	28	80
148	1	0	2	0	4	7	7	1	14	29	50
149	2	7	4	0	37	50	43	2	5	9	50
151	9	0	8	1	34	52	52	6	17	15	75
153	0	0	1	0		1	1	1	0	100	100
154	0	1	0	0	9	10	9	0	0	0	N/A
155	0	0	0	0	2	2	2	0	0	0	N/A
156	5	1	4	0	20	31	30	3	17	13	75
157	2	5	13	0	26	46	41	11	5	32	85
158	1	8	0	0	28	37	29	0	3	0	N/A
159	1	4	3	1	19	28	24	2	4	13	67
161	1	1	5	0	18	25	24	3	4	21	60
162	2	0	15	1	16	34	34	11	6	44	73
163	1	0	0	0	1	2	2	0	50	0	N/A
164	0	0	0	0	33	33	33	0	0	0	N/A
165	0	3	0	0	25	28	25	0	0	0	N/A
166	1	7	3	0	40	51	44	1	2	7	33

Optom ID	Rejected	Post Cat	ESP	GP	HES	Total reports	Total referrals	Discharge by ESP	Reject (%)	To ESP (%)	Discharge by ESP (%)
167	1	0	5	2	13	21	21	4	5	24	80
168	0	1	0	0	17	18	17	0	0	0	N/A
169	0	0	1	0	2	3	3	1	0	33	100
170	0	0	0	0	2	2	2	0	0	0	N/A
171	0	0	0	0	1	1	1	0	0	0	N/A
172	0	0	2	0	5	7	7	1	0	29	50
173	2	4	1	0	17	24	20	1	10	5	100
174	2	3	2	0	23	30	27	2	7	7	100
175	1	4	1	0	12	18	14	1	7	7	100
176	0	1	0	0	13	14	13	0	0	0	N/A
177	1	2	1	0	32	36	34	1	3	3	100
178	0	0	1	0	8	9	9	1	0	11	100
179	1	5	1	1	14	22	17	0	6	6	0
180	0	0	0	0	2	2	2	0	0	0	N/A
181	6	1	4	0	16	27	26	3	23	15	75

Appendix 8. Feedback to referral management team.

During the process of audit several cases were found where the incorrect optometrist name was entered on the evolutio system. Correction was made to ensure the appropriate optometrist received each referral feedback report. The referral outcome data has not, however, been edited and so will contain errors. The causes of these errors are primarily referral illegibility or, occasionally, human error by referral administrators. It was a time consuming challenge to reconcile the names of optometrists from referrals to the evolutio list of optometrists in order to analyze outcome data. Future improved legibility of optometrist details on referrals and changes in data management by evolution should ensure future audits are easier.

Considerations to improve ability of referral management team to correctly identify optometrist and ensure easier correlation between referral report and outcome data for future audits:

- Only accept referral with full name and GOC number,
- Do not accept referrals from trainee optometrists (with 'SO' registration number). Supervisor should make their name clear on referral, rather than just the pre-registration trainee.
- Evolutio to enter optometrists name on database with last name separate to other names and GOC number entered,
- Additionally, it would be useful if the print out of an Evolutio referral to ESP included the full address of the patient since it is often part missing e.g. village name.