



Primary Care Ophthalmology Care

This guidance is to help those designing and commissioning eye care to improve the value of their services. It forms part of a Right Care/QIPP vision of 'hospital without walls' for ophthalmic care.

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Summary: Primary Care Ophthalmology

- Primary Care Ophthalmology (community eye health service) encompasses the provision of first contact care for all ophthalmic conditions and the follow up, preventive and rehabilitative care of selected ophthalmic conditions.
- It can be delivered in a variety of settings and by a variety of different professional groups but all patients deserve to be managed to the high standards by appropriately trained staff.
- Opportunistic surveillance for eye diseases such as glaucoma by optometrists will prevent sight loss but the current provision does not provide equitable access for everyone and poorer communities have lower take up of sight tests and higher rates of visual impairment.
- Demographic changes and new treatments and investigations have caused acute pressures and lack of capacity in secondary care (Hospital Eye Service or HES).
- Managing the flow of new (as yet undiagnosed) patients to a department to maximise potential to prevent sight loss but also to get maximum value for money will become increasingly important in terms of the annual report and budget allocations.



Ophthalmic Services Guidance

- Many patients can be seen in the community if the necessary equipment is available and increased value could be obtained by using community optometrists to triage and manage GP referrals for external inflammatory conditions.
- IT investment linking primary ophthalmic care and HES is key to achieving the best value model for ophthalmic care.
- Local Eye Health Networks in England will have a key role in advising commissioners on service configuration across health communities.
- The current Payment By Results system encourages HES to accept unnecessary referrals, acts as a perverse incentive against improved triage of referrals using electronic retinal imaging and also encourages unjustified follow up in HES and failure to discharge patients.

Recommendations

- Primary Care Ophthalmology should be a diagnosis and management service and should not be used for on-going management of chronic eye conditions. Glaucoma shared care is discussed separately under glaucoma commissioning guidance.
- There should be a register of GPs with a special interest in ophthalmology and also a minimum qualification and recognised standards for CPD and revalidation.
- Primary Care Ophthalmology (perhaps better termed Comprehensive Ophthalmology) could be considered a subspecialty and all trainee ophthalmologists should have education and training related to this area of work.
- GPs should be able to get prompt access to a primary eye care service with slit lamp facilities so they do not have to start treatment based on inadequate evidence or make an urgent referral to the HES.
- Many optometrists already have fundus cameras and other imaging equipment and enabling electronic referrals and telemedicine would increase the quality and value of referrals for posterior segment lesions.
- Transferring patient care from HES to the community could provide better care for less serious cases and make better use of the limited capacity in secondary care for those with sight threatening conditions. However, there is also potential for overall increased costs due to existing unmet need increased activity the need for training both at set up and ongoing, time for consultant opinions on shared patients as well as IT and equipment costs. Quality and health economic effects need to be assessed for the population as a whole.
- Patients should be treated with generic drugs where ever appropriate.



Introduction

Primary Care Ophthalmology encompasses the provision of first contact care for all ophthalmic conditions and the follow up, preventive and rehabilitative care of selected ophthalmic conditions. Urgent eye care is covered in a separate document. The primary care to specialist interface is a key organisational feature of many health care systems.¹ In the UK community optometrists are the gatekeepers of most referrals to the hospital eye service (HES) via the GP and for some conditions directly to HES.^{2 25}

The provision of spectacles is a crucial part of the provision of primary care since this in the mind of the public is the most obvious and frequent requirement for contact with an eye care professional.

There were 1.69 million first attendances at English NHS ophthalmology departments in 2009-10 representing 28% of the total of 5.95 million ophthalmology attendances. [NHS information centre] There has been a rise of 25% in ophthalmology outpatients over 7 years and ophthalmology outpatients constitute 9% of all NHS outpatient appointments (the second highest demand speciality). There appears to be a lack of capacity in secondary care and a limited ophthalmology budget. Increased testing for glaucoma and better, although more expensive, treatments for medical retina conditions such as age-related macular degeneration and diabetic retinopathy are outstripping the current budgets for eye care. Primary Care Ophthalmology is one of the areas of ophthalmology where demand is ever increasing but where there is potential for reorganising services to get better “value for money” for commissioners by effectively triaging and managing patient flow as well as freeing up capacity in the Hospital Eye Service (HES).¹

Providers of primary care ophthalmology (community eye health services)

Primary Care Ophthalmology is provided by GPs and optometrists, a few GPs with a special interest in ophthalmology (GPSI), a few Ophthalmic Medical Practitioners (OMPs), Nurses and Nurse Practitioners and Orthoptists as well as Ophthalmologists. The traditional nomenclature of primary, secondary and tertiary care is based on the environment in which care takes place and a hierarchy of specialisation (see tiers of care table 1). Compared with other specialties more primary care in ophthalmology has traditionally taken place in the hospital setting rather than in general practice because of the lack of equipment particularly slit lamps in General Practice as well as a paucity of the relevant skills and ophthalmic knowledge.^{3,4,5,6}



Community optometrists provide more primary eye care than GPs particularly management of refractive errors and screening for eye problems such as glaucoma but patients sometime perceive them as shops for spectacles rather than an 'eye health check' and many still attend their GP first with eye problems. GPs and paediatricians screen children at birth and again at 6-8 weeks for eye abnormalities. The training and accreditation of other health professionals working in primary care is an important area for setting standards and protecting patients. Pharmacists supply eyedrops to treat minor eye conditions over the counter & dispense POM medication & eyedrops but do not have slit-lamps so would have difficulty in diagnosing eye conditions however pharmacies can be useful for signposting.

GPs with a special interest in ophthalmology

A small number of General Practitioners have a special interest in Ophthalmology (GPSI) and provide a more comprehensive Ophthalmic Primary Care (OPC) service. At present there is no minimum requirement for a GP to call themselves a GPSI in ophthalmology. A minimum standard for doctors working alone could be to have the DRCOphth qualification indicating they can both manage certain conditions and also recognise more serious pathology requiring referral particularly neuro-ophthalmic conditions with potentially life threatening consequences if missed. Some experience of serious pathology as seen in HES is important for those working in primary care in order to be able to spot the serious cases amongst the many less serious ones and the "worried well". For primary care ophthalmology, the most relevant subspecialty clinics are eye casualty (for acute cases), neuro-ophthalmology, external eye disease and medical ophthalmology clinics (uveitis and scleritis). Some experience of all types of specialist clinics is useful, however, because of the broad remit of primary care services. There is also a need for a register of GPs with a special interest in ophthalmology, CPD to meet their requirements and guidelines for their revalidation.

Primary Care (comprehensive) ophthalmologists

Most consultant ophthalmologists have a sub-specialist interest and it is unusual except in large units to have a consultant-led primary care service which prioritises referrals and redirects them to subspecialty services where appropriate. The RCOphth has a list of competencies required to "be an ophthalmologist"⁹. The trend has been for more and more specialisation and for most trainees to undertake advanced subspecialty training and fellowships. The concept of a "general" or "comprehensive" ophthalmologist has not been promoted as a career option. However, training in both urgent eye care (emergency ophthalmology) and primary ophthalmology is essential for those who will form the next generation of consultants. The allied professionals providing some primary care ophthalmology services need training, supervision, and support from ophthalmologists to ensure good standards of care.



Provision of value based comprehensive eye care services for a defined population and allocation of resources between different subspecialties and production of the annual report may be better done by general ophthalmologists or ophthalmologists with specific training in ophthalmic public health than by super-specialists¹. Primary Care Ophthalmology could become its own subspecialty possibly with less surgical training but this would have other workforce and training implications. There is a need for clinical leadership of a multidisciplinary team including those working outside eye departments such as GPs, community optometrists and A&E staff to provide on-going training and CPD as well as support for those working in eye departments including junior ophthalmologists.

Optometrists

Optometrists have the necessary equipment and knowledge to provide some primary care ophthalmology services and their role has been systematically reviewed²¹ but optometrists require additional payment to take on additional medical roles which needs outside the limitations of the current GOS contract.²² In some areas locally enhanced services (LES) delivered by optometrists have been developed such as the PEARS scheme in Wales and enhanced triage with retinal photographs in Scotland.^{7 10, 11} Optometrists can now become independent prescribers of medication and can become accredited if they undertake additional professional qualifications e.g. in glaucoma⁸ There is a separate GOC register for independent prescribing optometrists with a requirement for annual re-application with proof of CPD & appropriate experience. In some areas independent providers from the Private sector triage referrals from Optometrists and GPs and see a proportion of these according to locally agreed service arrangements. It is important for everyone involved in this work to undertake regular continued professional development training and audit of their own practice.

Community orthoptists

Community orthoptists lead population screening of children aged 4-5 years for visual loss which is approved by the national committee.^{23 24} They also assess children who are suspected to have a visual problem by parents, GP or other professional or who are in a high risk group. They reduce the rate of hospital referral and where necessary can provide treatment and follow up closer to the patients home.



Figure 1 Tiers of care

“Tier”	Description	Venues	Examples of service	Provided by
1	Primary eye care	Community optometric practice. General practice Community health clinics or new outlet for eye care in deprived communities General A and E and Minor Injuries Unit Pharmacists	Correction of refractive error. Opportunistic screening. Disease detection. Advice. Treatment of a limited range of minor eye problems	Optometrist GP OMP Nurse practitioner Emergency medicine doctors Pharmacists
2.	Enhanced primary eye care	Community optical practice. General practice. Community health clinics.	Management of a defined range of eye problems. Direct referral via care pathways. Targeted screening. Referral refinement. Monitoring of OHT, suspect glaucoma & co-management of stable glaucoma. Low Vision services	Accredited* optometrist Community orthoptist GPSI, OMP Nurse practitioner ECLO
3.	Community based Ophthalmic Care Primary – secondary care interface	“Super General Practice”, Community hospital, Health clinic, Large community optical practice, Standard hospital	Treatment of all eye conditions not requiring levels 4-6. Co-management of stable glaucoma. Low vision services Diagnosis & management of OHT & suspect glaucoma. Specialist contact lens fitting eg keratoconus, cosmetic CLs	Ophthalmologist with specialist interest in primary care. GPSI. OMP*. Specialist optometrist / nurse practitioner / orthoptist* ECLO
4.	Local ophthalmic unit Secondary care	Smaller district general hospital units, outreach clinics, Treatment Centres, general A and E, eye casualty when available	Cataract surgery. Intermediate oculoplastic surgery. Treatment of diabetic retinopathy. Some emergency provision. Low vision services,	Consultant ophthalmologist or Staff /Associate Specialist ophthalmologist with nursing / orthoptic / optometry support. ECLO
5.	Regional or sub-regional ophthalmology unit Secondary/ tertiary	Larger District General Hospital Units or Teaching Hospitals	Treatment of most acute and chronic eye problems. 24 hour accident and emergency provision AMD intraocular injections	Consultant ophthalmologist with nursing / orthoptic /optometric support. Academic ophthalmology and research



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6	Supra-regional services Tertiary/quaternary	NICE or NSCAG-designated unit	Ocular oncology, Ocular pathologist	Consultant ophthalmologist with specialist multidisciplinary support, including Prosthetics, Genetic counselling* Academic ophthalmology and research
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Moving patient care into the community

Timely diagnosis is central to the prevention of sight loss and increased uptake of sight tests are a key part of the UK Vision Strategy. Late presentation of disease is more common in low socio-economic groups and from some minority ethnic groups making these groups higher risk for blindness.¹⁷ However, while widening access to testing is necessary to reduce sight loss, an unnecessarily low threshold for referral to secondary care increases the outpatient burden, increases the costs of the service including diverting resources away from other services, and the direct and indirect costs to the patients (including time, transport costs, over investigation, worry associated with attending health services). Therefore, improving primary care structures and their integration with hospital eye services is essential to maximise both patient visual outcomes and value for commissioner.¹

Moving primary care ophthalmology from the hospital to the community

Both GP and optometric practices have advantages in terms of accessibility for patients and below tariff costs³. Many eye patients are elderly and most cannot drive to their eye appointment as they might need dilating drops so shorter distances to travel have significant benefits for patients and their carers. In order to maintain standards of care for all grades of staff working in isolation organised professional supervision and support may be required as well as appropriate clinical governance arrangements.

Advantages of the secondary care setting are better availability of higher levels of expertise and knowledge and economies of scale particularly for expensive equipment and expertise required for specialist services.

For best patient care there needs to be good communication and integration of services between primary and secondary care. Community Optometrists are not part of the NHS IT system in England and Wales and provision of secure IT systems to ensure confidential transfer of patient information is not straightforward but is essential.¹¹



A community optometrist frequently gets no feedback on the outcome of a referral to the HES¹² In areas of deprivation there may be disincentives to having eye examinations and patients are at higher risk of visual impairment from late presentation with eye diseases and an alternative model of community eye care centres has been developed in Leeds.¹⁷

Triage is essential both for efficiency and effectiveness of an eye care service. Ensuring rapid referral of those needing urgent treatment and preventing unnecessary use of hospital resources for those who cannot benefit from treatment. This is exemplified by the specific requirements for the early treatment of wet AMD which must be differentiated from mild Age Related Maculopathy and dry degenerative changes.¹²

A substantial transfer of care from secondary to community based services has been assumed to result in better care and lower costs for the NHS but to date there is no published evidence for this. New service provision will probably increase demand and may lead to increased overall costs even if the cost per case is lower. The economics of how a service operates such as cost per case, proportion of referrals seen in primary care who are then referred to secondary care, the proportion of cases followed up in primary care vs discharged, will all affect the efficiency and total cost for a population. We need health economic evaluation of the actual impact of schemes on eye health overall and costs for a population. It may make sense to have less complex cases managed in the community and have the hospital eye service concentrate on complex care. However, the current tariff is based on the assumption that hospitals deal with a mix of cases and if the average complexity increases Hospitals will need to receive a higher unit tariff to reflect this or they may become economically unsustainable.

One of the reasons why devolution of care has proved difficult to achieve and has not achieved anticipated savings is that the only route back when the primary care provider needs reassurance or additional investigations is a new referral back to hospital. Shared electronic records and the ability to share images opens up a greater range of possibilities to avoid unnecessary referrals and devolving more care.

Causes and Scope for prevention of primary eye conditions

There is limited scope for preventing primary eye conditions. Good contact lens care such as good hygiene, frequent replacement of cases, and avoidance of extended wear, swimming or showering in contact lenses can reduce the risk of contact lens complications. Vaccination for shingles would reduce the incidence of herpes zoster ophthalmicus which causes a significant burden of eye complications.



A vaccine given as a single subcutaneous injection the live attenuated vaccine is licensed for the prevention ofingles and postherpetic neuralgia in adults 50 years and older.

From September 2013, people aged 70 will routinely be offered the shingles vaccine on the NHS with a catch up programme for those aged 71-79.²⁰ Public health measures to reduce smoking will also have benefits for eye health. However, an ageing population and increase in factors such as diabetes and obesity which are associated with eye disease mean that eye conditions as a whole will continue to increase.¹

How many people have eye conditions?

Eye problems account for 2-3% of consultations in general practice and the majority are inflammatory external eye disease and visual disturbance. The rates for consultation with GPs with eye problems are approximately 50 per 1000 per year.⁴ Some minor eye conditions have very high prevalence e.g. dry eye in post-menopausal women, blepharitis, vitreous floaters. Over diagnosis and early detection add to these burdens.

What are the best value diagnostic tests for primary eye conditions?

Prompt and accurate diagnosis and triage are vital to minimising harm and sight loss from eye conditions. Diagnosing all but a small number of urgent conditions require a slit lamp and the skills to use it. An important task in primary care ophthalmology is to decide whether or not a patient has an eye problem and to make a provisional diagnosis depending on the facilities and expertise available. Being able to exclude an ocular cause for common symptoms such as headaches of different types, trigeminal neuralgia & sinusitis, is also essential.

Taking a history, measuring visual acuity, performing a basic external examination of the eye including the use of fluorescein drops and examining the fundus with a direct ophthalmoscope are essential for provisional diagnosis and triage. Where they suggest a non-sight threatening or self-limiting condition such as conjunctivitis, it may be reasonable to treat the patient without a more detailed examination. However, a slit lamp examination is essential equipment for a complete eye examination and most health care professionals who lack a slit lamp will have a low threshold for referring patients to an optometrist or ophthalmologist. Slit lamp examination is required for any patient who requires prescription of topical steroids and in any patient who has a history of contact lens wear.

Expertise in the use of the slit lamp is not widespread outside community optometric practice and hospital eye departments.

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For a more comprehensive primary care ophthalmology service such as provided by ophthalmologists and GPs with a special interest in ophthalmology the suggested minimum equipment is listed below.

Essential equipment

1. Visual acuity chart
2. Colour vision testing equipment
3. Appropriate topical medications for ophthalmic examination including minimums of topical anaesthetic, mydriatics, fluorescein
4. Direct and indirect ophthalmoscope
5. Slit lamp with Goldmann tonometer
6. Fundus lenses
7. visual field analyser (suprathreshold)

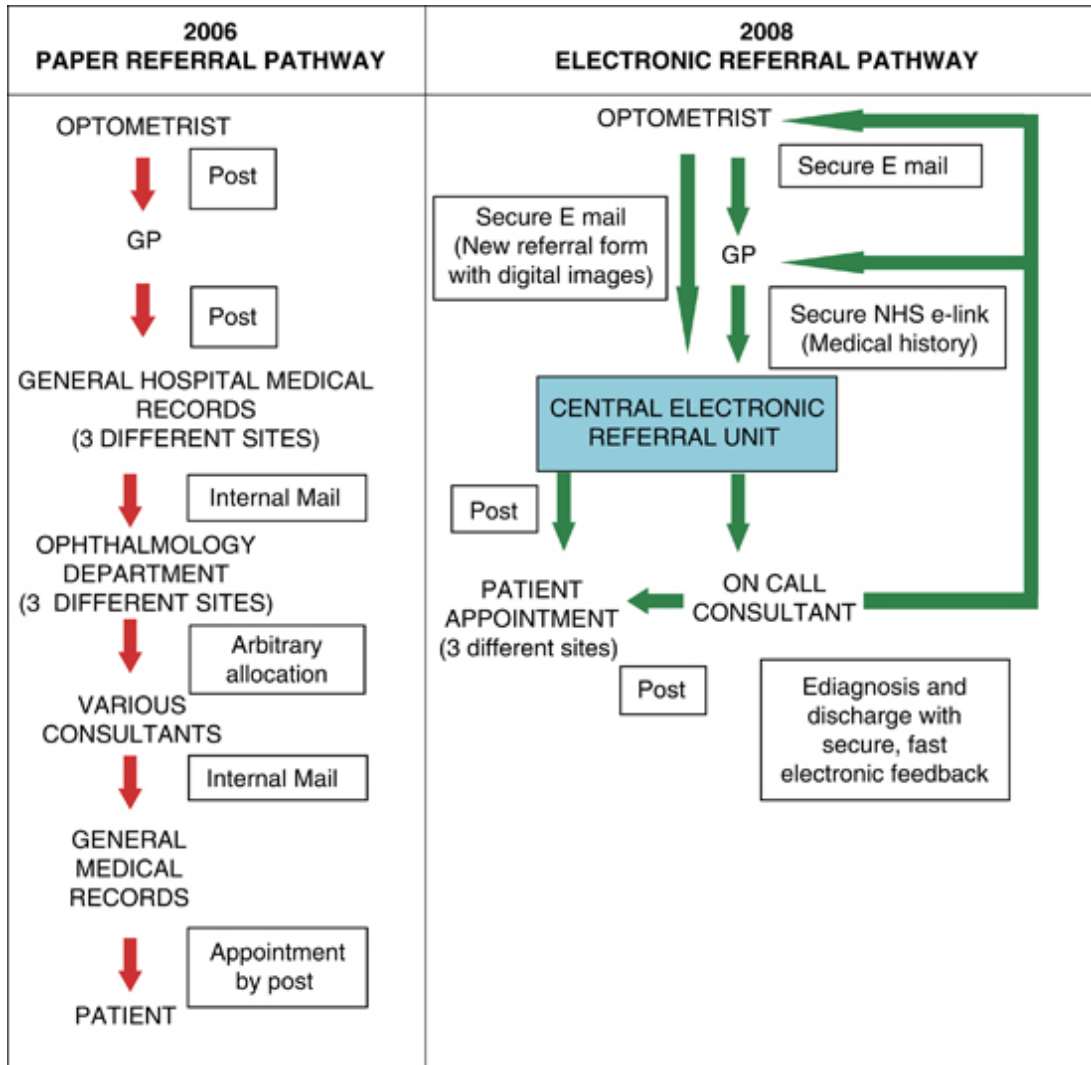
Visual field tests are not required just for glaucoma but may pick up retinal and neurological disease and if normal can be reassuring.

The Scottish model of photographic triage for referrals from optometry to the hospital eye service.

Photography and digital imaging of the eye is becoming ever more important in the Hospital Eye Service and facilities in optometry practices are also developing rapidly. It has been shown in Scotland (Fife) that 36% of referrals to the Hospital Eye Service are unnecessary if retinal photographs are sent with a referral for triage in the Hospital.¹¹ This also allows for fast-tracking of cases with sight-threatening disease while keeping non-progressive asymptomatic pathology in the community. In some Primary Care Ophthalmology Services telemedicine retinal imaging equipment such as Optical Coherence Tomography (OCT) is being used to improve the quality of triage of ophthalmology referrals in primary optometrist care.¹² Moorfields primary care service has developed a Hub and Spoke model to provide OCT in peripheral clinics.¹³ There are considerable set up and running costs with IT for telemedicine and transfer of retinal images and also costs for time for grading of these images.



Figure showing service redesign in Scotland ¹¹



What are the best value treatments for primary eye conditions?

With the current GOS contract there is an obligation on a community optometrist (CO) to refer any abnormality found on examination to the HES. Combined with an increasing use of fundus photography by CO's this means that large numbers of patients are referred with asymptomatic fundus lesions of low or no clinical significance. Frequently the same lesion is photographed again in HES and the management is diagnosis and reassurance. In Scotland a scheme where retinal photographs are sent electronically to the hospital to be triaged has greatly reduced these unnecessary referrals to the hospital eye service by 37%.

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In England the set up costs for giving CO's cameras and linking electronically would be much higher as the population and number of optometrists is much greater.

In addition the loss of income to HES generated by these referrals would be a major challenge to their financial position under the current payment by results system. In Scotland their system has had great benefits in that it has freed up capacity in HES to cope with the increased demand particularly in medical retina caused by demographic changes. ^{10,11} An alternative approach would be to allow and to encourage CO's to use their clinical judgement and not to refer many of the asymptomatic fundus lesions to HES at all. Fear of litigation and professional censure is a problem, however.

How can patients and carers be best supported for primary eye conditions?

There are [clinical management guidelines](#) for many eye conditions produced by the College of Optometrists and also by the [Map of Medicine](#). There is a great deal of information in the public domain (particularly on the internet) about common eye conditions, though it is of variable quality.

How do we compare – activity, quality, outcome?

The following can be used as starting point to measure the value of primary care ophthalmology system and form the basis of an annual report for the service.

There are general measures of the system as a whole such as:
The number of patients referred to the service and the number who are triaged directly to secondary care and the number actually seen.
The disposal rates e.g. referred to HES, discharged, followed up in primary care. The number discharged in one visit and number discharged in two visits.
The number of referrals to secondary care which need to be divided into urgent and routine.

Appropriate pathways for patients who need urgent referral to HES are an important part of the service particularly to other specialties such as neurology, neurosurgery, TIA and stroke services, rheumatology, general medicine. Patients may need to be referred to regional centres for vitreoretinal surgery, oncology or genetics rather than to the local district general hospital depending on local network arrangements. As a benchmark for ophthalmologist (or GPSI) -based services 2 schemes where exclusion criteria were cataract/squint/children 85% were discharged and 15% were referred for subspecialty follow up.¹⁹ Regular audit of the primary care ophthalmology service itself and of outcomes of referrals to secondary care are essential to ensure quality and efficiency of the service.



Improving the value of medications

Cost savings can be achieved in eye care if eye health professionals prescribe generic medications where clinically appropriate. Prescription errors can be reduced by using an electronic system and phasing out handwritten prescriptions. In primary care - lubricants, topical steroids, topical mydriatics, topical antibiotics and antivirals are the commonest drugs prescribed. Savings are made when people who normally pay for prescriptions can buy medication over the counter more cheaply than a prescription. Clear instructions to patients about how to use the medication, when to stop

Better value referrals

The introduction of e-referrals replacing the handwritten GOS 18 forms with typed, electronic referral forms sent by digital communication rather than by fax or mail which can be illegible or get lost. Optometrists can use NHS mail but most are not connected to the spine so cannot look up NHS numbers and cannot make direct referrals via Choose and Book.

GPs should be able to get prompt access to a primary eye care service with slit lamp facilities so they do not have to start treatment based on inadequate evidence or make an urgent referral to the HES because the primary care service cannot see the patient in less than 2 weeks.

The Fife model for referrals from optometry to HES increases the value of referrals for posterior segment conditions. The value of many referrals for asymptomatic retinal conditions is low as the patient is often discharged at the first visit without any intervention.

Comparison between services

There are different types of primary care ophthalmology service so the details of the outcome measures will depend to some extent on the exact remit of the service commissioned. For optometry led services the Welsh PEARS scheme can provide a benchmark. ⁷

What are the elements of a sustainable system of care for primary eye conditions?

This section recommends objectives for a system of primary eye care and how they should be measured with a view to being published in the annual report. Sustainable in the context of primary eye care means 'a diagnose and discharge or refer' service and not taking on ongoing monitoring.



If chronic conditions are monitored in a primary eye care service this becomes unsustainable in terms of providing capacity to meet demand for ‘soon’ appointments and once patients have a diagnostic label they can be referred to the most appropriate service in secondary care for further management or for investigation or second opinions. The details of a particular primary care service will depend on what has been commissioned and the facilities and staff providing the service. Shared care arrangements for monitoring of specific eye conditions in the community such as ocular hypertension or dry age-related macular degeneration are outside the scope of this document and should be considered under the relevant disease specific guidance documents.

Objective	Criteria	Outcome	Standards
To increase the value of referrals to secondary care ie to reduce the “false positives”	A false positive is defined as a referral into secondary care which is discharged at first visit without further investigation or treatment. e.g. asymptomatic cataract or choroidal naevus	Patients referred to secondary care who are discharged without further investigation or treatment	% referred to HES % diagnosis changed in HES % discharged at first visit from HES without further investigation or treatment
To ensure that patients within the service have appropriate and timely on-going care	Database of diagnoses, investigations, medications, interventions, Patient information leaflets	Audit of referrals & comparison with NICE standards e.g. TIA/stroke pathway, wet AMD	% seen in TIA/clinic within 2 weeks % seen in AMD lucentis clinic within 2 weeks



Objective	Criteria	Outcome	Standards
To ensure that patients within the service have high quality & safe service ie. low false “negatives”	A false negative is a patient who was not referred to secondary care but was subsequently found to have a poor outcome from a delayed or misdiagnosis	Record and analysis of serious untoward events including visual morbidity from delayed or misdiagnosis,	This data has to be provided by the main provider of eye care (HES) with feedback to primary care. Clinical Governance procedures to report and critical incidents such as patients losing vision in either or both eyes under the service.
To ensure good communication between referrers and also to patients	Audit of discharge summaries from the service	The referrer and GP should receive a statement of the outcome of a consultation which states the diagnosis, treatment, advice and follow up arrangements	90% of referrers (GP and CO) receive a letter within 2 weeks
To ensure that patients have confidence in the service & good communication	Patient satisfaction survey	A sample of patients should be monitored to determine satisfaction with different aspects of the service	90% of patients should be satisfied with the service.



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