

NATIONAL EYE CARE SERVICES STEERING GROUP

FIRST REPORT

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The First Report of the National Eye Care Steering Group

Chapter 1 – Executive Summary

Introduction

This is the first report of the Eye Care Services Steering Group. The group was set up by Ministers in December 2002 to develop proposals for the modernisation of NHS eyecare services, maintaining and developing an integrated, patient-centred service, and improving access, choice, waiting times and quality for all sectors of the community. As its first priority the Steering Group established subgroups to develop model care pathways for cataract, glaucoma, low vision and ARMD.

The group aimed to deliver proposals consistent with and to support the Vision 2020 programme. The overriding objective of VISION 2020 is to eliminate avoidable blindness by the year 2020 (hence the name) through adopting three key strategies:

- ❑ specific disease control
- ❑ human resource development
- ❑ infrastructure development

Demographic context

Demographic changes and improvements in health care are leading to an increasingly elderly population and longer life expectations. The population in the over 65 group is expected to increase by 24% by 2020. This would include an increase of approximately 23% within the 65-74 group and 25% in the 75+ groups. Visual impairment affects all age groups but predominantly older people so the demand for services to prevent and treat people with visual problems and to support them once they have chronic illness will increase. In 1998 there were approximately 8.3 million people over the age of 65 in England and Wales. Over half of these, some 4.3 million, had impaired vision (<6/12) in one or both eyes. Of these approximately 20% will have had impaired vision in both eyes.

The projected incidence of visual impairment will rise by approximately 35% by the year 2020.

Major conditions

Cataract - There are currently ¹more than 34,000 patients waiting over three months for cataract treatment. By the age of 75, a quarter of all people will have developed a cataract.

¹ December 2003

Glaucoma – Chronic glaucoma is a common potentially blinding disorder requiring lifelong care once the diagnosis is made. The prevalence of glaucoma rises from 1-2% of the >40s, to 5% of the >75s.

Low vision – Approximately 306,500 people in England are registered blind or partially sighted. Only an estimated 1 in 2 people eligible to register actually does so. The majority of people eligible to register are likely to have low vision (an estimated 80%). A further third can be added to these numbers for people with low vision who are not eligible to register. This equates to an estimated 650,000 people in England with low vision.

ARMD – ARMD is the most common cause of irremediable serious visual loss in people over 65 years of age. Macular degeneration also accounts for 14% of new partial sight and blind registrations for the working population (aged 16-64).

Key Conclusions

The NHS is now expanding as the Government invests increased funding in health care year on year. For the NHS to get maximum benefit from this increased investment, alongside the planned expansion in the secondary sector, the NHS needs to develop primary care ophthalmic services in order to meet increased need, particularly from demographic change. Developing genuine partnerships between primary, secondary care and the patient and carer both in service planning and delivery will help increase access and choice, and meet patients' aspirations for responsive and convenient services.

There is already a highly skilled workforce in primary care. With some further training and protocols for practice primary care professionals could take on an enhanced role to the benefit of patients and their own professional development. An integrated Information Technology system would support these developments but is not a prerequisite for progress being made. Referral should also be encouraged, (with patients/users permission) to voluntary agencies or social services, of those individuals whose sight loss is reported by them, or who are perceived by the clinician to be experiencing emotional or practical problems, or those in need of non-clinical information and advice

The care pathways developed for this report are designed to achieve:

- support for the development of integrated eye care services across primary and secondary care and social services;
- better use of the skills available in primary care;
- an increased amount of care for all sectors of the community in accessible primary care settings; and
- an increased role for the professional groups, such as optometrists and Dispensing Opticians, working in primary care.

Key recommendations and outcomes

The Eye Care Services Steering Group unanimously endorses the recommendations in the subgroup reports and recommends that they be taken forward within existing funds apart from:

the Glaucoma pathway, which needs piloting and should therefore operate to a slightly longer timescale;

the Cataract pathway, which can only be implemented when waiting times are reduced to three months. The Government has invested £52 million additional funding to Primary Care Trusts to achieve this.

Within the recommendations in the report the Steering Group identifies as key national actions to support the deliver of modernised eye care services that:

- GOS Regulations should be changed to allow optometrists and ophthalmic medical practitioners (OMPs) to refer patients directly to the Hospital Eye Service
- innovative projects and pilots should be funded through the £4 million funding announced in May 2003 to aid the improvement of services for patients with chronic eye conditions and/or low vision
- the steering group's report should be published as commissioning and planning guidance for PCTs.

Much progress can be made in delivering the new care pathways without changes to legislation or current funding arrangements. Any additional funding would need to be found locally as a result of re-engineering current funds. Optometrists can take on an enhanced role without changes to the General Ophthalmic Services by arrangements with local PCTs to fund such work. This should provide patients with better access to care and relieve some of the burden on the acute sector.

PCTs are encouraged to develop integrated commissioning plans in respect of ophthalmic services across primary and secondary care sectors to best meet local needs utilising the full available workforce including ophthalmologists, optometrists, Dispensing Opticians, orthoptists etc.

The Steering Group also identified further work which should be undertaken to ensure that ophthalmic services are developed and modernised on a sound basis and these recommendations are set out in the report in Chapter 4.

The membership of the steering group is provided at Annex A.

Chapter 2 – four pathways

As a first priority the Eye Care Services Steering Group has developed, through working groups, four model evidence-based pathways for the major eye conditions:

- Cataract
- Low Vision
- Age Related Macular Degeneration
- Glaucoma.

The Steering Group has not developed a care pathway for diabetic retinopathy, as this is being tackled separately as part of the Diabetes National Service Framework.

The aim has been to develop pathways which ensure patients receive a good and efficient service in a convenient setting without undue wait. The design principles were therefore to:

- make best use of available resources;
- have fewer steps for the user;
- make more effective use of professional resource;
- increase and improve patient choice;
- and show a high standard of clinical care with good outcomes.

The recommended pathways should be continually assessed so that in future improvements are made as circumstances change.

The main areas of change in the pathways are at the interface between primary and secondary care.

Cataract Care Pathway Summary

Aim

Cataract is a common condition, affecting mainly older people. It causes a gradual loss of clarity of vision, which can result in difficulty performing daily living tasks and social isolation. For most people, cataract surgery can significantly improve their vision, however the pathway for accessing treatment has often involved multiple visits to different health professionals, and a long wait. 'Action on Cataracts – Good Practice Guidance' (Department of Health, 2000) estimated that annually 3.2% of those aged 65 and over would benefit from cataract surgery. This implied a planning assumption of a 47% increase in provision.

The proposed pathway aims to provide a patient centred, cost effective service, to a high clinical standard, making the best use of the professional staff available.

Current pathway

Proposed pathway

<ol style="list-style-type: none"> 1) Patient reports sight problem to GP 2) Patient goes to optometrist/OMP for sight test and is referred to GP 3) Patient goes to GP, referred to HES 4) Patient seen at HES, cataract confirmed, decision to operate, and put on waiting list 5) Patient attends HES for pre-op assessment 6) Patient attends HES for day case surgery 7) Patient attends HES for 24 hr check 8) Patient attends HES for 6 week check, 2nd eye discussed 9) Patient attends optometrist/OMP for sight test and new specs. 	<ol style="list-style-type: none"> 1) Patient attends optometrist/OMP for sight test, cataract diagnosed and discussed, general risks & benefits of surgery explained, patient information given, patient offered choice of hospital and appointment agreed. 2) Patient attends HES for combined outpatient appointment* and pre-op assessment (*details of medications etc received from optometrist, GP or patient as per local protocols) 3) Patient attends for day case surgery 4) Post-op check according to local protocols 5) Patient attends optometrist/OMP for final check/ sight test, 2nd eye discussed.
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The basic principles underpinning a cataract service pathway should be:

- **only those who want, need, and are suitable for cataract surgery should be referred to HES cataract clinics;**
- **direct referral for cataract surgery by community practitioners;**
- **patients should be returned to their community practitioners as soon as possible after surgery for their continuing optometric care.**

Evidence

Several services have already developed along the lines proposed, with direct referrals from optometrists, reduced numbers of visits to the HES, and optometrists completing the final checks and supplying audit information. Audits have shown these to be successful (90+% referrals proceeding to surgery cf. 80% for traditional referrals). The re-designed services and extra funding have reduced the time to surgery (in some cases from over a year to 3 months) and freed up outpatient appointments. Greater nurse involvement to contact patients has reduced 'do not attend' (DNA) rates. Surgical outcomes have been in line with RCO guidelines, and audits have shown high levels of patient satisfaction.

Constraints

The proposed pathway involves community optometrists/OMPs undertaking additional services in primary care. This cannot currently be funded centrally through the GOS budget, but can be sourced from PCTs' wider NHS funds. Re-designing a service is time consuming, involves additional costs, and people are often naturally resistant to change. An efficient service can only be provided where there is sufficient investment in modern equipment and staffing. The proposed service makes use of different professionals who will need to develop mutual trust and work together as a team. The lack of good communication links (IT) between community practitioners and the HES is an issue. The key to efficient transfer of information, direct/partial booking and audits will be practices that are electronically linked.

Key recommendations

- Reduce the number of steps in the patient pathway by eliminating duplication
- Improve IT links between community optometrists/OMPs and the HES
- Develop protocols for discharge from the HES to the optometrist/OMP, with feedback for audit
- Agree funding

Glaucoma Care Pathway Summary

Aim

To present patient-centred options utilising increased activity of Optometrists and Ophthalmic Medical Practitioners (OMPs) in an attempt to reduce the burden of glaucoma and its associated conditions on Hospital Eye Service (HES) ophthalmologists.

Current pathway (Hospital based care)	Proposed pathway (Community based care)
<p>Single screening opportunity by community optometrists with no standardised protocols</p> <p>Diagnosis and continued care for life of all glaucoma (and many suspects) within Hospital Eye Service by ophthalmologists</p>	<p>Community optometrists with a special interest in glaucoma work to nationally agreed screening protocols which permit refinement of tests prior to referral</p> <p>Glaucoma suspects and stable glaucoma patients managed in the community by Community Optometrists and Ophthalmic Medical Practitioners with interaction of community and HES teams where appropriate. Patients offered choice of hospital and appointment if referred to HES.</p>

Evidence base

Only about 33% of routine suspect glaucoma referrals from optometrists are found to have glaucoma when seen in the HES. (Vernon SA, Ghosh G Eye 2001; 15: 458-463)

Optometrists with additional training can assist in glaucoma management freeing up ophthalmologist and hospital time (Vernon SA Glaucoma Forum 2000, 5 12-13. (IGA London))

Refinement of referrals for suspect glaucoma by specially trained optometrists reduces HES referrals Henson DB Spencer AF et al Eye. 2003;17: 21-6.

Constraints to achievement

Funding issues (increased revenue costs likely). Training requirements (trainers and trainees), Legal issues (on prescribing rights and referral), Information Technology issues (communication, record keeping, audit),

Key recommendations

- Community optometrists are encouraged to conform to College guidelines for referral of glaucoma suspects, with appropriate funding
- HES services are encouraged to utilise optometrists to assist in glaucoma care within the HES
- Refinement of optometric referrals in the community is established utilising OMPs and optometrists with a special interest in glaucoma
- Community care of “straightforward” glaucoma cases by OMPs and optometrists with a special interest in glaucoma is established
- Agree funding

Low Vision Care Pathway Summary

Aim of report

***“A growing number of the most vulnerable people in this country experience a quality of life that is significantly, but unnecessarily, diminished for the want of basic, relatively inexpensive health care”
(RNIB 1999)***

Key issues

- Vast majority of people with low vision are over 70
- Most people with low vision retain some sight
- Sight can be maximised by:
 - prompt advice and counselling
 - early assessment
 - provision of appropriate low vision aids (LVAs) and training in their use
- Effective low vision services can reduce admissions to residential care.

Current pathway

Proposed pathway

<ul style="list-style-type: none"> • Fragmented • Wide variation re access & quality • Referral from optometrist (often via GP) to HES • Uni-disciplinary • Lack of information, signposting & awareness Long waiting times • Initiation of LV services ONLY after ophthalmological assessment 	<ul style="list-style-type: none"> • Emphasis on low vision services <u>not</u> provision of low vision aids • Led by Primary or Social Care • Partnership Approach • Providing Services which promote: <ul style="list-style-type: none"> ○ Awareness ○ Timeliness ○ Accessible ○ Patient choice
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Key

- Co-ordinated local implementation across health and social services through designated lead organisation/officer
- Develop national eligibility criteria & core standards
- Audit existing services
- Links to Single Assessment & over 75 checks
- Review existing funding streams
- LV assessments to include an optometric check
- Understand workforce implications
- Move to provision of LV aids via a “loans” service
- Generic training programme for staff that have most regular contact with older people

Key recommendations

- Audit of existing services by PCTs
- Evaluation of new models of service provision
- Training
- Patient Experience

ARMD Care Pathway Summary

Aim

To consider the current options for managing patients suffering from ARMD and to develop a novel, patient-centered model of service delivery that will fully utilise the community optometrist resource and ensure prompt, effective and appropriate care for all patients.

Current Pathway	New Pathway
Patient reports visual problem GP refers patient to HES Or Patient is referred to an optometrist ARMD is diagnosed Patient is referred to HES via GP Fluorescein angiography carried out Any credible treatment option considered Patient managed by HES or by Low Vision Service Patient registered Referred for Social Service & Rehabilitation support	Patient presents with a visual problem Attends optometrist for precise differential diagnosis Direct referral to HES if appropriate Patients offered choice of hospital (if appropriate) and appointment for HES Exudative (wet) ARMD detected and treated promptly Non-exudative (dry) ARMD detected promptly and patient offered appropriate optical or Low Vision services Registration, Social Service & Rehabilitation support provided promptly for patient

Evidence

Over two thirds of those with vision impairment are over 65 years of age. ARMD is the commonest cause of irremediable serious visual loss in people over 65 years of age. Macular degeneration also accounts for 14% of new partial sight & blind registrations for the working population (aged 16-64). There is an exponential increase in ARMD over the age of 75. Demographic shifts in population would indicate an increase of approximately 35% over the next 20 years.

Visual impairment has been found to be an important risk factor for hip fracture and falls. Reductions in contrast sensitivity, depth perception and peripheral vision have been particularly linked with the risk of falls or hip fracture.

Inhibitors and barriers to service re-design include:

- Adequate Funding
- Human resources / recruitment
- Patient Communication
- Competitive behaviour
- Lack of Inter Professional Collaboration
- Lack of patient understanding
- Lack of trust
- Poor understanding of the role of other professionals

There is a clear need for the introduction of a sustainable public health message regarding ARMD. This would include greater awareness among all healthcare workers and improved patient information, including risk factors, diet and other aspects relating to the care pathway.

Key recommendations

- Community optometrists are encouraged to comply with College of Optometrists guidelines when examining older people
- Direct referral to the HES by optometrists is introduced
- Care networks involving all carers are established to ensure comprehensive care for all patients within an integrated structure
- Best possible patient care should be the clear focus of all involved

Chapter 3 - Care Pathways - Key outcomes

The four pathways identify the following key outcomes to deliver the pathways:

Local action

- Reduce the number of steps in the patient pathway by eliminating duplication.
- Improve IT links between community optometrists/OMPs and the HES.
- Develop protocols for discharge from the HES to the optometrist/OMP, with feedback for audit, and identify a source of funding.
- Encourage community optometrists to conform to College guidelines for referral of glaucoma suspects (this will require a formal commitment to fund this extra work).
- Encourage HES services to utilise optometrists to assist in glaucoma care within the HES.
- Establish refinement of optometric referrals in the community utilising OMPs and optometrists with a special interest (ensuring consistency with the Sight Test Regulations).
- Establish community care of “straightforward” glaucoma cases by OMPs and optometrists with a special interest (this will require a formal commitment to fund this additional optometric work, training, administration etc).
- Encourage optometrists to consider referral, (with patients/users permission) to voluntary agencies or social service, of those individuals whose sight loss is reported by them, or are perceived by the clinicians, to be experiencing emotional or practical problems, or who need information and advice.
- Wherever possible patients with ARMD should receive services from optometrists in the community setting to reduce unnecessarily burdening acute sector.
- Referrals should be made by any health carer/social worker to an accredited optometrist to facilitate rapid access to care. Patients may also be able to self-refer.
- An audit of existing Low Vision services by PCTs.
- WDCs should develop and deliver multi-disciplinary training to cover awareness raising, assessment and products available relating to low vision. Staff that have the most contact with older people should be targeted.
- HES to exhibit local contact points and information for statutory and voluntary care in outpatients.

National action

- Consider any legal issues which need to be addressed for delivery of recommendations.
- Develop national eligibility criteria & service principles for low vision

- Develop an evaluation of the 6 or 7 new service models under the auspices of The Low Vision Consensus Group. This evaluation will inform the development of national service principles.
- HES should be asked to send appointment cards and other important information to patients which have 14-16 font and are printed black on white (or yellow).
- DoH should carry out a quick audit of current practice and correlate with DNA rates.
- A training and accreditation programme for Glaucoma to be developed between the Royal College of Ophthalmologists and the College of Optometrists.
- Introduction of a sustainable public health message to prevent ARMD. This would include greater awareness among all healthcarers and improved patient information, including risk factors, diet and other aspects relating to the care pathway.
- The medium to long-term recruitment needs of all the professions involved should be considered and some consideration should be given to growing the ophthalmological resource to meet the increase in demand for all eyecare services. This should include ophthalmologists, optometrists, dispensing opticians, orthoptists.
- There is a need for ongoing research in all areas of ARMD.
- Workforce Development Confederations (WDCs) in conjunction with RNIB should urgently review the workforce requirements relating to rehabilitation workers.

Chapter 4 - Key Objectives

The Eye Care Services Steering Group unanimously endorses the recommendations made in the subgroup reports and recommends that they be taken forward within existing funds apart from:

the Glaucoma pathway, which needs piloting and should therefore operate a slightly longer timescale;

the Cataract pathway, which can only be implemented when waiting times are reduced to three months. The Government has invested £52 million additional funding to Primary Care Trusts to achieve this.

To facilitate the delivery of the care pathways, the Eye Care Services Steering Group recommends:

- That a National Eye Care Plan is developed with close links to the older people's programme and with specific reference to meeting the needs of children to ensure these are covered;
- The Department's financial planning should take into account the increasing need for ophthalmic services in view of the growth in numbers older people and to avoid social exclusion and loss of independence;
- Introducing direct referral by optometrists/OMPs to the HES;
- That the Steering Group's report should be published as commissioning guidance to support PCTs development of their purchasing role to support the development of integrated ophthalmic services. This should include guidance on how existing funds can be used to modernise services;
- That a number of pilots should be set up to test the new care pathways for glaucoma using optometrists with a special interest;
- The development of training and education for optometrists to enable them to take on an enhanced role;
- Facilitation of cross sector working with NHS, Social services and the voluntary sector working in partnership to best meet patient needs;
- That, working closely with the Older People's Care Group, the workforce impact of the recommendations should be modelled to assess their impact;
- The Department of Health should consider how and by when ophthalmic staff should be included in the national IT programme.

Key recommendations

Within these recommendations, key objectives should be:

- GOS Regulations should be changed to allow optometrists and ophthalmic medical practitioners (OMPs) to refer patients directly to the Hospital Eye Service

- Innovative projects and pilots should be funded through the £4 million funding announced in May 2003 to aid the improvement of services for patients with chronic eye conditions and/or low vision;
- The steering group's report should be published as commissioning and planning guidance to PCTs.

Work is already underway to permit direct referral by optometrists to secondary care, and the extension of prescribing responsibilities to optometrists and allied health professionals. Direct referral is expected to be introduced by the middle of 2004 but progress on extending prescribing responsibilities will be to a longer timetable. Ministers have agreed that work to introduce supplementary prescribing by optometrists should begin in 2004 and independent prescribing in 2005 and this work is also underway.

Further work

The report also recommends that further work should be carried out on:

whether changes are needed to current delivery systems, including funding, for ophthalmic services to facilitate better integrated service delivery across primary and secondary care and social services;

modelling the workforce impact of the recommendations made in this report;

IT needs and electronic booking to identify what can be done within the funds available;

the need for funding to meet equipment needs to enable optometrists to take on an enhanced role;

the development of baseline standards for Low Vision work which should be undertaken by a group led by the Modernisation Agency.

the development of a care pathway for the management of anterior eye disease and the prescribing of therapeutic agents by optometrists.

The Eye Care Services Steering Group is willing to oversee this work.

Eye Care Services Steering Group

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Report of the Cataract Sub-Group of the Eye Care Services Steering Group

Proposed new cataract pathway

Background

1. The Eye Care Services Steering Group set up sub-committees to look at patient pathways for certain common conditions. Membership of the Cataract sub-group is given in appendix 1.
2. This work was carried out to a very tight time-scale, using limited resources. This report aims to discuss the traditional patient pathways, show how these have been changed in some areas, look at the evidence for benefits of these changes, and recommend how patient pathways should be designed in the future. It is acknowledged that there may be local issues that would influence the pathway in a particular area. The ideal patient pathway should give the patient a good and efficient service, in a convenient setting, without undue wait. It should make best use of the skills of the professional staff available, and show good value for money. The patient pathway should be continually assessed so that improvements are made as circumstances change.
3. The Department of Health produced 'Action on Cataracts – Good Practice Guidance' in February 2000 (1). This document aimed to assist managers and health professionals to review the management of cataract services. For this work the group has looked at several areas where the cataract services have been developed along the lines suggested in Action on Cataracts to see how the service has been improved, what other improvements could be made, and to suggest patient pathways.
4. Cataracts mainly affect older people.
 - They cause a gradual loss of vision.
 - The vision is significantly worse under poor lighting conditions.
 - There are increased problems with glare and dazzle.
 - Colour perception is affected.
 - These changes mean that patients affected gradually lose independence.
 - They may have to stop driving, find it difficult to see kerbs and cross roads on sunny days, and have problems in reading vital information such as medicine and food preparation instructions.
 - Social isolation may result from their lack of confidence to venture outside.

For many of these people cataract surgery is a viable option, but there is still a perception that this is a major operation with excessively long waiting lists.

4. Following cataract surgery, some patients gradually lose visual clarity due to posterior capsular opacification. This has traditionally affected about 50% of patients 3-5 years after surgery (2). It can be cleared by Nd:YAG laser treatment. A change in lens implant edge design has appreciably reduced the incidence of capsular thickening (3), but this does still continue to occur to some extent. The pathway for treating this is also considered.

Current position

6. The length of time that a patient has to wait from the time that a cataract is diagnosed to the completion of surgery and provision of new spectacles varies considerably. In several areas over the past few years the services have been re-designed and waiting times reduced. However, in others there may be waits of over a year. Factors influencing this include -

i) Capacity

Some hospital services are stretched because of staff shortages and cost pressures. It is not expected that workforce problems will be alleviated in the foreseeable future.

ii) Public expectations

Many patients now needing cataract surgery are better informed and more demanding than their predecessors. They expect to remain active, and often need to continue driving well into later life. This is one of a number of factors that has led to an increase in the demand for cataract surgery.

iii) The traditional patient pathway to cataract surgery has been –

- a) (Patient reports a sight problem to GP*)
- b) Patient to optometrist/OMP for sight test, told they have a cataract. Referral letter written to GP
- c) Patient goes to GP who refers them to Hospital Eye Service (HES)
- d) At the first outpatient appointment, the patient is told that they have a cataract, the decision to operate is made, and they are put on the waiting list
- e) Patient attends HES for pre-op assessment
- f) Surgery
- g) Patient attends HES for 24 hour check
- h) Patient attends HES for 6 week check and discharged or listed for 2nd eye
- i) Patient attends optometrist/OMP for refraction and new spectacles.

*Step (a) may not take place.

The pathway for Nd:YAG has been –

- a) Patient attends optometrist/OMP for routine sight test, and is told that they have a lens capsular thickening. Referral letter written to GP
- b) Patient attends GP, and referred to HES
- c) Patient attends HES and told that they have lens capsular thickening and need laser treatment
- d) Patient attends HES for laser treatment.

At the initial sight test appointment with the optometrist/OMP, patients may be unaware that they have a cataract, although they may have a suspicion. This initial sight test may detect other pathologies that need to be referred to an ophthalmologist or other medical practitioner, although the urgency of the referral, advice given and person to whom the referral is eventually directed may well be different. This is an important aspect of the general optometric services, and adds value to the sight test.

iv) Current legislation

Optometrists/OMPs do not have to refer all those they examine who have signs of eye injury or disease, although this was the legal position for optometrists until 1999. They now have the option of managing the condition themselves if this is more appropriate (4). However, the current terms of service for an optometrist/OMP working under the General Ophthalmic Services (GOS) state that where they do refer, it should be to the person's doctor, except in an emergency (5). Direct referrals from optometrists/OMPs have not, therefore, been a routine option in the past.

What works – new model

7. Several areas have re-designed their cataract services with streamlined patient pathways and some audits have been completed. A list of schemes referred to in this section is included at Appendix 2.

These services generally make good use of the available resources; have fewer steps for the user; and show a high standard of clinical care with good visual outcomes. The main areas of change have been at the interface between primary and secondary care. Only those who require cataract surgery, and want to have it, are referred into the HES for surgery. After surgery, the patients are returned to the care of their local primary care practitioners for their continuing eye care and refractive needs.

Audits show that these re-designed pathways achieve services of which both users and professional staff approve, with good clinical outcomes, efficient use of manpower, and acceptable waiting times.

The main changes made have been to ensure that the patient does not have to attend several times for the same purpose, and as many steps as possible are achieved at each visit. Therefore, once a cataract has been diagnosed by the optometrist/OMP, that diagnosis is accepted. The initial work up of the patient to inform them about the possible options for dealing with the cataract and to gather relevant information can all be undertaken at this initial community appointment. This means that at the end of this appointment, the patient knows that there is a problem, but has a clear idea of the possible solutions, thus alleviating them of a prolonged period of worry and uncertainty. The community practitioner can also give the patient an idea of the time frame until surgery so that they can plan and cope better with the situation. The hospital appointment is initiated from the optometrist/OMP practice, and the patient leaves with information leaflets and a contact telephone number

Hospital appointments are often stressful for patients, particularly for the elderly who may have other health problems. They may spend many hours in the hospital waiting for their appointment, unsure whether to go to get food or drinks in case they miss being called. The time that they actually spend with the professional may be very short, and patients may not take in all the information the first time it is given because of their other concerns. In many instances it is not necessary for the patient to come to the hospital, a telephone conversation is all that is needed, for instance to check their progress following surgery. Nurse-led phone consultations are a feature of several successful cataract pathways.

Clinical audits are an important feature of any service. One of the reasons that some hospitals have followed up all their cataract patients at 6 weeks is to assess the outcome of surgery. A good co-managed scheme involves the optometrist/OMP feeding this information to the hospital, thus saving the patient a further visit.

8. **i) Proposed new patient pathway to cataract surgery -**
 - a) The patient attends an optometrist/OMP/GP with special interest in ophthalmology (GPSI), and a cataract is detected. The optometrist/OMP/GPSI explains about cataract, discusses the option of surgery (including the general risks and benefits), gives the patient information leaflets, completes general health paperwork, and refers them to the HES (with a copy of the details to the GP). Details of local Voluntary Associations/Social Services may be given, if appropriate.
 - b) The patient is offered choice of where they will have their treatment. An outpatient appointment is agreed with them to see the ophthalmologist and have their pre-op assessment. Biometry may be part of the HES pre-operative assessment, or may have been undertaken by the optometrist / OMP / GPSI. (In some services the pre-operative assessment and surgery will

be on the same day when possible). A date for surgery is agreed.

- c) Surgery takes place and the patient returns home. The patient is given advice about looking after themselves and under what circumstances they must contact the hospital (e.g. the onset of severe pain), and how to manage with their current spectacles until their next refraction.
- d) A post-op check is undertaken according to local protocols.
- e) Patient attends their optometrist/OMP at 4-6 weeks for final check, refraction and provision of spectacles; and if appropriate, to discuss the possibility of second eye surgery (with referral to HES if required) and how to manage their visual requirements in the interim.

NB Local conditions, such as demography, staff available, and choice of the consultants and other members of the cataract team will determine the exact details of the service.

ii) **Considerations**

There are differences of opinion about whether surgery should be undertaken at the first HES visit. Although it cuts out one hospital visit it gives the patient very little time for reflection after their surgeon has explained the specific risks to them. No patient should ever feel rushed into making a decision about non-life-saving surgical procedures.

The ophthalmologist may consider same day bilateral cataract surgery for some patients. A recent report from Sweden showed this to be a satisfactory procedure for certain people (6). The advantage for the patient is that they only have to undergo one series of visits for the treatment for both eyes, and they do not experience the problem of how to manage their spectacles between the two operations that sometimes causes difficulties. It also frees up some outpatient appointments. However this must be balanced against the very small risk of the devastating effects of bilateral endophthalmitis. Both operations have to be performed as entirely separate procedures, with re-preparation of the patient, the whole surgical team and a new and separate set of instruments, so the surgical time saved is minimal. This is dealt with in guidance from the Royal College of Ophthalmologists (7).

There will always be some patients who will be unsuitable for routine day case local anaesthetic surgery. Any service needs to acknowledge that there will be a number of patients who require special treatment.

However 'user friendly' the cataract pathway is made, the operation is still a very stressful event for the majority of patients. Many who wish to access the service will need additional help. Links with Social Services and the Voluntary Sector will be of great value to them, and could be initiated at the time of initial referral, or pre-operative

assessment if this is on a separate occasion from surgery. These agencies are able to provide short-term practical help that enables patients to have a positive experience

The basic principles underpinning a cataract service pathway should be:

- **only those who want, need, and are suitable for cataract surgery should be referred to HES cataract clinics;**
- **direct referral for cataract surgery by community practitioners;**
- **patients should be returned to their community practitioners as soon as possible after surgery for their continuing optometric care.**

iii) Proposed pathway for Nd:YAG laser treatment should be -

- a) Patient attends optometrist/OMP/GPSI and is told that they have capsular thickening. Referral letter written to HES
- b) Patient attends HES for laser treatment

(Currently ophthalmologists perform this laser treatment. In future it may be that some optometrists, OMPs, GPSIs or specialist nurses will be trained in this procedure, either in a primary or secondary care setting.)

9. Evidence for the success of the proposed pathway comes from audits of the schemes listed in Appendix 2, both those published and anecdotal reports.

i) Optometrist referrals

Optometrists can accurately refer patients who are suitable for, and wish to have, cataract surgery:

- ◆ 89% of patients referred directly from the optometrist in Peterborough had cataract surgery
- ◆ 80% - 90% of patients referred directly in the West Kent scheme had surgery
- ◆ 96.3% of referrals in Ayr were suitable for cataract surgery
- ◆ Approx. 97% of patients referred directly by optometrists in East Gloucestershire are listed for surgery
- ◆ An initial audit in Croydon showed 93.3% of patients referred directly from optometrists had surgery, compared with 75% referred by GPs, and 82.4% referred by the traditional optometrist/GP pathway. Now that the optometrists are more confident in their referrals, 95% of patients they refer proceed to surgery
- ◆ A Leeds audit showed that 100% of patients referred directly by optometrists had surgery, compared with 70% referred from

GPs and 81% referred through the traditional GOS 18 (GP + Optom) route. However, this was on a small sample.

NB The audits seen only refer to optometrists, not OMPs.

ii) Capacity

Many hospitals have increased their capacity, without additional resources by introducing more efficient methods of working.

Action on Cataracts also provided some funding for capital costs to improve services. Some of this was used to replace old and unreliable equipment. Without sufficient good quality and reliable equipment, an effective service cannot be provided. For example, Merton Sutton & Wandsworth used their money to purchase new equipment for St Helier and St George's Hospitals. Previously there was insufficient equipment for more than two operations without re-sterilising equipment, and the operating microscopes were unreliable. Situations such as these need to be addressed for an efficient cataract service.

Rotherham has eliminated the post operative hospital visit in uncomplicated cases. This is expected to produce 247 new out-patient slots per year.

iii) Waiting times

The combination of streamlining hospital procedures; using optometrists/OMPs to refer patients directly for surgery; using telephone discussions rather than booking clinic appointments; and discharging patients into the community earlier, has enabled hospitals to deliver the service within a reasonable time frame. For example:

- ◆ In Peterborough 97.8% of patients were seen and operated on within 12 weeks of referral (the remainder had surgery within 24 weeks)
- ◆ In Ayr, the waiting time for surgery before re-organisation was 9 – 12 months. This has fluctuated with the new service, but is now steady at around 3 months.
- ◆ Stepping Hill has reduced waiting times mainly by increasing capacity. They have also introduced an optometrist direct referrals scheme, but this has not yet been evaluated.

iv) Quality

The results of surgery are consistent with the RCOphth Guidelines:

- ◆ Peterborough achieved 98.7% patients recorded VA of 6/12 or better at discharge (guidelines state at least 85% where there are no other ocular co-morbidities).

- ◆ In Ayr 98.1% of patients achieved VA of 6/12 or better at their post-operative check.

v) Post operative reviews

- ◆ In the Ayr scheme, the patients are examined one hour after surgery. If all is well, they return home and are telephoned the following day by a cataract nurse. An audit of reviews showed that 3-4 weeks later, 92.0% of patients attended hospital and 7.1% attended their optometrist for review. 2.6% attended earlier and 7.1% later because of complications.
- ◆ In Croydon the initial post-operative review takes place in the hospital. An audit showed that 85% of respondents (57% response) attended their optometrist for their final post-operative check and refraction.

vi) Nurse involvement

Greater involvement by nursing staff was a feature of many of these schemes. This was particularly for telephone calls to check fears before surgery and to ensure that there were no complications just after surgery. Calls before surgery were perceived to reduce DNA rates. Mention was made of this in Rotherham, Ayr, Croydon, and Peterborough.

vii) User views

The user surveys show high satisfaction with the services. For example in Peterborough:

- ◆ 99% of the patients liked to know the date of surgery in advance (patient initiated cancellations were reduced from 12% to 3%)
- ◆ 98% were happy with the procedure for the decision to refer them, and did not feel under any pressure to make an immediate decision.
- ◆ 96% were happy with the discharge arrangements. There were also comments praising the service.

A patient audit in Croydon was generally positive about the direct referrals fast track scheme and the Leeds report showed that patients preferred to attend community centres rather than a city centre hospital.

What to do / overcoming barriers

10. i) Increase capacity

Cataract surgery has advanced greatly over recent years, and is now a viable option for the vast majority of those who have a visual problem caused by a cataract, and who would like to have surgery. The

Department of Health has published figures to show the annual number of cataracts that would need to be performed if the target intervention rate of 3.2% of those aged 65 and over were to be offered surgery (1). It would require a 47% increase over the number of operations performed in 1999. ONS data, 1999, estimated that the population of those aged 60 and over will increase by 12% between 1999 and 2009 (1).

A greater volume of cataract surgery can be achieved where there are dedicated cataract surgery lists. In some areas this will mean completely re-designing not just the cataract services but also several other ophthalmic sub-specialities.

The major capacity limitation is the amount of senior medical time available for the surgical intervention. It is not yet known if recommendations to use the present workforce skills to the optimum level will resolve this problem. It is possible that if the amount of senior medical time remains a capacity limitation, then increasing the scope of practice and skills of nurses and optometrists might be one of the next solutions to consider.

This will initially be time consuming and may not be popular with the workforce.

ii) Improve access

The patient normally initiates the route into the cataract pathway. This means that they would either have a routine sight test because they were in the habit of doing so on a regular basis, or they may have noticed a deterioration in their sight. Unfortunately many elderly people accept failing sight as a factor of ageing. A study in North London looked at visual impairment in an elderly population (8). It found that 88% of those whose visual problem was due to cataract were not seeking help from an optometrist/OMP, or low vision clinic. There needs to be greater public awareness about cataracts, and the potential for surgery. Publicity is needed about how to access a sight test, who is eligible for GOS tests, and where the practitioners are located. Many elderly people will find it easier to have appointments in places with easy travel and at a time when they can be accompanied by a friend or relative. It may be advantageous for the Voluntary Sector or Social Services to give short term help to those who would have difficulty accessing the service and coping immediately after surgery. ***This will mean extra resources for publicity, re-designing appointment regimes, and forming links with the Voluntary Sector and Social Services.***

iii) Waiting times

Waiting times for cataract surgery have, in the past, often been excessive. The causes have included lack of adequate operating equipment and a complex and repetitive patient pathway. Currently a

patient may not have their cataract listed for surgery until they have had four separate contacts with healthcare professionals. The majority of those with cataract are elderly, and they may have concerns about their ability to manage in the home with failing sight and increasing frailty. They appreciate having an early diagnosis and realistic idea of how long they can expect to wait for surgery. ***The patient pathway needs to be revised and shortened. Patients should be given information at the earliest opportunity of the expected waiting time, and given a firm date for surgery as soon as is practical.***

iv) Outcomes

The visual outcome of surgery should be an improvement in vision. The actual standard will vary according to the individual, and any co-existing pathology.

Encouraging the increased uptake of sight tests will also detect other ocular pathology. These patients will need to be referred to the appropriate professional, which will increase the pressure on the services. However, it will lead to health and quality of life gains for those affected. ***Clinical audits should be included so that the outcomes can be assessed to ensure that the pathway gives good results, and to assess the effects on other NHS services.***

v) Patient satisfaction

It is vital that the patient pathway is centred on the service user. It must give an efficient service, in a convenient location, at a suitable time, to a good standard, where the patient feels involved and included in the decision-making. Patients should be given information about the likely outcome of surgery to enable them to make an informed decision. ***There should be adequate information available to the service user at all stages, both written and verbal. This should include details about their condition, the surgery, risks, and likely visual outcome. Standardised information, with a similar format for different conditions, would be helpful. This must be in suitable sized type.***

vi) Value for money

The service should give good value, while maintaining satisfactory standards of care and clinical outcome. ***Value for money needs to be monitored. The proposed pathway makes use of different professionals, and in a different setting. There is currently no financial provision for providing such a service, and resources need to be identified to pay for this.***

vii) A new way of working

Setting up a new scheme takes time and resources. Key people need to be motivated, and then to overcome the natural reluctance of many to work in a different way. Reducing the number of times a patient is seen in the HES will not reduce the overall HES workload. It may increase, because the slots vacated by the relatively simple and straight forward cataract patients will be filled by other patients with possibly more time / cost consuming conditions.

The suggested pathways involve an increased team of professionals, in line with present Government recommendations (9). Some of these people have not worked closely in the past, and so have not had the opportunity to build a good working relationship where they have trust in the standard of work of their colleagues.

The proposed service uses professionals in a different way. This will involve a different use of financial resources. The total costs of providing the service may increase due to the increased volume but the cost per incident and value for money should be closely monitored. There needs to be a fundamental change in the way that eye care services are funded, with a change from only GOS and HES funding to funding for the services to be provided in the most appropriate setting.

Demographics

11. Action on Cataracts (1) identified areas where there was severe under-capacity. In some instances these have been addressed. There are, however, still places where there is much room for improvement. These include places where there is a large population of older people (10).

Recommendations

12. i) Direct referrals

Protocols are set up to enable community optometrists, OMPs, and GPSIs to undertake the initial work up of patients so that they can be referred directly into the HES. This would include explaining to the patient what a cataract is, the likely progress, the general risks and benefits of surgery, obtaining information about their general health and current medication, and giving them patient information literature. Where the patient wanted, and the optometrist/OMP/GPSI judged them to be suitable for surgery, the hospital appointment would be made directly from the optometrist/OMP/GPSI practice.

The vast majority of patients attending the optometrists/OMP who require cataract surgery will be over 60 and entitled to a GOS funded sight test. The GOS test includes both refraction and responsibility to identify 'signs of ...eye disease' (11). Should a cataract be detected,

the patient would require additional services from the optometrist/OMP (which are not within the terms of the present GOS contract) before the referral can be made to the HES. The practitioner cannot claim a fee for this from the GOS (12). There is no provision for any payments except for a routine sight test through the GOS. It is, therefore, necessary for a formal commitment for this work to be established, with appropriate funding attached. Identifying recurring revenue is an issue to be addressed.

Ideally, electronic patient records (EPRs) should be employed. Until these become available, a dedicated phone / fax should be provided for booking appointments.

Funding, therefore, needs to be provided for the initial set-up costs and for the on-going delivery of the service from PCT budgets.

ii) Direct (or partial) booking

Patients who are referred for surgery should be given firm dates for their pre-operative assessment and surgery at the earliest opportunity. This will only be practical if the waiting times are reasonable. Patients should be telephoned by a named cataract nurse before their operation to check details and discuss any concerns they may have. The involvement of Social Services or the Voluntary Sector in the team caring for the patient may be appropriate. Direct or partial-booking systems, together with phone calls before appointments, have been shown to reduce the DNA rates.

iii) Theatre lists

Dedicated cataract lists should be the norm for routine cataract surgery.

iv) Equipment

Hospitals need to have sufficient modern, reliable equipment. Funding for equipment is an ongoing problem. Some of the ordering processes are long and convoluted; this issue needs to be addressed.

v) Post – operative checks

Patients should be returned to the community as soon as possible, having been given advice about how to manage with their spectacles until their next optometrist/OMP appointment. In uncomplicated cases, where the consultant decides that a hospital post-operative check is not required following the patient leaving hospital, the named cataract nurse/optometrist/OMP should phone them on the day after surgery to ensure that there are no problems. There will be a proportion of patients who will need to have this check in the hospital or by an

optometrist/OMP for audit purposes. There is debate as to whether this appointment should be at 24 or 48 hours.

vi) Final discharge

The patient should return to the referring optometrist/OMP 4 – 6 weeks after surgery for a final slit lamp examination and refraction. A report should be sent to the hospital giving full results, and referral for second eye surgery if that is required. Ongoing funding for this service is required from the PCTs.

vii) Audit

Clinical audits should be carried out to show how the service is performing, and how it compares with other services around the country. This will be facilitated by the use of EPRs. All the members of the team (hospital and community staff, PCT managers, and users) should be involved in the decisions about the service provision.

viii) Individual variations

The service needs to have locally agreed protocols to suit the individual circumstances. For example, there will be some patients who will not be suitable for day case surgery under local anaesthetic. Any patient pathways must ensure that these people have access to cataract surgery where this is required. The proposed pathways make use of a team of professionals - ophthalmologists, doctors, optometrists, ophthalmic nurses, administrators. They should all understand the full workings of the team, and feel a part of it. There should be protocols in place to deal with any problems that may occur. There will need to be a clinical network to share individual variations that demonstrate how to improve the service more generally.

ix) Action on Cataracts

The Action on Cataracts document (1) gave guidance for cataract services. This paper is based on evidence of how these principles have worked in practice. There is ample evidence of their success, and they should now be strongly recommended.

x) IT

In the future it is proposed that hospital booking systems will be fully electronic. Optometrists/OMPs will only be able to refer directly into the HES for this type of pathway if they are part of the IT network. They also need to be included in the network so that they can exchange information with the other members of the team, and for audit purposes. There is no funding for this at present.

Key outcomes

13. In the short term, the most urgent reforms to the patient pathways are to address the problem of the patient making multiple attendances for the same procedure. This can be achieved by changing the interface between the primary and secondary care settings by protocols for direct referrals into the HES from the community, and timely return of the patient to their community practitioner. This will not be achieved unless adequate funding is made available. This can be put into place with minimal work, it has been proved successful, and there are adequate models available.
14. In the medium term, the pathways through the hospital should be reviewed to ensure that the best use is being made of the available personnel, and that the system is streamlined. Ongoing investment is needed to provide and maintain vital equipment.
15. Longer term, EPRs would improve the efficiency of the system. They should prevent 'missing' or 'lost' records; ensure that there are not misunderstandings caused by poor handwriting; allow reliable feedback to all the team; and facilitate audit. The issue of IT and linking optometrists/OMPs into the electronic network needs to be addressed.

Issues

16. The present HES has a shortage of ophthalmologists, and present service requirements will lead to an increasing demand for eye services. However, there is a large workforce of well-trained community optometrists and OMPs working from well-equipped practices. They are in an ideal position to take some of the workload from the hospitals – not just for cataract services, but other acute and chronic eye conditions. The reasons for the under-use of this resource are the present methods of funding eye care; the traditional method of service provision; and a lack of understanding and co-operation between the professions.
17. As the roles of optometric and nursing staff change, more specialist staff may be required, with additional training to widen the scope of practice and skills of non-medical clinicians in the eye care team. Education and training requirements are small. For most optometrists/OMPs it would involve agreeing specific protocols rather than being educated in new procedures. However, specialist training would be required for some optometric and nursing staff. All members of the cataract team would need to agree the new working arrangements and sign up to the protocols.
18. Legislative changes required would be to the terms of service for GOS (already earmarked as part of the modernisation agenda) and changing the way that the service is funded to provide moneys outside GOS in the primary care setting for optometrists/OMPs.

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Appendix 1

Group members

Peter Coe / Jane Futrille	General Optical Council
Martin Ford	Leeds PCT
Elizabeth Frost (Chair)	Association of Optometrists
John Keast-Bulter	British Medical Association
Andrew Kent	NHS Modernisation Agency
Mike Nelson	Royal College of Ophthalmologists
Chris Packford	Association of British Dispensing Opticians
Jayne Rawlinson	Federation of Ophthalmic & Dispensing Opticians
Geoff Roberson	College of Optometrists
Helen Seward	Royal College of Ophthalmologists
Tim Smith	Royal College of General Practitioners.

Appendix 2

Scheme details

Department of Ophthalmology, Peterborough Hospitals NHS Trust	'Direct optometrist referral of cataract patients into a one-stop surgery facility'
West Kent	'Review of Action on Cataracts – Optometrists Pilot, November 2002' and notes from meetings
Merton, Sutton & Wandsworth	Notes from meetings
Rotherham General Hospital NHS Trust	Pilot overview from Modernisation Agency web page
Department of Ophthalmology, The Ayr Hospital	'Direct optometrist referral of cataract patients into a pilot 'one-stop' cataract surgery facility'
East Gloucestershire	Presentation given by David Adams (LOC Chairman)
Croydon	Presentation given by Helen Seward, Consultant Ophthalmologist, to GP academic meeting Audit report, M Blades (Audit co-ordinator for surgery 16.10.01) Fast track cataract clinic report, Croydon LOC 26.05.02
Leeds	Direct referrals audit
Stepping Hill, Stockport	Personal communication

Proposed Cataract Pathway

Start

Finish

1. Patient attends optometrist

- Sight test, cataract diagnosed and discussed
- General risks and benefits of surgery discussed
- Patient wishes to proceed, information given etc
- Patient offered choice of hospital and appointment agreed

2. Patient attends HES

- Outpatient appointment with ophthalmologist*
- pre-assessment (with nurse?)
- Date for surgery arranged/agreed

(* details of medication etc received from optometrist, GP or patient as per local protocols)

4. Patient attends HES or Optometrist

- Final check
- Sight test
- Discharged or 2nd eye discussed and appointment arranged

3. Patient attends HES

- Day case surgery undertaken

Eye Care Services Steering Group

ARMD Sub-Group

Background

There is a clear need to establish an integrated care network for patients with age related macular degeneration (ARMD) and low vision needs. This would involve the collaboration of the medical, nursing, optometric/optical and social service professions to ensure easy access to quality care at convenient times, efficient and appropriate diagnosis, rapid referral (and treatment if appropriate), effective registration (to the blind or partially sighted register, as required), dispensing of appropriate aids with follow up visits to the home environment and ongoing social service support.

Macular Anatomy

The macula is a round area approximately 5.5 mm in diameter at the posterior pole of the eye. It is the small region of the retina centred around the visual axis and is responsible for fine resolution, colour perception, contrast sensitivity, scanning, reading and the detection of motion. Histologically it is the region of the retina containing xanthophyll pigment and more than one layer of ganglion cells.

It is metabolically highly active, because it contains the highest concentration of photoreceptors in the region (approximately 200,000/mm²). It contains a yellow substance known as the macular pigment, thought to provide some protection against Age-Related Macular Degeneration. This is partly because it absorbs harmful short wave-length light and partly because it acts as a scavenger for reactive substances known as free radicals.

Maculopathy is the general term used to describe abnormalities or disease of the macula. This is a complex subject but it can be broken down to two main categories:

- Hereditary maculopathy.
- Acquired maculopathy.

Hereditary macular disease may be obvious at birth (e.g. albinism) or it may develop over the lifetime of an individual (e.g. retinitis pigmentosa).

For the most part **acquired macular disease** is caused by trauma, systemic disease, retinal vascular disease, retinopathy, choroidal disease or increasing age.

Age related macular degeneration (ARMD) is an acquired maculopathy that usually affects those over the age of 60 but it can co-exist with the other disorders listed above.

Visual impairment can be defined as any chronic visual deficit that impairs everyday function (nominally <6/12) and is not correctable by spectacles or contact lenses. The leading causes of visual impairment are more common in older people: age related macular degeneration (ARMD), cataract, glaucoma,

diabetic retinopathy and optic nerve atrophy. Over two thirds of those with vision impairment are over 65 years of age. ARMD is the commonest cause of irremediable serious visual loss in people over 65 years of age. Macular degeneration also accounts for 14% of new partial sight & blind registrations for the working population (aged 16-64).

Low vision services should be in line with the common services and standards set out in the Low Vision Services Consensus Group report. The scheme should be able to deliver high quality services with multi-disciplinary input for people with visual impairment resident within a defined area, at a location that is convenient to the patient and appropriate to the task. Initially this may be over a set period, for example as a pilot scheme, for audit purposes. Figures and timescales will need to be reviewed as the scheme progresses. All local community optometrists and relevant Social Services or voluntary agencies within the PCT should be invited to participate and should be offered the opportunity and training to provide LV services within this pilot. It will be necessary to devise a recording system that allows all the members of the multi-disciplinary team to use the information. The flow chart depicting the service in Birmingham is attached as Appendix 2.

Potential Stakeholders

The people involved in the service are likely to include:

- Service users
- The PCT
- Ophthalmology department
- Local optical committee
- Optometrists and dispensing opticians
- Social Services teams for visual impairment
- Voluntary organizations
- GPs within the PCT

In addition, stakeholders could include a representative of any locally available practitioners with low vision experience, whether hospital general practice-based, and any other low vision practitioners as appropriate.

Falls and Visual Impairment

The National Service Framework for Older People recognises visual impairment as an intrinsic risk factor in falls in individuals. It is therefore surely imperative that the scope of the guideline should encompass primary care assessment of vision to aid in the prevention of falls.

The College of Optometrists commends the value of a primary care assessment of vision as a widely available and cost-effective intervention for the prevention of falls. It documents evidence from the research literature that support the following statements:

- Visual impairment is an important risk factor for falls and hip replacement.
- Elderly people make insufficient use of eye care facilities in the UK.

- Visual impairment is linked with increased risk of falling and hip replacement.

Visual impairment has been found to be an important risk factor for hip fracture and falls. Reductions in contrast sensitivity, depth perception and peripheral vision have been particularly linked with the risk of falls or hip fracture.

Contrast sensitivity can be reduced by outdated spectacles and cataract; depth perception is particularly reduced by refractive blur or eye disease in one eye only or in one eye more than the other; and peripheral vision is reduced by diseases such as glaucoma and retinitis pigmentosa. Another study indicated that of 200 elderly patients admitted to an acute geriatric clinic in the UK, about one half (101) had impaired vision (best eye acuity worse than 6/18 Snellen). In addition, they found a particularly high prevalence (76%) of visual impairment in the patients admitted due to falls and that 79% of this visual impairment was reversible, mainly by updating spectacles (40%) or by cataract surgery (37%).

Current Service

What is good about current service?

There is much to commend the current service, including the following:

- Access to angiography in most (if not all) eye departments
- Access to Argon laser in all eye departments
- Great awareness of ARMD in general optical services
- Prompt access for suspected 'wet' (neovascular) ARMD in most secondary care sites
- In some centres access to Low Vision Aid (LVA), Certificate of Vision Impairment (CVI) and social services advice is almost one stop

Areas for improvement?

What do patients want from the service?

Rapid and precise diagnosis in the primary care sector including referral refinement and repeat procedures such as dilated biomicroscopy.

Rapid access for patients with 'wet' (neovascular) ARMD who are treatable at diagnosis. Access to newer therapies (where evidence for their benefit exists)

Management of co-existing conditions.

Prompt management & access for non-neovascular ARMD

Access to LVA services

Access to expert medical retina services for advice on whether individual patients should have angiography and treatment.

Direct referral from optometrists to eye departments

Two way communication from primary to secondary care involving all professional groups

Further research in all areas.

Prompt, effective and compassionate communication is required to include:

- A detailed explanation of the nature of the condition
- A reliable and credible prognosis
- Detail of treatment and management options for patients
- Advice regarding fellow eye (if unocular at presentation)
- Reassurance about the type of visual handicap associated with loss of central vision
- Explanation of visual standards for driving
- Advice regarding employment and other social issues

For some patients

- ❖ Offer of CVI assessment and registration if vision is poor enough
- ❖ Offer of LVA if required

Inhibitors and barriers to service re-design include:

Adequate Funding

Human resources / recruitment

Patient Communication

Competitive behaviour

Lack of Inter Professional Collaboration

Patient apathy – lack of awareness

Lack of trust

Poor understanding of the role of other professionals

In addition the current GOS funding model is a barrier to good practice. Refining referrals, certain repeat procedures and dilation of patients by optometrists is an essential and vital element of service re-design when setting up a new and improved care pathway.

Alternative working practices and funding models are needed to allow community optometrists to work effectively in referral refinement and diagnosis.

Optometrists have previously demonstrated their competence to manage a range of eye conditions in collaboration with GPs and ophthalmologists in a community setting. The PEARS (Primary Eye Care Acute Referral Scheme) and GIES (Glasgow Integrated Eyecare Service) schemes provide good examples of such innovative ways of working that ensures good patient care and appropriate referral to ophthalmology departments, significantly reducing the number of unnecessary referrals.

The fee structure for this could be reproduced and is approximately £30.00 per item of service. Alternatively a 'bloc' funding model could be designed to represent the level of service needed in a particular area.

Robust lines of communication are required between the primary and acute sectors with direct referral by optometrists is a key requirement.

Patients with visual impairment that require CVI certification should be able to have this provided in the community to enable them rapidly to access support services.

Training and approval

Ongoing training and approval should be made available for all participating clinicians. For optometrists, this will involve establishing and maintaining a range of essential skills e.g. slit lamp biomicroscopy, knowledge base, exposure to audit, practice visits, essential equipment e.g. condensing lens and slit lamp.

This should be included within a detailed protocol and set of guidelines. It is suggested that this triage role for optometrists be developed so that patients can receive a rapid differential diagnosis in the primary care setting, close to where they live.

Not all optometrists need to participate but it is essential that all sign up to inter-practice referral to a colleague who is contracted to do so. This will be a vital component of this new culture. The Royal College of Ophthalmologists and the College of Optometrists will work together to ensure optometrists are kept up to date with modern referral and treatment protocols so that patients can be referred appropriately.

Options for Change

Identifying patient needs

Prompt access to secondary care where a decision about angiography and treatment can be made is essential for patients with exudative ARMD.

Appropriate information should be available to patients at every stage of the journey.

There are a number of potential entry points for a patient who believes they have deteriorating vision, for whatever reason. These require some form of assessment rather than referral straight to secondary care, since the problem may be simply refractive.

The use of community optometrists in a triage role would ensure rapid access to care, appropriate management & advice and a precise differential diagnosis. This would ensure that Ophthalmology Departments are not overwhelmed with unnecessary and inappropriate referrals when setting a new integrated care network.

In summary, all optometrists should be capable and trained to manage ARMD patients, but we need to ensure that the pathway includes a large number of strategically placed practitioners who are capable, enthusiastic and well trained in, ARMD, diagnostic techniques and low vision services.

Any referral should be prompt and include counselling. Low vision services should be an integral component with full rehabilitation support as necessary.

Referral on to specialist LVA centres should be available for the (relatively few) patients who require additional assistance. Ideally a support mechanism

for LVA practitioners should be available, particularly when they are starting out.

Research

The other area that is important is ongoing research:

Not only is more evidence required on AMD therapies, but there is an urgent need for investigation into visual rehabilitation:

- ✓ What is the best model of care?
- ✓ What techniques are efficient and cost effective?
- ✓ What prevents optometrists undertaking low vision work and what would it take to encourage them to get involved?
- ✓ Conduct clinical trial research into the rehabilitation for the visually impaired
- ✓ Epidemiological studies on the prevalence of visual impairment and identify at risk groups
- ✓ Develop ergonomic models for the home and the workplace to enhance the quality of life for the visually impaired
- ✓ What other professional groups should be involved and at what point in the process?
- ✓ Further research into novel therapies such as surgical options like submacular removal of CNVM and macular translocation
- ✓ Research into transpupillary thermotherapy, radiotherapy and the use of antiangiogenesis drugs
- ✓ Gene replacement therapy and its delivery
- ✓ Development of RPE transplantation strategies
- ✓ Further research into photodynamic therapy (PDT)
- ✓ Intra-ocular administration of tissue plasminogen activator

Demographics & Epidemiology

Demographic changes and improvements in health care have led to an increasing elderly population and longer life expectation. Emphasis is laid on older people retaining their independence in the community, yet for a variety of reasons current service provision does not always meet the needs of this vulnerable group. Visual impairment affects all age groups but predominantly older people and therefore the demand for low vision services is likely to increase.

In 1998 there were approximately 8.3 million people over the age of 65 in England & Wales.

Some 4.3 million had impaired vision (<6/12) in one or both eyes. Of these approximately 20% will have had impaired vision in both eyes. Macular degeneration accounted for 11% of cases and a further 7% had both cataract and ARMD.

In a separate Epidemiological model it was estimated that approximately 700,000 people had suffered impaired vision due to ARMD [Table 1].

The population in the over 65 group is expected to increase by 24% by the year 2020. This would include an increase of approximately 23% within the 65-74 subgroup and an increase of 25% in the 75+ subgroup.

This demographic shift will have a significant impact on service delivery due to the significantly higher incidence of ARMD in the 74+ group to that in the 65-74 group [Table 2].

Table 1 Public health Epidemiological Model for ARMD (1998)

AGE GROUP	NUMBER OF CASES	SUB TOTALS
65-69	48558	125600 (18% of Total)
70-74	77042	
75-79	150005	547273 (82% of Total)
80-84	173339	
85+	250929	
Total for 65 and older	699929	

The following table serves to illustrate the increasing demand on services managing patients with ARMD in the absence of a reliable and effective treatment.

Table 2. Predicted impact of demographic shift in the older population suffering from ARMD.

Age group	Number of ARMD cases in 1998	Predicted percentage increase by 2020	Predicted numbers of ARMD by 2020
65 –74 Years	125600	23%	
75+ Years	547273	24%	
Total over 65 years	699929	Approx 31%	925000

This would suggest that although the 65+ population is predicted to increase by some 25% the incidence of ARMD would rise by approximately 31% by 2020.

This must be borne in mind when planning a new care pathway to ensure adequate resources are made available.

Moreover in a RNIB survey from 1991 it was recorded that some 168,000 were registered blind and that 147,000 were registered partially sighted in England & Wales (all ages). The leading cause of blind and partial sight certification in the over 65-age group is due to ARMD (over 50%).

It is also estimated that the degree of under certification may be as high as 64% blind and 77% for partially sighted people.

There is also evidence that health inequalities exist and that older people from low socio-economic groups are less likely to avail themselves of primary care ophthalmic services. Severe visual problems are therefore more likely to remain unrecognised and untreated.

There is therefore a high level of unmet need for ARMD management and low vision services in the UK, which requires to be addressed if we are to meet the on going needs of our patients.

Some older people may be reluctant to attend due to financial reasons; for fear of receiving bad news or that they feel intimidated by the examination process.

Manpower Options

There is a clear need to develop a fully integrated approach for improved service delivery when considering the complexities of managing the ARMD population.

All potential stakeholders need to be considered, including patient groups. The key to success must be to ensure that a sustainable and robust manpower resource is recruited for this purpose.

What also must be borne in mind is the desire to deliver as much of this as possible in the community close to where people live to ensure easy access to the service, convenient appointment schedules and fast efficient service delivery.

The ability to recruit a reliable workforce within easily accessible premises will help to improve the uptake of the service.

There are a number of professional groups that could be considered. There will be various principles to take into consideration such as availability, training, accreditation, premises and support staff.

Another key factor is to ensure that appropriate care is provided at the first interface (i.e. when the patient first presents). This must include a history and all of the investigations and procedures as described above. In this way an accurate and precise diagnosis can be made to allow the patient to be referred directly to an eye clinic for fluorescein angiography and treatment. If the diagnosis is non-exudative appropriate counselling, advice, low vision support and registration (if required) can be arranged without unnecessary delay.

The principal professional groups that can be considered for recruitment are listed in Table 3.

Table 3. Summary of Approximate Ophthalmic manpower resources in the UK (WTE)

Profession	UK Wide numbers	Mode of Practice
Ophthalmologists	750	Hospital
Senior House Officers	400	Hospital
Registrars	280	Hospital
Optometrists	7500	Hospital & Community
Orthoptists	600	Hospital
Ophthalmic Nurses	2000	Hospital
Ophthalmic Medical Practitioners	700	Community
Dispensing Opticians	3000	Community

Optometry/Optical Resources

It is clear from Table 3 that Optometry is, by far, the largest single human resource that can be called upon. The next largest group would be dispensing opticians and although there are limited options here for detection and diagnosis there is the opportunity to help with raising awareness and health promotion. Dispensing opticians can also be trained to dispense low vision aids.

There are well known and publicised constraints on recruiting nurses and doctors. The optometric resource has increased by approximately 4% per annum since 1996 and will continue to do so for the foreseeable future.

There were 8,512 optometrists and OMPs registered with HAs in December 2001 an increase of approximately 4% since December 2000 (England & Wales).

There were 6,878 optometric practices registered with HAs in Dec2001 {DOH Nat statistics Service 2002}.

Utilising optometrists would allow for rapid access to high quality care in well-equipped premises in every community delivering the service.

Ophthalmology Resources

In addition it is very probable that large number of undetected cases might be brought into the system and managing this increase in demand will put considerable strain on the over-stretched ophthalmological resource. Some serious consideration should be given to increasing the ophthalmological resource to meet the increase in demand that will follow the mobilisation of the current unmet need and to deal with the predicted rise in eye disease due to demographic change over time.

Treatment Options

The treatment options for ARMD are limited. There is no proven therapy for 'dry' ARMD but there is evidence for improvement in diet although further evidence is desirable.

Listed below are the limited treatment options for 'wet' ARMD. In the majority of cases success is limited and the patient would normally be referred for low vision assessment.

Micro-supplements

There is some evidence that people are at greater risk of developing ARMD if the density of their macular pigment is low. A number of research groups around the world are investigating whether it may be possible to increase macular pigment density and thereby reduce the risk of the disease, by simply adding extra amounts of the carotenoids lutein and zeaxanthin to the diets of those at risk. While this theory has not yet been proved, new research by a group from UMIST's Department of Optometry and Neuroscience, has provided further supporting evidence.

Another recent study has demonstrated a risk reduction of 25% in advanced ARMD by using a multi vitamin formulation; Vit A, C, E and Zinc. This has raised the possibility that patients already experiencing early stages of ARMD may be able to delay or even prevent its progress through dietary intervention. Firm evidence for this strategy is still awaited.

Laser photocoagulation

Retinal laser photocoagulation is essentially a destructive form of therapy dependant on the absorption of light energy by ocular pigments. The purpose of the laser is to produce a therapeutic burn to a pre-selected area while causing minimal damage to surrounding tissue. The main indications are:

- Retinal vascular disease
- Choroidal neovascular membranes
- High-risk retinal breaks
- Selected intra-ocular tumours

There is no role for laser in the treatment of non-neovascular ARMD. Studies on the laser treatment of large soft drusen are in progress. The appropriateness of laser treatment for CNVM depends upon the location of the vessels, the presence of RPE detachment and the degree and location of haemorrhage. A decision regarding laser will depend upon the angiogram and the risk/benefit for each patient.

Photodynamic therapy (PDT)

NICE issued guidance on photodynamic therapy in September 2003 and this is now being implemented. By the end of June 2004 the NICE recommendations are to be fully implemented across the country.

The treatment utilises a photosensitive compound, Verteporfin, which is injected intravenously. It is activated focally by illumination from a diode source at a wavelength (689nm) that corresponds to an absorption peak of the compound. The advantage is that it allows for selective tissue damage, in part attributable to preferential localisation of the photosensitiser to the CNV complex.

The guidance from NICE recommends Photodynamic therapy (PDT) for the treatment of wet age-related macular degeneration for individuals who have a confirmed diagnosis of classic with no occult subfoveal choroidal neovascularisation (CNV), and best-corrected visual acuity of 6/60 or better.

PDT is not recommended for the treatment of people with predominantly classic subfoveal CNV (that is, 50% or more of the entire area of the lesion is classic CNV but some occult CNV is present) associated with wet age-related macular degeneration, except as part of ongoing or new clinical studies. These studies should be designed to generate robust and relevant outcome data, including data on optimum treatment regimens, long-term outcomes, quality of life and costs.

Surgery. A variety of surgical interventions are available for a small number of patients (often with secondary CNVMs rather than ARMD).

These include **submacular surgery** with the removal of blood or CNV or both. Preliminary results would suggest a high rate of recurrence and a significant risk of complications.

Macular translocation involves moving the fovea away from the CNV. The CNV can then be removed or treated by laser. The success is dependant on the ability to safely remove the fovea and the degree of neurosensory foveal function.

Pneumatic displacement of submacular haemorrhage involves injection of gas into the vitreous cavity to displace the blood. This procedure can also be done with a fibrinolytic agent called tissue plasminogen activator (tPA)

Radiotherapy and interferon. There is no current evidence to recommend use of these treatment options.

Aetiology & Risk factors

The aetiology of ARMD is not well known but several risk factors have been identified:

Age

Age is the most significant risk factor for the development of age-related macular disease. It is rare below the age of 50 years (less than 5%) but rises exponentially with every decade so that approximately 75% of people aged 90 years are affected.

Smoking

The connection between smoking and the development of ARMD, especially the later, exudative stages, is well documented. Even former smokers appear to remain at risk. It is thought that smoking reduces the level of carotenoids and vitamin C in the blood. The avoidance of smoking may reduce the risk of developing ARMD.

Diet

As mentioned above, macular pigment is thought to give protection against ARMD. It originates entirely from dietary intake, and in experiments with primates has been shown to be completely absent in those monkeys deprived of dietary carotenoids. In human experiments, the density of macular pigment has been shown to be far higher in males compared with females, and it is thought that this is due to differences in the way the carotenoids are metabolised in the male and female retinae.

There is also an argument about the need for people of all ages to maintain a good healthy diet, including the consumption of fresh fruit and vegetables, especially green vegetables, and vegetable and fish oils in place of animal fats. One study reports that fruit and vegetables of any colour are a good source of carotenoids.

However, damage caused by a process of oxidation has been thought to be treatable with the supplemental use of antioxidants, such as vitamin C, vitamin E and the carotenoids lutein and zeaxanthin. However, the benefit of these dietary supplements is in doubt.

A high calorie diet and a high intake of saturated fat and cholesterol are considered risk factors for ARMD.

Exposure to sunlight

It has been suggested that high levels of exposure of the eye to blue or visible light may cause ocular damage, especially later in life, and may be related to the development of age-related macular degeneration.

The high energy of the solar radiation can produce molecular damage, which in turn can initiate a free-radical chain reaction, resulting in 'oxidative stress'. Age-related nuclear cataracts are known to filter out visible blue light and so are thought to protect against ARMD. Cataract extraction removes this protection and is, therefore, associated with the progression of ARMD.

Gender

There is a significantly higher rate of ARMD among females, probably because of greater longevity when compared to the male population. However, there is a significant decrease in the early signs of ARMD in the female population when there is an increase in time between the onset of menstrual function and menopause. Therefore, a shorter duration of oestrogen production may be a risk factor for ARMD.

Alcohol

Apart from an association of beer drinking with retinal drusen in men, and the possibility of a greater chance of developing exudative macular degeneration, alcohol is not an important risk factor in the development of ARM. In fact, moderate alcohol consumption, particularly wine, is associated with reduced odds of developing ARMD.

Iris colour

Eyes with light coloured irides can transmit 100 times more light than those with dark brown irises. Therefore, blue iris colour has been associated with an increased risk of both late ARMD and early ARM. Abnormal skin sensitivity to sunlight can also be a risk factor for late ARMD.

Family History

A family history is own to increase the risk of developing ARMD. Genetic susceptibility has been demonstrated by a number of family and twin base studies although the absence of parents from most affected people makes further progress very challenging.

Hypertension

Hypertension has been associated with the development of ARMD. Prevention of hypertension may reduce this risk.

Race

Race is a factor in the development of ARMD. A cross-sectional survey of blacks and whites in Baltimore, USA, discovered that the more severe forms of ARM and late ARMD are more prevalent in older whites. Blacks were far more at risk of primary open angle glaucoma.

Other risk factors include:

- History of ARMD
- High plasma Vitamin A
- Treatment for high BP
- Low serum carotenoids and antioxidant index
- Elevated serum cholesterol
- Lower serum cholesterol
- Elastotic degeneration in sun-protected dermis
- Higher caloric intake and high body mass index

Common Advice

The piece of advice given most frequently to protect against age-related cataracts and macular degeneration is to stop smoking and protect the eyes from sunlight.

These two lifestyle changes will make a difference, as any effects are preventable.

Patient Assessment

Differential diagnosis of ARMD

If a patient presents with ARMD an early, precise differential diagnosis is vital to ensure that patient is appropriately counselled and that appropriate referral is made in cases of exudative ARMD to facilitate further investigation in hospital including FA and possible treatment options.

Symptoms of ARMD

Patients might well be asymptomatic when they first present with macular drusen or they may be aware of a gradual loss of vision, especially where fine resolution is required e.g. reading.

They might be aware of a recent change in refractive error due to pseudo hyperopia.

Some patients might notice a colour vision defect (red-green).

They might report an awareness of central or paracentral scotoma, a distortion of vision or micropsia / macropsia / metamorphopsia.

They may have experienced a sudden loss of vision as in a case of haemorrhagic CNVM.

Clinical history

A detailed clinical history of previous ocular disease, refractive error, trauma or surgery should be taken.

A full medical & drug history is necessary to determine other co-existing conditions that might exacerbate the condition (e.g. diabetes, hypertension, allergy, anticoagulants, retinotoxic drugs).

Social history

Due to the potential impact on life style due consideration must be given to the social aspects of the patient to include:

- mobility
- occupation
- car driver
- impact of visual handicap
- social support / carer
- visually demanding hobbies/activities

Clinical examination (of both eyes)

The clinical examination would include a full eye examination including the following:

- Best corrected visual acuity
- Pupillary responses to light
- Amsler chart
- Macular stress test
- Entoptic phenomenon
- Anterior segment and IOP- identification of cataract and glaucoma

Slit lamp biomicroscopy of macula (and vitreous and retina) through well dilated pupil looking for:

- Macular drusen
- RPE pigment and atrophy
- Retinal thickening (oedema and exudates)
- RPE and sensoryneural detachments
- Sub-RPE, sub-retinal, intra-retinal and pre-retinal blood
- Sub-retinal fibrosis
- Features of the conditions listed in the differential diagnosis e.g. angioid streaks

Macular function

Other additional procedures to elucidate macular function could include:

- Colour vision
- Central visual fields
- Light adaptation (macular stress)
- Contrast sensitivity
- Retinal digital imaging

Further investigation at a hospital might include:

- Electrodiagnostic tests
- Flicker fusion frequency
- Fluorescein angiography (FA) is used routinely to permit a differential diagnosis in many retinal conditions. The dye is delivered intravenously and about 80% binds serum proteins, the remainder is free and unbound. The major choroidal vessels are impermeable, but the choriocapillaris contain fenestrations through which free fluorescein can escape into extravascular space and across Bruch's membrane. Hyper and hypo fluorescence would indicate an abnormality in the fundus.
- Indocyanine green angiography is of particular value in studying the choroidal circulation. It is also a useful adjunct to FA in demonstrating disease process involving the macula.

Rapid access to FA is an important step in caring for patients with exudative ARMD so that a prompt diagnosis can be made and any treatment option considered before there is loss of sensory tissue.

Wherever possible aspects of the service should be provided in the community and the key benefits are:

- Improved standards of care for patients
- A more comprehensive service
- A consequent improvement in quality of life.
- Easy access due to community-based service
- Convenient & flexible appointment system
- Substantial reduction in waiting times for access to the service
- Potential to meet current unmet demand
- Improved team-working and effective collaboration between professionals
- Improved communication and faster notification of findings

Community optometrists are well placed to provide an effective triage role in the detection and differential diagnosis of ARMD. Direct referral to ophthalmology services is highly desired in the best interest of the patient. A copy of the referral being provided for the GP.

SUMMARY OF KEY RECOMMENDATIONS

1. There is a clear need for the introduction of a sustainable public health message regarding ARMD. This would include greater awareness among all healthcarers and improved patient information, including risk factors, diet and other aspects relating to the care pathway.
2. Best possible patient care should be the clear focus of all involved.
3. Suspected cases should be seen urgently to ensure a rapid differential diagnosis and appropriate treatment.
4. All clinicians involved will adhere to specific protocols and clinical guidelines as defined in the care pathway. The protocol will specify clinical procedures, methods for examination, reporting procedures and direct referral by optometrists to the secondary sector (a copy of the referral to be sent to the patient's GP).
5. Wherever possible this aspect of the service should be provided by optometrists in the community setting to reduce unnecessary burdening the acute sector. This will also improve uptake as the service will be provided locally.
6. Referrals to made by any healthcarer / social worker to an approved optometrist to facilitate rapid access to care. Patients may also be able to self-refer.
7. Ongoing training and approval to be developed between the Royal College of Ophthalmologists and the College of Optometrists.
8. There is a need to consider the medium to long-term recruitment needs of all of the professions concerned. The optometric resource will increase naturally over the next ten years. Some consideration must be given to growing the ophthalmological resource to meet the increase in demand for all eyecare services.
9. An open and transparent care network to be developed for all stakeholders so that patients receive the most appropriate care at all times. This will include seamless communication between the primary and secondary sectors to promote good patient care. There should also be clear reporting processes for patients needing rehabilitation and ongoing social service support. This should be provided as soon as the diagnosis is made either in the primary or secondary care sector. It is not necessary to wait for registration before referring to social services.
10. There is a need for ongoing research in all areas of ARMD.

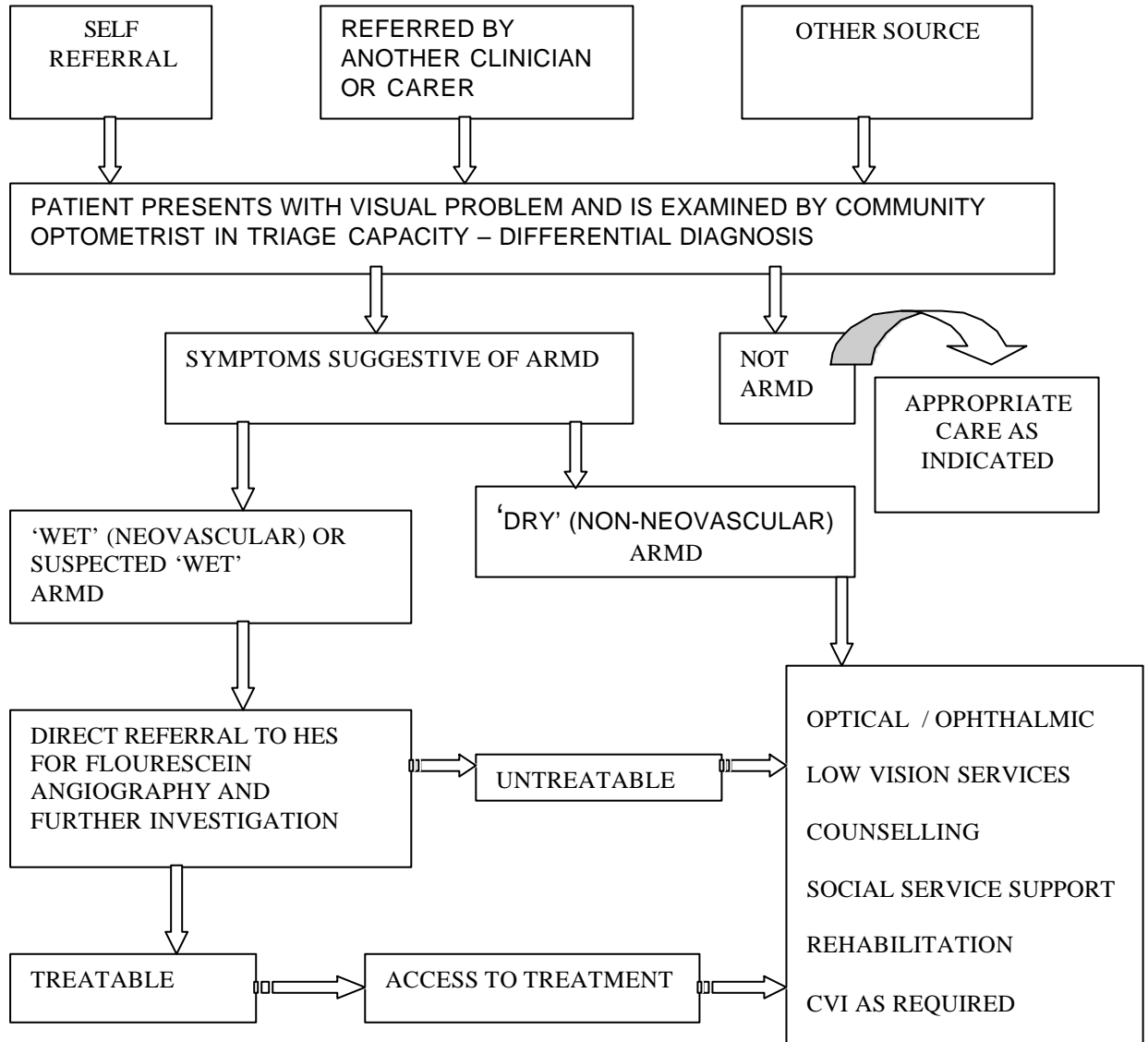
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23 March 2003

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INTEGRATED EYECARE SERVICES

FLOW CHART FOR ARMD



Proposed AMD Pathway

Start

1. Patient attends optometrist with special interest (OSI)

- Differential diagnostic assessment, including full history, clinical examination, biomicroscopy and macular function
- Patient has non-neovascular AMD
- Patient has neovascular AMD - OSI refers directly to HES

2. Patient attends HES

- Outpatient appointment with ophthalmologist*
 - AMD untreatable
 - AMD treatable
- (* fluorescein angiography and further investigation)

4. Fast access to integrated low vision services

- optical low vision services
- advice and information
 - counselling
- social service support
 - rehabilitation
- possible certification (CVI)

3. Patient attends HES

- Access to treatment
- Advice and information etc for patient

Eye Care Services Steering Group

Glaucoma Sub-Group

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Background

Chronic glaucoma is a common potentially blinding disorder requiring lifelong care once the diagnosis is made. It is the commonest preventable cause of blindness in the UK. The prevalence is well known from various epidemiological studies and rises from 1-2% of the >40s to 5% of the >75s. Certain racial groups are much more commonly affected (particularly those of black African descent) and the disorder may run strongly in families. Detection by genetic methods is still in its infancy and a number of genes can predispose an individual to the disorder. Whilst primarily a disorder of intraocular pressure (IOP), epidemiological studies have shown that, at initial presentation, approximately 50% of patients with established visual field loss will have IOPs within the accepted normal range. The risk of developing glaucoma in the future is directly related to IOP level and those individuals with IOPs above the normal range but with no definite signs of glaucomatous damage are defined as having Ocular Hypertension (OH), and together with individuals with suspicious optic discs and/or visual fields, they make up a proportion of the population who are "Glaucoma Suspects". About 5% of the >50s have OH.

Early detection of glaucoma in its asymptomatic stage is important to prevent severe visual loss later in life. Symptoms only occur at a late stage in the disorder and recent large-scale treatment studies suggest that chronic glaucoma satisfies all of Wilson's criteria for screening. Despite this no systematic screening schemes have yet been established in the UK and case detection is reliant on high street optometrists who, in recent years have expanded their methods of detecting glaucoma. Suspect glaucoma accounts for a large percentage of new referrals to the Hospital Eye Service (HES) (16-20%) and because of the snowball effect, an even larger number of return visits (25-30%).

Current position - The present main care pathway

There is no formal system for screening for chronic glaucoma in the UK. Individual cases are detected mainly by high street optometrists who use a variable series of tests in order to detect glaucomatous damage. Evidence exists that a combination of measuring intraocular pressure (IOP), testing visual fields and examining the optic nerve heads leads to the greatest sensitivity in detection, although probably not the greatest specificity. Those individuals considered significantly suspicious or who clearly have glaucoma are then referred to their general practitioner for forwarding to the Hospital Eye Service (HES) to be assessed (a few very high risk patients are referred directly to eye departments on an emergency basis). Following a HES assessment individuals are then defined as having glaucoma, remaining as suspects or not having glaucoma by a team lead by a consultant ophthalmologist. Current analyses indicate that referrals to the HES fall into the above three groups in approximately equal numbers. Those considered not to have glaucoma are discharged back to the community whilst those with glaucoma and many of the suspects will remain in the HES. Case mix data from the HES is scanty due to a generalised under-investment in computer systems in secondary care. It is suspected that large variations in case mix exist between consultant clinics.

In other EEC countries and elsewhere in the Western World, there are larger numbers of ophthalmologists per head of population and many practice as medical ophthalmologists in the community managing glaucoma until surgery is considered advisable. Outcome measures, with the exception of the costs of medical treatment are generally lacking from such models.

As a result of the relatively low number of ophthalmologists working in the HES and the tendency for HES outpatient clinics to gradually expand their number of glaucoma patients and suspects, waiting times for initial assessment remain a problem in many areas. In order to alleviate some of the pressures of numbers in HES clinics related to glaucoma, a number of strategies have been proposed and tested. In effect, these utilise non-ophthalmologist staff to -

- a) reduce the number of referrals to the HES (e.g. the Manchester Super-optometrist in the community scheme)
- b) increase the capacity within the HES (e.g. the Nottingham in-house optometrist scheme)
- c) reduce the number of glaucoma patients seen in the HES (the Bristol Community study and other shared care projects)

In addition an attempt has been made to improve the quality of all HES referrals by issuing agreed local guidelines for referral of glaucoma suspects from community optometrists (The Nottingham Protocol (now effectively the College of Optometrists Guidelines for referral)).

A New Model – Care in the Community

The Working Party consider that it is preferable for many individuals with glaucoma and most of those with suspect glaucoma to be managed within their own community where this can be achieved equitably and effectively.

This

- 1 Would release valuable HES time to manage the more complex glaucomas and other important eye conditions.
- 2 Would result in an increase in patient quality of life (reduced travel, cost, waiting times).
- 3 Might be cost effective if a “Cost minimising analysis” was positive for primary care.
- 4 Would increase the potential for implementation of National Glaucoma Care Protocols.

Currently Ophthalmic Medical Practitioners (OMPs) spend most of their time in the community performing refraction and basic ophthalmic “screening” in a system running parallel with the community optometrists. It is clear that the skills of this group of ophthalmologists are under-utilised and a change in their working practice to accommodate some of the additional community workload such a model would generate would be desirable.

In the opinion of the working party, optometrists are the only non-ophthalmologist group with the capacity/initial skills/sufficient desire in numbers/professional background to work with the OMPs and independently manage glaucoma and its related conditions.

Therefore a decision needs to be made as to whether to attempt to increase the level of skills in all or most of the optometric community, or whether to select, train and accredit a team of “**optometrists with a special interest in glaucoma**”. (These individuals would effectively be optometrists with special expertise in glaucoma gained through a formal accreditation process.) The Working Party favours the latter option. Provided all optometrists had the opportunity of applying to train towards “optometrist with a special interest” status, this should be acceptable to the optometric community. Clearly there will need to be a formal training programme established, with agreed accreditation and revalidation criteria. It is the working party’s opinion that many optometrists currently practicing would not wish to undergo additional training or take on the responsibilities of the special interest optometrist and others would find the transition difficult to achieve. This does not dissuade us from suggesting such an option, as we are confident that sufficient individuals would wish to attain such status and would achieve the necessary skill level. Indeed one of the attractions of such a programme is that it will select out those optometrists with a special interest in medical matters who will be enthusiastic enough to commit themselves to the process.

Barriers to implementation of Care in the Community for Glaucoma

There are a number of potential barriers to such an ideal framework and the Working Party consider these to be the following –

- 1 Increased numbers of suspects are likely as the population ages (exponential increase in prevalence of glaucoma as age rises >75), training of community optometrists to detect optic nerve changes increases (larger number of NTG suspects and patients referred), and the results of the Ocular Hypertension Treatment Study (OHTS) filter through to the optometric community (at present OHT is under-represented in the HES compared with epidemiological estimates of prevalence). This may overload a new system early in its development.
- 2 Early glaucoma is not easy to diagnose and, equally importantly, to exclude with certainty, and therefore it is not easy to state with confidence that an individual does not have it. (This currently leads to “safe practice “ of continued observation in the HES, particularly as litigation within medicine increases. Similar practice might eventually overload a community system.)
- 3 Despite evidence to the contrary, there is a tendency for many optometrists, GPs and members of the public to perceive glaucoma as a disorder that usually causes a rapid progression to blindness, and that early diagnosis is essential to prevent this in most or all cases. This leads to sometimes an inappropriate degree of urgency being proportioned to a referral. In addition, the prevalence of glaucoma in the elderly may be not fully appreciated by many of the public and even many GPs.
- 4 It is common for other conditions to co-exist with glaucoma, particularly in the elderly. These often cause symptoms and co-morbidity therefore requires identification and management.
- 5 Excluding progression in an established case may be difficult, and often requires considerable expertise and skill. The process is facilitated by the availability of quality sequential data.
- 6 Not all patients with glaucoma require treatment on diagnosis and some never do. Over-treatment in the community may occur.
- 7 Treatment may have side effects which can be life threatening.
- 8 Previous studies fail to indicate the value of optometrists providing shared care in the community (more expensive, relatively low percentage of glaucoma patients suitable (approx 20%), “high referral-back” rate to HES leading to greater pressure on HES than currently exists).
- 9 The current skill level of most community optometrists is insufficient to allow the transfer of additional responsibility for care (costs of training/equipment, who would train/do the training, do the trainers and/or trainees have the time/desire to train?)
- 10 Defining who has responsibility for the patient (there will probably be resistance from many ophthalmologists to devolve care but remain responsible - would primary care take responsibility for certain patient groups?).

- 11 Legal issues – see 10 above, prescribing rights for non-medical staff will be essential if they are to manage all but low risk ocular hypertension (OHT) and suspects.
- 12 Current perceptions of the disciplinary outcomes of the General Optical Council (GOC) may act as a disincentive to participation.
- 13 IT, audit and clinical governance/confidentiality issues are multiple.

For Care of Glaucoma in the Community to become reality on a National Scale, a number of issues will need to be addressed as Pre-requisites for considering a change of care pathway in glaucoma and its related conditions. These include -

- 1 An acceptance that a change is not appropriate for all patient subgroups.
- 2 An acceptance that a revised care pathway for a subgroup may not be “cost minimising”.
- 3 The community care system requires community OMPs and optometrists to have the ability/desire to take on increased responsibility and the potential disadvantages that brings (liability, increased insurance).
- 4 Acceptance that any system will not identify every subtle glaucoma at a stage at which a glaucoma specialist might identify the disorder. Importance of re-attendance for repeat testing at appropriate intervals should be emphasised to users of system.
- 5 Current College of Optometrists guidelines for glaucoma case detection by optometrists are accepted and practised by all community optometrists (this may require negotiation concerning the funding of repeat tests). In addition, nationally accepted criteria for referral will need to be agreed, as well as improved feedback from secondary detection personnel (currently ophthalmologists).
- 6 Reliable communication systems are **essential** for success i.e. IT must be developed (a system called Eyetrack exists and is up and running in Nottingham – such a system provides an electronic management capability for glaucoma and includes facilities for rapid audit).
- 7 Monitoring and detection equipment within any shared care scheme will need to be standardised at least at a local level: - e.g. only Humphrey visual field analyser and Goldman tonometry accepted.
- 8 Acceptance that any new pathway should be piloted to
 - i. Evaluate its efficacy
 - ii. Evaluate its safety
 - iii. Identify problems to rectify before transferring to National status.

It is considered important that optometrists taking part in a pilot have sufficient experience of the detection and management of glaucoma derived from working in the HES. An integral part of training would therefore be a period of time within a specialist glaucoma clinic where the trainer (usually a consultant ophthalmologist with a special interest in glaucoma) could ascertain that the optometrist had gained the necessary experience.

Demographics

Workforce

There are approximately 725 OMPs working in the UK. Many of these are part-time. There are 6500 WTE community optometrists in the UK.

Population at risk

Population of UK aged >50 = 16.4 million.

Estimates of workload

Currently, about 172000 referrals for suspect glaucoma are sent to the HES each year (extrapolated from Nottingham data) of which 1/3 are normal, and 2/3 require long-term review (1/3 would have glaucoma and 1/3 would be suspects).

To refine referrals to the HES as per the Manchester system would require 53 WTE optometrists with a special interest. (7 seen per session, 10x46 sessions/yr). Assuming optometrists with a special interest would only wish to spend 1 session per week on this activity indicates that the UK would require 530 optometrists to train to be optometrists with a special interest in order to refine referrals from their colleagues. Alternatively if each OMP dedicated one session/wk for such duties such a system should be feasible using OMPs alone in the first year. This would reduce the number of referrals to the HES by approximately 50% i.e. 86,000 or 115 per consultant ophthalmologist.

In the second year, assuming a yearly review of the suspects in the community by the optometrists with a special interest and all glaucomas managed in the HES, 172000 + 57333 individuals would require assessment by the OMP/optometrist with a special interest team. i.e. an increased workload of 33% could be predicted in the second year and 27% more than the second year in the third year and so on.

If the community team were to take on the management of the more straightforward glaucoma patients aged >50 from the HES, it is estimated that 1/2% of 16.4 million persons would need to be seen per year = 0.082 million = 82000. This equates to approximately a further 50WTE optometrists if all cases have been devolved.

Recommendations

- 1 Community optometrists are encouraged to conform to College guidelines for referral of glaucoma suspects (requires formal commitment to fund this additional work – see below).
- 2 HES services are encouraged to utilise optometrists to assist in glaucoma care within the HES.
- 3 Community refinement of optometric referrals is established utilising OMPs and optometrists with a special interest.
- 4 Community care of “straightforward” glaucoma cases by OMPs and optometrists with a special interest is established (requires formal commitment to fund this additional optometric work, training, administration etc).
- 5 The National Screening Committee considers chronic glaucoma as a candidate for formal screening.
- 6 Optometrists consider referral, (with patients/users permission) to voluntary agencies or social services, of those individuals whose sight loss is reported by them, or are perceived by the clinician, to be experiencing emotional or practical problems, or who need information and advice.

This will require (for 1-3)

- 1 Ophthalmologists to provide detailed feedback information to re-enforce conformity and continued action from the College of Optometrists concerning circulation of the guidelines.
- 2 Funding to be made available to allow community optometrists to refine data (e.g. repeat IOPs/visual fields) where necessary.
- 3 Training schemes to be established for optometrists in the detection and management of chronic glaucoma.
- 4 Update courses for OMPs.
- 5 Audit and revalidation systems to be established at the outset.
- 6 Additional equipment purchases by OMPs/optometrists with a special interest. This would include imaging systems and standardised visual field equipment. Such funding issues could be considered in the next stage of the group’s work as part of the pilot process.
- 7 Agreement for funding of equipment/additional activities.

Mechanisms of implementation

The PCTs should be the principal stakeholders in the reforms. Working with HES staff, managers should design systems to implement the above recommendations. Sufficient funding will need to be made available in “ring-fenced” funds by central government. National rates for the refining of glaucoma referrals and shared care of glaucoma in the community should be agreed in order to prevent difficulties in negotiation at a local level.

Key outcomes

Recommendations 1, 2, 3, 5 and 6 are considered to be achievable in the short term. Recommendation 4 would require long-term changes in legislation.

Appendix

Five examples of care pathways are suggested. The first and third would be implemented if recommendation 3 were established. Pathways 2 and 4 are designed to assist the community care team if recommendation 4 was established. Pathway 5 facilitates the implementation of recommendation 1.

The care pathways assume an appropriate level of skill has been developed in the participants of the schemes, and the necessary infrastructures including IT are available.

In the care pathways community optometrist = CO, and optometrist with a special interest in glaucoma = SO. OMP can be substituted for SO in all pathways. Fine details of the pathways can be negotiated at a local or national level and are expected to be refined.

Care Pathway 1 – Ocular Hypertension

CO considers patient to have OH – based on normal visual acuity, optic disc assessment, visual field test in both eyes and IOP>21mmHg.

CO refers to SO

SO takes medical history including past ophthalmic and medication history and assesses patient (accredited field test (Humphrey 24/2, slit lamp assessment including Goldman IOP, corneal pachymetry, gonioscopy and dilated (if safe) fundus assessment). Optic disc imaging performed to provide baseline for future management decisions.

SO then either a) returns patient to CO, b) continues to observe patient as OH without treatment c) commences treatment or d) refers to HES on basis of unexpected finding falling outside agreed limits of management ability (all decisions are protocol based and agreed with patient).

SO would always inform GP and CO of assessment outcome and management plan.

If b) examination should be only at yearly intervals, if c) appropriate review appointment made.

At review assessment –

1. A patient on treatment – history to detect new symptoms and side effects of therapy taken, examination for local side effects performed. IOP checked (Goldman) and status on protocol based management scheme identified. Appropriate follow up with periodic visual field arranged. Only 2 topical agents allowed to be used concurrently before referral to HES.
2. A yearly review on no treatment – similar process performed as at first visit with the exception of pachymetry and gonioscopy. Indications for treatment similar to first visit.
3. Conversion to glaucoma based on either optic disc change from baseline and/or development of visual field defect is a judgement based decision (as it is in the HES) and treatment increased/instituted on perceived risk of significant visual loss in lifetime of patient following discussion with patient. Option of HES assessment given to patient if treatment advised.
4. If field defect progresses to >4dB mean defect refer to HES for second opinion.

Patients may be referred into OHT scheme from HES. Responsibility for care rests with SO until HES involved.

Care Pathway 2 – Glaucoma without other eye disease

CO finds raised IOP, excavated discs and field defect in individual with normal acuity in both eyes.

CO refers to SO who performs full history and assessment, including imaging, as for OH.

If findings not consistent with this care pathway, SO places patient in appropriate care pathway (OH, Glaucoma suspect, HES referral (for glaucoma with other eye disease), discharge to CO (all tests normal and discs considered normal)).

If all findings consistent with glaucoma, SO commences first line treatment and relays data to HES for opinion concerning future management. HES provides target IOPs to aim for, review intervals and advises whether and when patient should be reviewed in HES.

If no HES review required, SO reviews patient for side effects of treatment and checks IOP. If IOP acceptable, SO reviews patient at appropriate intervals and assesses progression status. If not as low as target IOP, SO adds second agent (or replaces first agent with alternative) and reviews again. If IOP acceptable, review continues as per protocol, if not SO refers to HES.

If SO suspects significant progression at any review point (training important here), data is relayed to HES for opinion. If progression confirmed/suspected by HES, consultant review in HES arranged.

HES may return patient to SO with further advice.

HES has responsibility for care in this pathway. Absolute field defects within 10 degrees indicate mandatory referral to HES.

Care Pathway 3 – Glaucoma suspect on discs and/or fields

CO finds normal IOP, but suspicious disc and/or visual fields and refers to SO – acuity normal in each eye.

SO performs full history and assessment, including imaging, as for OHT.

If findings not consistent with this care pathway, SO places patient in appropriate care pathway (OH, Glaucoma without other ocular disease, HES referral (glaucoma with other eye disease), discharge to CO (all tests normal and discs considered normal)).

If findings equivocal, SO may continue to observe patient and repeat necessary test (e.g. fields) at appropriate intervals, and may discharge back to CO if finally considered normal or convert to appropriate alternative care pathway. If SO uncertain of correct action, HES advice may be sought by transferring data to HES. HES advice concerning future assessment given as a) continue observation, b) see in HES c) treat as early glaucoma and monitor as in care pathway 2.

HES only has responsibility for care in this pathway when has seen patient or converted care to pathway 2. SOs are therefore encouraged to manage suspects in community without recourse to HES opinion unless significant change occurs.

Care Pathway 4 – Glaucoma in presence of other significant eye disease

CO refers patient to SO with suspect glaucoma and other eye disease.

SO performs full history and assessment, including imaging, as for OH.

SO confirms glaucoma in presence of other eye disease and refers to HES for management.

HES may treat other eye disease (e.g. cataract) and then refer back to SO to place patient on care pathway 1, 2 or 3, or refer back to CO if all else considered normal.

Very mild ARMD/cataract not considered significant if acuity normal for age (6/6 up to age 75, 6/9 aged 76 and over) and patient asymptomatic.

Care Pathway 5 – Refinement of community optometric referrals.

CO finds suspect features on examination, but no clear-cut evidence of glaucoma

CO repeats assessment (e.g. IOPs and/or visual fields) and

- a) refers to HES if findings confirm possibility of glaucoma
- b) reviews at appropriate time period if repeat tests not consistent with suspect glaucoma

Proposed Glaucoma Pathway

Start

1. Patient attends community optometrist (CO)

- Sight test, IOP over 21 (applanation tonometry) and/or visual field defect and/or excavated discs
- Patient/optometrist makes appointment with optometrist with special interest in glaucoma (OSI) or OMP

2. Patient attends OSI or OMP

- Full history and assessment carried out according to protocol
- Decision taken as to whether patient has ocular hypertension (OSI/OMP reviews) or can be discharged (return to CO) or has glaucoma (treat or refer to HES)
- Patient advised, given information etc and further appropriate appointments made if needed

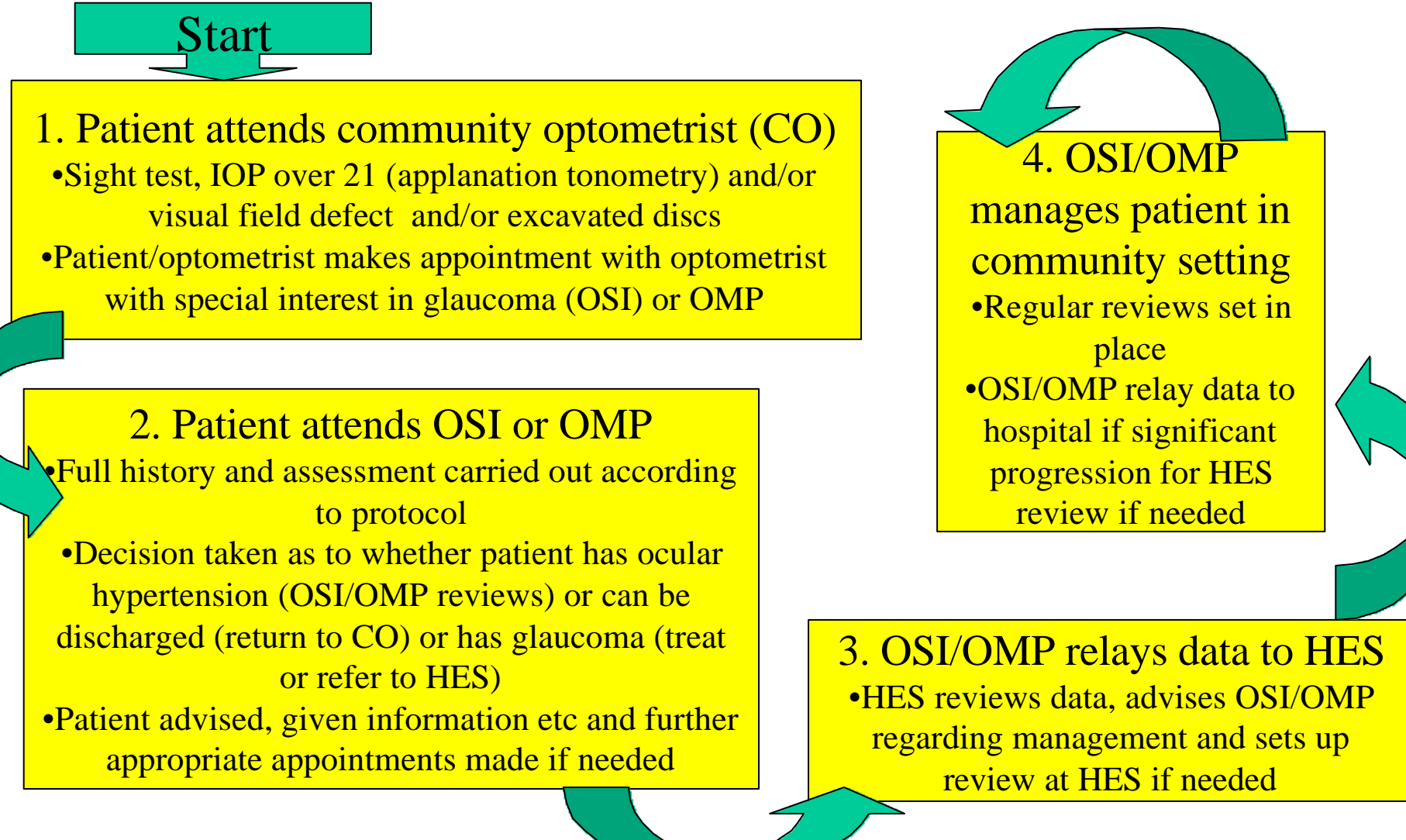
3. OSI/OMP relays data to HES

- HES reviews data, advises OSI/OMP regarding management and sets up review at HES if needed

4. OSI/OMP

manages patient in community setting

- Regular reviews set in place
- OSI/OMP relay data to hospital if significant progression for HES review if needed



Eye Care Services Steering Group

Low Vision Sub-Group

1 BACKGROUND

“A growing number of the most vulnerable people in this country experience a quality of life that is significantly, but unnecessarily, diminished for the want of basic, relatively inexpensive health care” (RNIB 1999)

This statement relates to the estimated 2.1 million people in the UK who have low vision and for whom services across the country are variable and, in many cases, inadequate.

Low vision is described as “impairment of visual function where full remediation is not possible by conventional spectacles, contact lenses or medical intervention and which causes restriction in that person's everyday life” (Low Vision Consensus Group 1999)

Key issues relating to low vision include:

- The vast majority of people with low vision are older people (three-quarters of people registered blind and partially sighted are over 70)
- Effective low vision services can assist in reducing the number of older people who need to be placed in residential care
- Most people with low vision retain some sight - 95% are able to see light through a window, 75% able to read newspaper headlines (Bruce 1991).
- Maximisation of sight can be obtained by
 - prompt advice and counselling
 - early assessment
 - provision of appropriate low vision aids (L V As) and training in their use.

2 DEMOGRAPHICS

- Approximately 306,500 people in England are registered blind or partially sighted (ONS 2000)
- Only 1 in 2 (conservative estimate) people eligible to register actually do so
- The majority of people eligible to register are likely to have low vision (80% as a conservative estimate)
- A further third can be added to these numbers for people with low vision who are not eligible to register

***This equates to an estimated
650,000 people in England with low vision***

(Source of calculation – The Low Vision Services Implementation Group 2002)

- 30,440 people in England are placed on the register each year

***This equates to approximately 65,000 new people
each year with low vision in England***

- An estimated one in five existing people with low vision will need some form of LV assessment each year

***This equates to approximately 200,000 people in England
needing LV assessments each year***

3 CURRENT LV SERVICES

Currently services are fragmented and there is wide variation across the country in terms of both access and quality of service provision. However, the most common pathway is referral from optometrist (often via GP) to HES.

Specific issues relating to the access and quality of services include:

- Unequal distribution of services across the country (2 in 5 service providers do not offer low vision services)
- Inconsistent eligibility criteria (some services are open access, some require imprimatur of a doctor of consultant status)
- 50% of LV services are uni-disciplinary in nature with a further 10% having no links with other agencies or professions
- Lack of information/signposting to both patients and professionals. This makes entering the system even more difficult for patients. Professionals often do not know what services are available locally or if they do, it is only within the context of their own reference point.
- Access to optometry by minority groups is low (RNIB research underway – results expected by end May 2003).
- Lack of awareness by GPs about sensory impairment
- Lack of awareness amongst ophthalmological staff on scope and benefits of low vision service
- Waiting times for secondary care
- Waiting times to obtain rehabilitation

- The assumption (at various levels and professions) that LV services can only be initiated after ophthalmological assessment
- Lack of ability to identify care needs in ophthalmology clinics
- Lack of clear referral routes for LV and social care.
- Inability to obtain LV services on a domiciliary basis (whether in patients own home or in nursing/residential home)
- Relatively small numbers of people with experience/training in rehabilitation

4 BARRIERS

- Funding.
- Under resourced (time & equipment) LV and social care
- Skill base in optometry and rehabilitation
- Lack of encouragement through present services to improve above (e.g. GOS Sight Test)
- Lack of understanding of the various professional roles involved in LV services
- Low priority given to LV services
- Fragmentation of the separate elements which make up LV services
- Lack of liaison between professionals (formal and informal)
- Interface between what is health and what is social care (an issue for the different agencies in terms of who pays for what but, more importantly, an issue for patients as to whether it is free or chargeable)
- Shortage of experienced, qualified rehabilitation workers.

5 SOLUTIONS

- Services can be either multi-disciplinary on a single/central site or inter-disciplinary on multiple sites. The important issue is that it should fit with local human and infrastructure resources
- Ensure local models for LV services are established through partnership with all key stakeholders
- Enable HES funding to be used for LV services as a matter of course
- Provide extra training and equipment to enable local optometrists to provide refraction and routine follow-up fundii checks
- Utilise optometrists/dispensing opticians to provide extended LVA assessment and LVA provision through local funding arrangements in primary care (various models). Integrate their service with medical and social care.

- Use registered dispensing opticians/optometrists to run LV services in conjunction with rehabilitation services
- Centrally produced patient information leaflets building on the RNIB leaflet base
- Establishment of a patient recall system (need to evaluate existing schemes for good practice eg Belfast)
- Development of local data bases detailing the services available and how to access them
- Enable Optometrists to refer direct to Ophthalmologist for diagnosis
- Enable Optometrist & GPs to refer diagnosed patients direct for LV assessment
- Encourage optometrists to initiate LV assessment intervention even if medical referral is required for operable/treatable/untreatable eye problems
- Enable multiple referral points into LV services
- Encourage GPs, practice nurses, carers, etc to refer to optometrists all instances of visual impairment (except where direct referral to hospital is indicated eg detached retina) in the first instance (15-20% of patients with difficulties will only need updated spectacles and lighting advice and do not need medical referral).
- Develop an “expert patient” component to LV services

6 PRINCIPLES FOR NEW PATHWAYS

Because of the need to reflect local service provision (statutory and voluntary) it is not appropriate to develop a single pathway for LV services. However, there are a number of important principles that local pathways need to address

NB The emphasis is for a model of low vision services not the provision of low vision aids

- Consideration needs be given as to whether the LV service is best managed by one agency (eg Primary Care or Social Services) or as a fully integrated rehabilitation service. Whichever option is chosen the principle remains the same, the service needs to be delivered through a multi-agency (including statutory, non statutory, voluntary and users) partnership approach
- **Awareness** – the vast majority of people with low vision want comprehensive information about what they need, what they are entitled to and what is available
- **Timeliness** – people do not want unnecessary delay in assessment, rehabilitation, training & follow-ups

- **Accessibility** - people with low vision need every part of the service to be accessible. This includes the physical environment, the form in which the information is given and the communication skills of the health professionals themselves.

**Source: “Our Better Vision: What people need from low vision services in the UK”
1999**

In addition to these broad principles the ideal pathway should ensure:

- The establishment of a key worker model to cross the health & social care boundaries
- Registration is not a pre-requisite to accessing the service
- Medical assessment is not a pre-requisite to accessing a service
- Services do not over-emphasise a device based solution to LV
- Services enable re-access and re-assessment particularly for those who in the initial stages of developing low vision reject intervention for psychological or other reasons
- The best utilisation of relevant health & social care professionals (such as dispensing opticians, home care assistants, district nurses, housing officers etc)

and cover the following aspects

- Who uses the service
- Where is the service & how will people access it
- What are the key elements (i.e. define the service)
- Referral for diagnosis
- Referral to Low Vision Services
- Annual Eye Examinations
- Information about the Eye Condition
- Registration as Blind and Partially Sighted.
- Information about Services
- Assessment of needs
- Emotional Support
- Best Optical Correction
- Determination of visual (if any) goals
- Assessment of Visual Function

- Re-assessment (what is possible) and modification of goals (what is not possible)
- Provision of Low Vision Aids
- Low Vision training
- Provision of daily living and mobility aids
- Changes to the environment
- When are services available
- Continued Support
- Monitoring of services

Source: Current Low Vision Practice 2002; The Low Vision Services Implementation Group

7 RECOMMENDATIONS

- The delivery of good, co-ordinated Low Vision services should be embedded into local partnership arrangements for development and commissioning across health and social services. Within this there should be a designated lead/organisation/officer. Access to appropriate Low Vision services will support a range of actions relevant to the NSF for Older People (e.g. promoting independent living, reducing falls and reducing admissions to nursing homes) therefore the NSF's Local Implementation Team (LIT) may provide an appropriate operational connection for this.
- RNIB working with all relevant interests to lead the development of national eligibility criteria for low vision services based on national service principles agreed with relevant bodies.
- Integrated local audits of current services by the organisation/officer whose role includes leading on eye care services should be undertaken against these principles and agreed improvements should be incorporated into local arrangements.
- More detailed guidance on low vision should be provided to support professionals responsible for the Single Assessment Process for older people.
- PCT should consider how the new GMS contract can assist in ensuring all older people are screened for low vision
- Establish the effectiveness of a call/recall schemes such as the model implemented in Belfast.
- DOH to review funding streams for current low vision services (eg optical vouchers, HES, Social Services, aids & adaptations etc) and consider establishing a unified budget devolved to PCTs to commission & deliver an integrated service (or "encourage" pooled budget arrangements under Health Act Flexibilities)
- All LV assessments should include an optometric check. Where high adds are indicated (using HES criteria/protocols) these should be provided free of charge regardless of where the assessment took place (currently patients

not eligible for free sight tests would have to pay if assessment was carried out by an optometrist but receive them free if assessment was via HES)

- Workforce Development Confederation should identify the workforce implications on rehabilitation workers in terms of additional numbers and skill mix (currently there are 600-800 rehab workers across the UK each of whom can deal with 80 full assessments per year. The 200,000 people requiring LV assessment each year in England alone would require 2500 rehab workers)
- Change the current system of “prescribing” LV aids for individuals to the issuing of aids on a loan & return basis which will allow patients to “try” a number of aids to enable the most effective to be issued. Existing arrangements for joint community loans services between health & social care should be able to accommodate this service (although funding may be required to establish an appropriate stock).
- Through the WDCs develop a generic training programme to skill up/raise awareness of generic health and social care staff (eg district nurses, GPs, optometrists, dispensing opticians, practice nurses, social workers, care assistants etc) in relation to low vision screening
- Through the NHS Information Authority ensure that information systems developed for low vision services can integrate with primary, secondary and social care and their data can be assimilated into the electronic patient record.
- DOH to commission research to develop an evidence base of the effectiveness of LV aids and other interventions.
- PCTs should establish local systems of accrediting professionals giving advice on LV in their area

8 FUNDING

Existing public funding streams for LV services include:

- LV assessment – generally through HES
- LV Aids – HES, GOS (where the aid is spectacle mounted and a single vision lens or bifocal and they are eligible for voucher help)
- Daily Living Aids (but is variable across local authorities)
- Training for patients – through local authority rehabilitation workers
- Eye examinations which include refraction – for over 65s and those eligible for free Sight Tests
- Rehabilitation worker training – this is currently via DFES fees funding to University of Central England. However, non-university validated courses would not be eligible for this source of funding.
- Funding for new training could come down the WDC route

Estimated cost of providing a comprehensive low vision service is @ £150-£200 per patient per year (including assessment, examination, rehabilitation & LV aid) or £30-40 Million across England (based on 200,000 LV assessments per year)

NB – Whilst much can be done to improve local low vision services within existing resources (as described above) the large and increasing numbers of people with low vision who do not currently access services will require investment in this area. It is recognised however that any additional investment will have to be considered by PCTs alongside other local priorities.

9

REGULATORY ISSUES

- The current payment system for certification as blind or partially sighted may prove to be a barrier to changing the way low vision services are delivered. Consideration needs to be given to
 - a) how much of a barrier this would be in reality
 - b) how this barrier could be removed
- Only qualified optometrists & ophthalmologists are able to carry out refractions. Consideration should be given to extending this to other suitably qualified professionals under agreed protocols

10

KEY OUTCOMES

- **Audit of existing services by PCTs**
Development of national eligibility criteria and service principles for low vision services from which a PCT audit tool can be developed. Integrated local audits of current services should be undertaken and local health and social services should consider funding to develop a new model of service based on the service principles.
- **Evaluation**

An evaluation of the 6 or 7 new service models developed under the auspices of The Low Vision Consensus Group. This evaluation will inform the development of the national service principles.
- **Training**
WDC in conjunction with the RNIB to urgently review the workforce requirements relating to rehabilitation workers

WDC to develop & deliver multi-disciplinary training to cover awareness raising, assessment and products available relating to low vision. Target staff that have most regular contact with older people.
- **Patient Experience**
HES should not send appointment cards to patients which have writing less than 14-16 font and printed black on white (or yellow). DOH carry out a “quick and dirty” audit of current practice and correlate with DNA rates.

HES exhibit local contact points and information for statutory and voluntary care in outpatients.

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Proposed Low Vision Pathway

Start

1. Patient referred to Low Vision Service (LVS)

- Referral may be from secondary care, GP, social worker, rehabilitation officer, community nurse, OT etc or may be self referral
 - Patient may have an LVI, RVI or CVI
- All patients are contacted by LVS within 10 working days

5. Service enables re-access

4. Patient has follow up visits as needed

- Visits may take place in the patient's home or elsewhere
- Visit will be by appropriate member of the LV team

2. Patient attends LVS

- Service is seamless across health, social care and the voluntary sector
 - A full sight test forms part of assessment
- Patient is given information on eye condition, entitlements etc as well as local services
 - Counselling and advice on employment or education is available
- Spectacles, LV aids, advice (esp. lighting, contrast and size) and home adaptations are discussed and made available as appropriate
 - Referral to other areas of health and social care as needed, including certification