

Action on Cataracts

Good Practice Guidance



Purpose of this document

The purpose of this document is to assist managers and health professionals to review and improve the management of cataract services.

GOOD PRACTICE

This document contains advice on good practice

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1 Introduction

Significantly improving access to treatment for people who need cataract surgery will bring about a real improvement in the lives of millions of mainly elderly people.

At present, the major problems with access to services are:

- the average patient waits for 8-10 weeks for an initial outpatient consultation, and then a further seven months for surgery. Many patients wait much longer. The target for the NHS is to ensure that all patients have surgery within six months of referral, by 2003.
- more cataract surgery needs to be undertaken. The NHS carried out about 170,000 cataract operations in 1998-9. The target for the NHS is to increase this to 250,000 by 2003.
- population rates of access vary significantly across the country. In 1997/98, an average of 1968 operations were carried out per 100,000 people aged 65 and over. The new national target is equivalent to 3,200 cases per 100,000 people aged 65 and over. A few Health Authorities are already achieving this rate, but some 22 Health Authorities have rates of less than 1,800 cases.
- there is considerable variation in the way services are organised, without apparent differences in outcomes for patients. For example, day case rates vary from over 90% in many Trusts to as low as 15-20% in others. In some areas, patients may have just three visits to eye health services to have their cataract diagnosed and treated, whilst in others, seven or eight visits may be required. Relatively few services can yet offer booked dates for outpatient consultation and admission. Some hospitals still require patients to change into theatre gowns for cataract surgery and to be wheeled to theatre by a porter.

Redesigning the cataract service from the patient's point of view, and implementing best practice in service organisation, have been shown to result in greater patient satisfaction, a more efficient service, shorter waiting times, and higher overall rates of cataract surgery. Such improvements will make a major contribution to achieving the targets for 2003.

The guidance is about how services are organised. It will help to identify where services can be made more effective, and how access to services can be improved. It will also help in making the necessary changes. The guidance is not intended to be prescriptive. There is no single 'right way' to organise cataract services, and local circumstances vary. Nevertheless, there are some improvements which can be applied to most situations. It is intended as a toolkit to help staff locally. Improvements in the organisation of services to patients are most effective if they are brought about 'bottom up' by the staff who provide them.

The guidance has been drawn up by the Action on Cataracts Steering Board. It draws on their experience, and on best practice identified in cataract services. It uses practical examples of changes. It is not about the clinical aspects of cataract surgery, which are under review by the Royal College of Ophthalmologists, although both sets of guidance are intended to be consistent.

2 Summary of recommended changes

These summary recommendations are explained in more detail later in the Guidance.

2.1 Streamline the pathway of diagnosis and treatment

- Take a fresh look at the service which patients experience
- Make the pathway uniform for patients with similar needs
- Agree guidelines for referral, to ensure that the right patients are referred to hospital at the right time
- Encourage optometrists to refer patients directly to a hospital ophthalmologist for confirmation of diagnosis, informing the patient's GP at the same time
- Aim to do *four* things at the same visit to hospital:
 - i. confirmation of the diagnosis
 - ii. decision whether to have surgery
 - iii. pre-operative assessment (but whilst waiting times for surgery are long, it may be better to delay this until a few weeks before admission)
 - iv. book date for surgery.
- Reduce the number of post-operative follow-up appointments.

2.2 High volume high quality surgery

- Encourage 'cataract only' lists
- Eliminate the obstacles and constraints which slow down a theatre list. Aim to treat two patients an hour, or more.

2.3 High quality patient information

- Give patients information about the whole treatment pathway, not just individual steps
- Give the information to patients at the beginning of the pathway
- Use standard information about cataract and cataract surgery, together with details of the service offered locally.

2.4 Audit outcomes

- To judge outcome of surgery, compare final refraction and astigmatism with the expected results
- The published literature shows what results to expect. Use these as a benchmark
- Take patient feedback into account when assessing the quality of care.

3 The ideal 'patient's journey'

3.1 What are the best services achieving now?

- Population access rates of more than 3,000 cases per 100,000 people aged 65 and over, compared to the national average of 1,968 cases
- Direct referral from optometrists to hospital, under locally agreed guidelines
- One-stop diagnosis and pre-operative assessment clinics
- Waiting times for outpatient appointments of four weeks or less
- Booked admission dates, and waiting times for surgery of 2-3 months
- Day case rates of 85%-95%
- Day of surgery: patients spend not more than 90 minutes at the hospital
- Post-operative review: one visit only for uncomplicated patients.

But hardly any service is yet achieving all of these.

3.2 Principles

People who have cataract surgery undertake a journey which involves several visits through several parts of the NHS. The journey starts when the individual becomes aware of poor eyesight, and finishes when treatment is complete. The person should have improved vision, without complications, and can return to routine eye care. He/she has regained independence, and his/her quality of life is enhanced.

The ideal 'Patient's Journey' will be:

Patient-focussed:

- The NHS is proactive about finding people who could benefit from treatment, and getting them into the system;
- The service is accessible, and gives continuity of care;
- Patients know the dates of their appointment and admission, rather than waiting to be notified just beforehand;
- The patient is a full partner in the treatment. Where there are choices about treatment, patients are given the information they need to make the choices;
- Continuous support is available to patients all the way through the journey, through a single point of contact. This support involves voluntary organisations as well as the NHS;

- The journey includes the treatment of the second eye, and takes account of any other eye or systemic disease.

Effective:

- The treatment pathway is up-to-date, clinically proven, and tested for safety.

Consistent:

- The pathway has clinical commonality. Patients are treated under the same protocol and the same system, regardless of the functional role of the staff who treat them;
- The team which looks after the patient is made up of individuals from across the conventional boundaries of NHS organisations. They have flexible roles, and see themselves as part of a wider system delivering an integrated service to each patient;
- Information and understanding about the journey is shared - between professionals, across organisational boundaries, and with the patient.

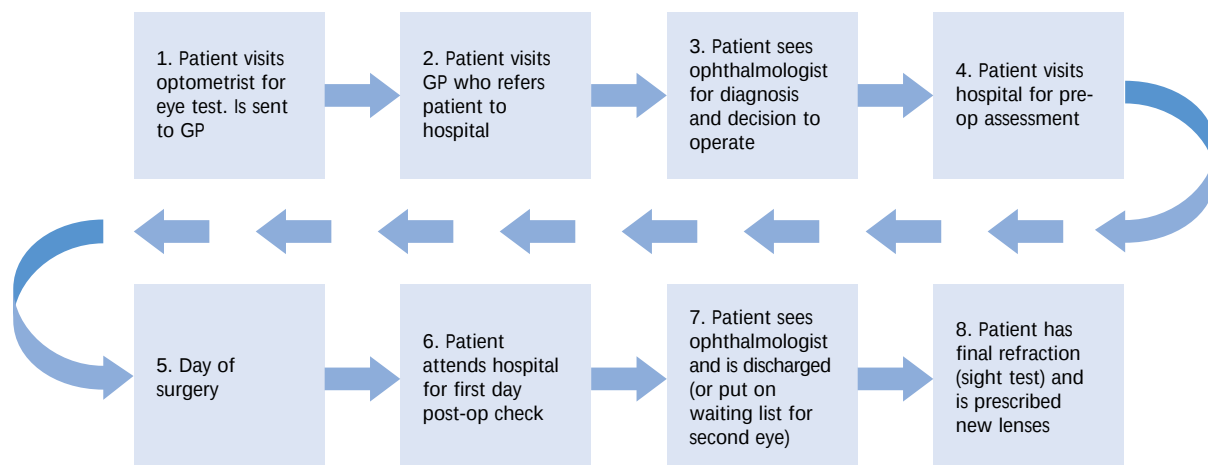
Efficient:

- The service monitors its performance continuously against a few key indicators, including feedback from patients;
- Use of facilities and resources is planned and scheduled;
- The journey is much shorter than is presently the case: as few visits to eye health services as possible, consistent with good clinical practice, and surgery is carried out within six months of referral.

3.3 Different pathways for different patients

The *current* 'Patient's Journey' typically includes about eight visits:

Figure 1



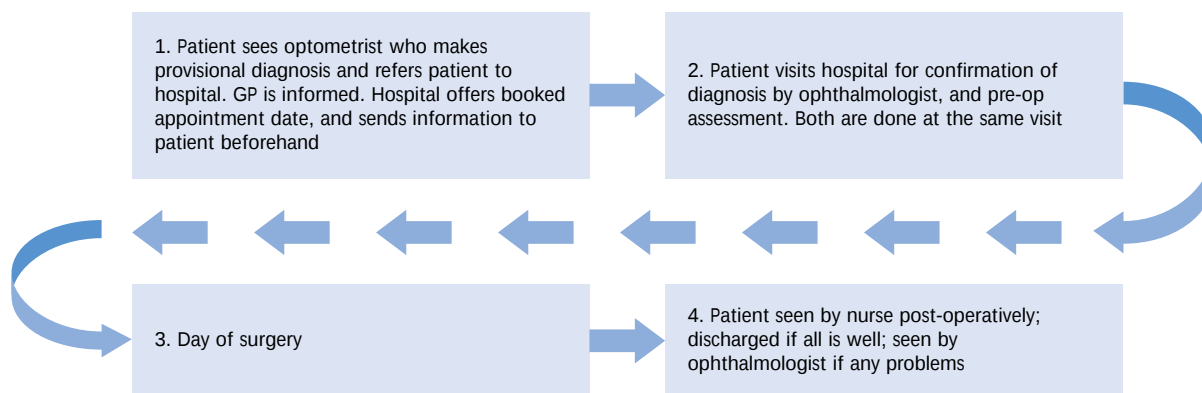
The treatment pathway will need to be different for people who have other eye conditions, systemic health problems, secondary handicaps or limiting social conditions. The 1997 National Cataract Surgery audit¹ showed that:

- The majority (70%) of people with cataracts have no other eye problems;

- Of the remainder who do, 11% will have glaucoma, 17% will have age-related macular disease, and 3% will have diabetic retinopathy;
- Just over half (57%) of patients having cataract surgery have another medical condition (30% hypertension, 18% arthritis, 11% diabetes);
- 65% of patients will be receiving treatment to their first eye, but 35% will want second eye cataract extraction and will therefore already have experienced the treatment pathway.

For this large group of 'straightforward' cataract patients, who have no other complications, the journey could be streamlined to look like this:

Figure 2



The steps in the journey are described in more detail below.

3.4 Referral and diagnosis

The objective is to give people with cataracts:

- an initial eye test
- a diagnosis
- adequate information to decide on surgery
- the opportunity to have surgery on an agreed date
- pre-operative tests and eye measurements

quickly and efficiently, with the minimum number of visits to GP or hospital.

3.4.1 Poor visual acuity - raising awareness and prompting referral

The first step in the pathway is often when people realise they have a sight problem which is not just due to ageing. For many people, this will be when they have an eye test. People who live in residential and nursing homes, or who are housebound, may find it difficult to get a sight test. People in lower socio-economic groups may have lower take-up of sight tests. For people aged 60 or over, sight tests have been free from April 1999. The Department of Health is expecting this to increase the number of NHS-funded sight tests by 40% (from 7 million to 10 million). The White Paper 'Saving Lives: Our Healthier Nation' recommends that people have regular eye tests, as better vision reduces the risk of accidents.

The NHS needs to be proactive in raising public awareness. A recent study in North London² found that 88% of people with treatable visual impairment due to cataract are

not in touch with eye health services, indicating the level of potentially unmet need for cataract surgery in the population.

There are opportunities to raise public awareness of cataract and its treatment:

- through the NHS (particularly GPs and pharmacies)
- in other places which older people may visit, such as libraries, day centres, clubs, residential homes
- poor eyesight is thought to be a cause of falls in elderly people, so GPs and A&E Departments could check that elderly people who have had falls are getting regular eye tests.



3.4.2 Referral guidelines

Many older people simply expect their eyesight to get worse as they get older. Some GPs and optometrists may not be aware of the latest practice in cataract treatment, and may still be advising patients to wait for the cataract to 'ripen' before referring them to hospital. Modern surgical techniques mean that this is no longer necessary: cataracts can be removed successfully at an earlier stage than was the case even a few years ago.

Referral guidelines and standard referral information should be agreed locally between the hospital ophthalmology service, GPs and optometrists:

- to ensure that patients are referred promptly to a hospital ophthalmologist if their eye condition requires this;
- to assist the referrer in making this decision, by helping them to identify patients who would not benefit from hospital referral (or would not benefit until a later time). This will avoid unnecessary hospital referrals. Referrals should be based on:

reduced visual acuity,
PLUS impairment of lifestyle,
PLUS willingness to have surgery, if appropriate.

Referrals should NOT be based simply on the presence of a cataract;

- to give sufficient information for the hospital to give the patient an appointment at an appropriate clinic, and to grade the appointment as urgent or routine.

A standard referral form would include administrative details about the patient, and details of the patient's eye condition and general medical condition. The referrer can fax or post this to the hospital. An example of a referral form is shown at Section 8.

The appropriateness of referrals, and the quality of referral information, can be improved by the hospital giving constructive feedback to referrers.

Health Authorities and Trusts should let PCGs, GPs, optometrists and individual patients know the current waiting times for cataract surgery at their local hospitals, for example through regular update letters and NHS Direct.

3.4.3 Direct referral by optometrists

The diagnosis of cataract is a provisional judgment by the optometrist and/or the GP, and needs to be confirmed by an ophthalmologist.

The optometrist is required to refer patients with eye diseases to a medical practitioner. Traditionally this has been to the patient's GP, who normally refers the patient on to a consultant ophthalmologist. The option exists, however, for the optometrist to refer directly to the ophthalmologist.

The great majority of GPs will accept the optometrist's judgment and refer the patient straight on to hospital, so the patient's extra visit to the GP may not add any significant value. On the other hand, the GP is able to make a decision to refer based on the patient's overall health.

Direct referral by the optometrist minimises the number of visits by the patient, helps reduce GP workload, and at the same time makes better use of the professional contribution of the optometrist.

The optometrist must inform the patient's GP, who is responsible for the patient's general health care. The GP needs to have the opportunity to contribute to the referral, by giving relevant information about the patient's medical history or social circumstances. The referral form can be copied to the patient's GP, so that additional information can be sent on to the hospital.

The practice or Primary Care Group may also want to be aware of the referral in order to monitor the number of hospital appointments it is taking up. PCGs and GPs will need to agree with local optometrists which hospital(s) to refer patients to.

The principle of direct referrals by optometrists is supported by the College of Optometrists, the Royal College of General Practitioners, the Royal College of Ophthalmologists, and the British Medical Association.



The lessons learned by one service which has piloted direct optometrist referrals (for all eye problems, not just for cataract) were that:

- *It was essential to offer community optometrists some initial training, in order to give them more confidence in deciding whether to refer the patient. To do this, they put on evening training sessions for local optometrists. Instead of giving the traditional lecture with slides, they invited some patients to come along. The optometrists assessed the patients' eye health and discussed their findings with ophthalmologists;*
- *The referral paperwork needs to be simple, and the training for optometrists should emphasise the importance of completing all the administrative details such as the patient's address and GP. A standard referral form would help;*
- *Optometrists may initially err on the side of caution. The hospital needs to be prepared for an initial increase in referrals, although this should fall away as optometrists are given feedback on the quality of their referrals.*

3.4.4 Timing and booking arrangements

Hospitals should aim to see all new patients within four weeks of referral. Urgent appointments are not usually required because of the severity of the cataract itself, but may be necessary because of the impact on the patient's daily life, especially if they live alone and loss of vision threatens their independence.

Patients should be able to pre-book their hospital appointment date at the time they visit their optometrist/GP, and this will become more commonplace as electronic links are set up between hospitals and other practitioners. Electronic links are not essential, however: the referral can be made by fax. If a standard referral form is used, this should give enough information for most patients to be assigned to an appropriate clinic without waiting for the consultant to 'grade' the referral. The hospital can then phone the patient to agree a convenient appointment date.

Many hospitals run dedicated Cataract Clinics for patients where the referral indicates that there is no eye co-morbidity. The timing of appointments is easier to plan, and the clinic can therefore run more smoothly. It will be easier to arrange pre-operative assessment for a cataract clinic than for a general ('mixed') clinic, because patients will arrive regularly. Standards for equipment and facilities are set out in the Royal College of Ophthalmologists' April 1999 'Guidance for Clinical Governance in Ophthalmology'.

The simplest way to keep waiting times to a minimum, and to ensure even waits for all patients, is to offer patients the first available appointment, regardless of consultant. This will be acceptable to most patients, unless the GP or patient prefers a specific consultant. This might be because the patient has another eye condition and requires advice from a consultant who specialises in this field, or because a particular consultant has already treated the patient.

3.4.5 Information

If it is clear from the referral that the patient probably has a cataract, then the hospital should send the patient information about the condition, how it can be treated, and

the next steps. The patient will have an opportunity to read it before coming to hospital, will be better informed about the process, and will have had the chance to think of any questions before seeing the ophthalmologist. If surgery is proposed, the patient will have had the chance to decide beforehand whether to go ahead.

The appointment letter should explain the outpatient appointment: how long the patient should expect to be at the hospital, who they are likely to meet, and what will be involved.

Best practice in patient information is covered at Section 3.7. This includes a suggested 'core' set of information that all eye services could use. It can be downloaded from the NPAT Website on the NHS Intranet.



3.4.6 Same day diagnosis and pre-op assessment

The key stages are that the patient:

- sees an ophthalmologist to get a diagnosis. This will involve clinical tests and an eye examination;
- is given sufficient information about benefits and risks to let him/her decide whether to have surgery, and to give consent to surgery;
- can agree a booked admission date;
- has any necessary pre-operative tests done - particularly biometry - and sees a specialist nurse who will explain the arrangements for the day of surgery, answer any questions or concerns and counsel/advise the patient if necessary.

These steps should all be undertaken at one visit - a 'same-day clinic'. However, whilst waiting times for admission are still long, it may be preferable to have a separate visit for the pre-op counselling, because patients' general health may change, or they may forget what they have been told about arrangements for the day of surgery.

As a final check, the patient can be contacted by phone a week or so before the admission date. Any outstanding concerns can be dealt with, and the call will act as a

reminder and reduce the number of patients who do not attend. If there has been a long delay since the initial appointment, the patient may need a more detailed reminder of the arrangements for the day of surgery.

The service at the Mayday Hospital in Croydon provides diagnosis and pre-operative eye measurements on the same day. Because there is currently a wait of about eight months until surgery, detailed information about the day of surgery is given a week beforehand. Patients who will be having surgery on the same day meet as a group. This helps to boost their confidence, particularly when one of the group is having second eye surgery and can reassure new patients. Patients then see the surgeon individually for a few minutes to have a final eye examination, the opportunity to ask any further questions, and to sign the consent form. The service aims to ensure that the nurse who gives the pre-op counselling also takes the patient to theatre the following week.

Pre-operative assessment normally covers:

- Physical health check; generally done by nurses: there is no need for the examination to be done routinely by a doctor, unless there is a specific problem which needs a medical opinion.

Unless there is a specific clinical indication, blood tests, ECGs and X-rays do not need to be done before cataract surgery.

- Biometry (measuring the axial length of the eye) and keratometry (measuring the curvature of the cornea) are done to establish the correct lens implant to use. These are skilled techniques, and need considerable training. Although junior ophthalmologists need to learn the technique, they are not the ideal people to provide a service because of their relative inexperience and rapid turnover. The preferred staff are senior ophthalmologists, ophthalmic trained nurses, optometrists or orthoptists.



Biometry gives the desired post-operative refraction. It is important for biometrists to audit their results, by seeing the actual post-operative refraction data. Ideally, this should be for all patients, but regular sampling is satisfactory. Biometry equipment needs regular calibration.

- The pre-operative assessment is an opportunity to show patients how to put eye drops in. After surgery, patients will need to use eye drops daily for several weeks. Patients can be given non-medicated drops (artificial tears such as hypromellose) to try out at home. If the patient or their carer cannot manage these, district nursing support can be arranged at this stage.

Timings for a one-stop clinic might look like this:

- Patient seen by nurse/optometrist who assesses visual acuity - about 10 minutes
- Patient seen by ophthalmologist who confirms diagnosis and discusses with patient whether to go ahead with surgery and anaesthetic options - about 10-15 minutes
- Patient seen by nurse for counselling and pre-assessment process - about 30-45 minutes per patient
- Biometry performed - may be done by nurse or by orthoptist/optometrist - about 10-20 minutes.

An ophthalmologist can see about 4-5 patients per hour, and a nurse about 1½ patients per hour for counselling. The staffing of these clinics and the number of clinic rooms required can be planned depending on what proportion of new patients are listed for surgery. Typically, at present about 70% of new patients are listed for surgery. In future, as the quality of referrals improves, this will increase towards 100%.



In many eye services, the biometry is done by optometrists and the other aspects of pre-op assessment are done by nurses. It is sensible to train staff to do all aspects of the pre-op assessment process: the patient will have to see fewer people, and staff can work more flexibly.

3.4.7 One-stop surgery

A few services are piloting innovative schemes where the optometrist or GP makes the diagnosis and books the patient direct on to a theatre list. Guidelines ensure that the patient is suitable for day case surgery under local anaesthetic. The patient is given written and/or telephone information about the day of surgery. The patient attends hospital once only, for a whole day: a consultation with the ophthalmologist, biometry, and the operation. The advantages are that the patient has a date for surgery right from the outset, and that only one hospital visit is involved. The success of this approach will depend on the diagnostic skills of the GP or optometrist, and on the ophthalmologist's confidence in the referrer's skills. The patient must understand clearly what is involved. This one-stop service will not be suitable for all patients, but provides a streamlined service which many patients like.

3.4.8 Geographical accessibility

Transport can be a problem for patients who have to travel a long way to the clinic.

Some hospital eye services, particularly those serving large geographical areas, run satellite services. Satellite services can provide several levels of cataract service, and need to be equipped as shown below:

Figure 3

Level 1 Diagnostic and follow-up clinics: slit lamp £10,000; lenses and other equipment £5-8,000
Level 2 Pre-op assessment: as above, plus £5-6,000 for biometry equipment
Level 3 Day case surgery: as above plus phacoemulsification machine £40-60,000; phaco handpieces £2,000 per patient and instrument sets £1,500 per patient

Satellite clinics can reduce the time and cost of travelling for patients, though if a consultant is away from his/her 'base' hospital, he/she is not available to deal with emergencies or to advise other staff. Satellite clinics will need the right staff and equipment, and the cost of these needs to be justified by the number of patients treated.

The Gayton Road Health Centre in King's Lynn converted a spare room into a minor ops theatre. The practice undertakes day case cataract surgery for patients of the practice and others in the Primary Care Group. One of the GPs is experienced and qualified in ophthalmology and does the necessary diagnosis and pre-operative assessment. A surgeon and anaesthetist visit monthly for the day of surgery. Theatre nursing is provided by the practice. Post-operative care and follow-up is undertaken by the GP. The cost per patient, including practice staff, is comparable to hospital-based services.

Some services run occasional outpatient clinics or theatre sessions for patients from a particular area, and arrange minibus transport for a group of patients. For the post-operative review, a nurse goes out to a convenient location such as a GP surgery.

3.4.9 Reducing the wait for an appointment: reducing the number of patients not attending

The national average for 'did not attends' in Ophthalmology is 10%, but the best performing Trusts have reduced this to 2-3%.

Clinics run smoothly when all the expected patients arrive - not more, and not fewer. In general, the longer the wait for an appointment, the higher the likelihood of patients not turning up.

If there is a long wait for an appointment, hospitals should remind patients of their appointment date three or four weeks beforehand. If the patient does not want to attend, or wants to change their appointment, this can be arranged in good time. It also allows enough time to offer any free appointments to other patients. Experience at Trusts with long waiting times (over 13 weeks) is that administrative validation of the outpatient waiting list can reduce waiting times significantly.

3.4.10 Agreeing the admission date

Initial experience from the National Booked Admissions Programme pilot sites is that agreeing a date with the patient can reduce those not attending virtually to zero.

- A known admission date reduces uncertainty and anxiety for patients (even if it is a long time ahead).
- The patient has agreed the date at the outset, and so is committed to it.
- Patients know the date well ahead, and can arrange their life around it.
- Because patients know the date, they are less likely to ask their GP to expedite their admission.
- Hospitals can plan their workload well in advance.
- Reducing the number of cancellations means that hospitals use their resources more effectively.

Experience suggests that it is difficult to introduce booked admissions if the waiting list is more than six months. Planning the diaries of hospital staff, and possible changes in the patient's condition, make it more difficult to schedule beyond six months. These problems can be alleviated by introducing 'firebreaks': clinics or theatre sessions which are left empty in case booked patients have to be rescheduled. If they are not needed for this purpose, they can be used for 'short notice' patients.

Introducing booked admissions does not have to be a 'whole-hospital' change. It is possible to introduce booking for day case admissions even if the inpatient waiting time is too long for booked admissions. Booked admissions can be introduced for just one specialty, or even for a specific procedure such as cataracts.

3.4.11 What is the ideal waiting time for cataract surgery?

Visual acuity does deteriorate whilst the patient is waiting for surgery, although it is not possible to predict the pace of this for an individual patient.

The median wait for NHS patients is currently seven months from the decision to have surgery, but there is a wide range either side of this. The ideal would be 1-2 months, but this is unlikely to be achievable in the short-term, given the wide range of demands on the NHS. The Government has set a target from time of referral to surgery of six months, to be achieved by 2003.

3.4.12 Which patients should be treated soonest?

Most cataract surgery is not urgent from the medical point of view, although some patients may have other conditions or social circumstances which will determine the timing of their operation. Most patients are therefore put in the 'routine' category, and should expect to be treated in the order they joined the waiting list.

Are there more systematic ways of deciding which patients to treat first? Several UK sites are looking into the use of objective criteria for assessing the relative needs of individual patients - priority scoring. There is a range of instruments available, mostly based on the VF-14 or TyPE criteria. They take into account the impact of cataract on the patient's everyday life: reading, going shopping, watching TV and so on. Some patients may have the responsibility of caring for dependants, which might merit a higher priority.

Some scoring systems (cardiac surgery, for example), are based strictly on clinical indicators. The tools available in ophthalmology, however, are subjective and dependent on the judgment of individual clinicians and patients, who may interpret the same questions in different ways. These problems can be reduced by giving referrers feedback on their average of scores compared to others.

Priority scoring as part of referral guidelines can help to ensure that the right patients are referred to hospital at the right time. Its use to prioritise patients who definitely need surgery is still at a developmental phase, and the Steering Board was not able to give a recommendation on its widespread introduction. Our view was that eye services should concentrate on reducing waiting times. If no patient has to wait more than six months for cataract surgery, then the issue of who is treated soonest becomes less important.

Hospitals need to make sure that waiting times for different consultants are even. Hospitals should agree with consultants that patients will be asked if they would like to transfer to another consultant's list, if this would mean that they could have surgery sooner.

Hospitals also need to review the composition of their cataract waiting list, in order to get the right balance of admissions. For example, if a consultant tends to admit a relatively high proportion of patients who have been added to the waiting list recently, then there is likely to be a long 'tail' of patients waiting 12 months or over. If on the other hand, the consultant admits a lower proportion of 'recent' patients, then this will allow the maximum waiting time to be lower. There are several software products which will support the analysis and modelling of this factor. 'Checklist' appears to be the most commonly used.

Some hospitals have a central waiting list and admissions team; others have decentralised arrangements. If arrangements are decentralised, it is important that individual departments work to a standard policy. This needs to be written, so that staff can be trained appropriately.

3.4.13 Consent for surgery

The patient needs to give consent to surgery, in case there is a subsequent complaint or legal action. It is important that there is a record that:

- the benefits and risks of cataract surgery have been explained to the patient; and
- the patient wants to have surgery.

The patient should have all necessary information **well before** the day of surgery, in order to make an informed decision to go ahead. The fact that the patient arrives for surgery is a confirmation that he/she wants to go ahead. If the surgeon has not met the patient previously, then he/she should take the opportunity to answer any final questions and reassure the patient.

The patient should sign the consent form before the day of surgery (at the pre-op assessment stage), or at an early stage on the day of surgery if this is the patient's first opportunity to do so. But this should only be the administrative task of completing the form: it would be quite inappropriate for the possible risks and benefits of surgery to be explained for the first time immediately before surgery.

The patient should sign it (though is under no obligation to do so) and the person who has explained the procedure and its risks and benefits should also sign it. Usually this will be the consultant who is carrying out the surgery. If the responsible consultant has delegated this task, then the person who has given the information and obtained the patient's consent should sign it. This might be a junior doctor, or another professional, such as a nurse, orthoptist or optometrist.

GMC guidelines make it clear that this person does not have to be the person who will carry out the surgery, nor does it have to be someone who is capable of undertaking the procedure. The person must, however, be someone:

- **who is familiar with cataracts and cataract surgery;**
- **who has been trained to communicate effectively and to take patients' consent; and**
- **whose professional practice is audited.**

If he/she has delegated this task, the surgeon remains responsible for ensuring that the patient has been given appropriate information, and that informed consent to surgery has been obtained and documented.

This advice has been agreed with risk management consultants who advise the Clinical Negligence Scheme for Trusts.

3.5 The day of surgery

3.5.1 Day case or inpatient surgery?

The published literature is clear that day case and inpatient surgery give similar outcomes and complication rates³, and that patients prefer to be treated on a day case basis⁴.

The great majority of patients can be admitted as day cases. Very few patients need an overnight stay for medical reasons. Inpatient surgery is only recommended for:

- patients with other eye conditions which require close post-operative supervision, and where the patient cannot attend on a daily basis;
- cardiac or respiratory failure, and/or insulin-dependent diabetes, in a patient undergoing general anaesthesia; and
- patients who do not want day case admission.

Dementia is likely to be exacerbated by an inpatient stay, and the patient should have the minimum possible disruption to daily routine. For this reason, day case surgery is preferred.

Patients who need a general anaesthetic but who are otherwise fit can still be admitted as day cases. They will need to be operated on earlier in the day, to allow adequate time for recovery.

It is safe for the patient to be on his or her own after local anaesthetic surgery. If a general anaesthetic has been used, however, the patient should have someone to stay with them the night after the operation.

At present, most patients who come in as overnight stays do so for social reasons: they may have a long distance to travel, or there may not be someone at home to help them after the operation. Judging by current day case rates, many hospitals are too cautious in these respects. The Audit Commission recommends a target of 85%. Many hospitals are already achieving this level, without putting undue pressure on patients to be admitted as day cases. But at least a third of hospitals still have day case rates of less than 50%.

If patients do need an overnight stay after surgery, consider using facilities that do not require the use of an acute bed. Hotel beds in the hospital, or in local hotels, can provide a safe and pleasant environment, and lessen the tendency for patients to think of themselves as 'sick'.

'Operation Cataract'

IMPACT pioneered 'Operation Cataract' to bring together the expertise and services of hospitals and hotels on the one hand with the enthusiasm and commitment of local organisations on the other. Initially developed to overcome the limiting factor of a lack of hospital beds, this flexible model is now used to enable hospitals to increase their day case rates, and at the same time provide a fully supportive package of care for patients. The scheme is of particular benefit to people who might otherwise be excluded from the benefits of day case surgery because they have social needs, a secondary handicap, live alone, or live some distance from the hospital. Each project is individually tailored to the local arrangements of the hospital involved. It can take place during the week, in accordance with the hospital's normal operating schedule, or over a weekend so that additional patients can be treated.

IMPACT provides a complete management service, including arranging accommodation, assisting with transport, and mobilising resources and volunteers. In addition, IMPACT is able to make a contribution to non-hospital costs, including accommodation.

Patients are selected for 'Operation Cataract' projects by the hospital from their waiting list in the normal way, but instead of reporting to the hospital for their operation, they are asked to go to a nearby hotel where IMPACT has organised accommodation. The patients arrive at the hotel in the afternoon where they are treated just like any other guest. A representative from IMPACT and a nurse from the hospital will welcome patients at the hotel, and if necessary will carry out any last-minute pre-operative checks. The group of patients all meet together for dinner, during which the arrangements for the following day are explained. The following morning they are taken to the hospital where their cataract operation is performed as a day case. Following surgery and a short period of recovery they return to the hotel where they resume their life as hotel guests, albeit with the badge of distinction of an eye patch. The next day, after a check-up which takes place either at the hotel or at the hospital, the guests are able to go home.

The IMPACT Foundation is a Registered Charity working internationally to prevent and alleviate causes of avoidable disability. Contact details are shown at Section 14.

3.5.2 Timing

Although the surgery itself is quick (10-20 minutes), the day of surgery can be very long for a patient. This can be tiring, and create anxiety for the patient.

- If patients have a long journey to reach the hospital, do not ask them to arrive first thing in the morning.
- Stagger patients' arrival times (even if they all have to be seen by an anaesthetist before surgery, they cannot all be seen at once).
- Plan for patients to be at the hospital for the shortest time necessary (90 minutes is a reasonable target).

This will shorten the day for the patient, and it will also make sure that the waiting area does not get overcrowded.

However, for patients who have a long travelling time, it may be better to spend longer at the hospital on the day of surgery so that any immediate post-operative complications can be picked up, and to omit the subsequent first day post-operative review.

3.5.3 High volume high quality cataract surgery

We have found that the number of cataract cases treated during a theatre list varies considerably. Some units are only managing four cases; the majority of those visited report doing six or seven cases, and a few are operating on 10 or 11. The key to achieve higher throughput is NOT to speed up the actual surgery or anaesthesia, but to cut out 'lost' time between patients.

The Steering Board felt that it is reasonable for theatre teams to operate on two cases an hour. Some teams may be able to achieve more than this - perhaps 2½ per hour.

We have picked up lessons from hospitals doing high volume cataract surgery:



- Speed should not be the main concern, either with the anaesthesia or the ophthalmic surgery. The aim should be to run the list smoothly, without wasting time and without unplanned interruptions.
- Cataract lists run better than lists of mixed procedures. The time per case is consistent, the instrument sets are the same, and there is less risk of patients at the end of the list being delayed or cancelled because an earlier case takes longer than was thought.
- Using porters to escort patients is unnecessary and slows things down. If patients can walk from the car park into the hospital, then they should be able to walk to theatre. Patients can remain in their own clothes.

- Physical layout is important. Ideally, the waiting area will be next to the anaesthetic room, so that patients can go straight into the theatre suite, and straight out again after the procedure. If the theatre is a long way from the day case unit, have a small 'buffer' waiting area outside the theatre for the next one or two patients. This ensures that the theatre never has to wait for patients.
- Transferring patients between trolleys takes time and is inconvenient for patients and staff. Many theatre teams now use trolley-beds which can convert from a 'sitting' to a 'prone' position. Surgeons report that they give sufficient stability for operating.
- There is an ongoing debate about whether it is essential for an anaesthetist to be present during a cataract list, or whether it is safe for the surgeon to do his/her own anaesthetics. The Royal Colleges are considering this, but in practice, many Eye Units do not currently have anaesthetists available for every theatre session. If there is an anaesthetist for the list, he/she should be present all the time, not shared with other theatres, so that the eye theatre is not kept waiting.
- A high volume list will almost certainly need two scrub nurses - one with the patient, and one preparing for the next patient.
- Building up to high volume surgery (two or more patients per hour) takes time, and trying to do this too quickly may not be successful. Increase patient numbers gradually, so that the theatre team builds its experience and confidence. Audit results continuously, to ensure that high volume means high quality.
- Not every cataract list needs to be high volume. Not every surgeon will be able to work in this way (particularly trainees, and surgeons who have opted not to convert to phacoemulsification). But in a typical eye unit doing nine or ten theatre lists a week, about half or two thirds of these will be for cataract surgery.



Increasing from four patients to seven per list will make a significant increase in the number of patients treated.

- High volume surgery will need more sets of instruments and phacoemulsification handpieces, so there will be some extra costs associated with this. Typically, a phacoemulsification handpiece costs about £2,000 and a cataract instrument set about £1,500. Turn-round time from TSSU needs to be matched to the frequency and volume of cataract lists.
- The standard 3½ hour theatre session is not an unchangeable fact of nature. Some surgeons and theatre teams may be happy to do a longer list; some may be willing to do a short list, such as an evening session. Patients are very happy with 'twilight' sessions, because it is much easier for relatives who work during the day to bring them to hospital.
- Eye theatre nursing is a specialised field. It takes time and effort to build a theatre team with the right skills and the right team spirit. Rotating theatre staff through the eye theatre, rather than building a permanent team, is likely to reduce throughput and lessen job satisfaction.
- At the same time, some leading services with dedicated cataract services are promoting the establishment of day case teams which are involved in every aspect of

the cataract patient's journey, from pre-assessment to post-operative examination. These teams tend to be flexible and good at problem-solving. They believe that this is the ideal process for delivering high quality day case care and maintaining team morale.

The advice below was written by two ophthalmologists who have experience of high volume surgery:



"The number of cases that can be operated on during a 3½ hour operating list varies from 3 to 10 or more in the UK. To increase the number of cases it is important to think about the time per case, which is the time from the start of one case to the start of the next. To increase from 3 to 10 cases, the time per case must be reduced from 70 minutes to 21 minutes.

The four components of time per case are:

1. Patient movement:

The operating theatre should be less than 25 metres from the day case unit so that patients can walk to theatre. There is no chance of increasing throughput if hospital porters are required. Patients can remain in their own clothes.

2. Anaesthetic time:

In order of speed the methods are:

- (a) Topical*
- (b) Per-operative sub-Tenons*
- (c) Pre-operative sub-Tenons, peribulbar, retrobulbar*
- (d) General anaesthesia.*

A surgeon can carry out methods (a) and (b) alone at a fast rate. Method (c) requires the surgeon/anaesthetist to leapfrog cases (give a block to patient no. 2 before starting operating on patient no. 1). Method (d) cannot be used for a high volume list.

3. Nurse preparation time

There must be two scrub nurses and a preparation room, so that one nurse is preparing the next trolley while the other is assisting with a case.

Nurses will only agree to an increase in caseload if they are confident that they will finish on time. The surgeon must develop a technique that is consistent in time regardless of the type of cataract, and complications must be rare.

4. Surgical time

Teaching lists must be separated from service lists.

The reason that sessions are slow is that a great deal of productive time is lost between successive patients. This can be vividly illustrated by looking at a video of an operating theatre and measuring how much of the time nothing meaningful is happening.

A happy theatre is necessary before throughput can be increased."

3.6 Post-operative treatment and care

'Straightforward' patients can have a different pathway to those with complications. Uncomplicated patients may not need a first day post-op review, but there must be a mechanism in place for the patient to contact the hospital if there is any problem. Those patients should be seen within one week if they have not been seen on the first day.

3.6.1 The immediate post-operative period

How soon patients go home will depend on the pathway for subsequent follow-up. Some Eye Units keep patients at the hospital for a few hours after surgery, rather than bring them back the following day, particularly if travelling times are long.

If they have had a local anaesthetic, patients should be able to go home within an hour of surgery. Some hospitals ask all the patients on a list to wait to be examined by the surgeon. This means that the earlier patients may have to wait several hours, which is unsatisfactory. A better arrangement would be for a trained nurse to examine and discharge patients, working to guidelines agreed with the consultant.

In the hours immediately after surgery, and overnight, patients will feel some soreness in the operated eye. Patients should be given a clear explanation beforehand, and written information, about what post-operative symptoms to expect and who to contact at the hospital if they have abnormal symptoms. If there is any suggestion of a post-operative complication, the patient can attend the ward, eye casualty service, or a same-day outpatient clinic. They should be assessed by a nurse skilled in examining eyes, and should not have a lengthy wait in an Accident and Emergency Department.

3.6.2 The first day post-operative review

The first day post-op review is at present a standard step in the cataract patient's journey. For the majority of patients, who have their cataract removed on a day case basis, the review involves a further visit to hospital on the day after surgery. Whilst they may be reassured by the review, it may cause some inconvenience, particularly to those who have to travel a long distance, or who have to rely on relatives to take them to hospital. The need to come back to hospital the next morning does offset the advantages of not having to stay in hospital overnight.

3.6.3 Discharging the patient

Most patients are seen and discharged by their consultant at 3-4 weeks (if they have had phacoemulsification) or 6-8 weeks (extracapsular cataract extraction). Many consultants feel that this is an important part of the continuing care of their patients, and that it gives them the opportunity to see the results of surgery. This is particularly important for surgical trainees, but not essential for patients who have satisfactory visual acuity and experienced no complications. In some departments, patients are

Arrowe Park Hospital has a 'shared care' arrangement with local optometrists. There is no post-operative hospital visit. Selected local optometrists have agreed to do the final refraction and eye examination, and to send the results back to the hospital to complete the audit loop. Optometrists who wish to join this scheme are given training by the hospital (and several also work at the hospital on a sessional basis). Patients are given a list of accredited optometrists.

seen and discharged by a nurse working to protocols agreed with the consultants. In others, the patient is not seen post-operatively at the hospital unless there is a complication.

3.6.4 The second eye

Many patients will have cataracts in both eyes. Research confirms that there is value to the patient in operating on a cataract in the second eye⁵. How soon should this be done? The patient will need some time to recover from the first procedure, and to decide to go ahead with the second eye. The second cataract should be removed reasonably soon - preferably within 2-3 months. Whilst waiting for the second eye, the patient will have good eyesight in the first eye, but may not want to go to the trouble or expense of getting new glasses. There is an argument that if waiting times for surgery are very long, then the hospital should concentrate on getting as many first eyes done as possible, and that second eyes should wait. The Steering Board was not convinced by this view. Patients will have impaired vision and quality of life for a long period, and there is a greater likelihood of their general health deteriorating during this time. We would prefer to see the overall course of treatment completed quickly in as many patients as possible. Several eye services now give the patient a firm date for the second eye when they attend for a post-operative review after surgery on the first eye, and we think this is best practice.

Biometry should be done on both eyes at the outset, so for most patients there is no need for the patient to visit the hospital again before the second operation. A phone call from a nurse would be sufficient to check whether the patient's general health has changed, and to make sure he/she is clear about arrangements on the day of surgery. It may be effective to keep a list of 'second eye' patients who can come in at short notice if there is a cancellation.

3.6.5 Posterior capsule opacification (PCO)

PCO is the most common complication of cataract extraction, occurring in up to 20% of cases in the five years after surgery. It is treated quickly and simply by laser, as an outpatient procedure. It can be recognised by GPs and optometrists. Best practice would be to run a dedicated Laser Clinic, and encourage GPs and optometrists to refer direct to this. This would save the patient having to wait for a consultant appointment in a general ophthalmology clinic.

Several Eye Units have trained nurses to carry out laser treatment, in order to enhance their professional contribution and free up consultant time.

Some types of intraocular lenses give lower rates of PCO, but they tend to be more expensive. There is a continuing debate among ophthalmologists about whether it is the design or the material which contributes to the lower incidence of PCO with these lenses⁶.

3.7 Information for patients

3.7.1 Good accessible information

Clinical professionals involved at each stage in the patient's treatment pathway should give consistent information about the condition and the options for treatment.

They should use a standard written information pack. For information about cataract and cataract surgery, the most commonly used booklet is the RNIB/Royal College of

Ophthalmologists booklet 'Understanding Cataracts'. Alternatively, a suggested text can be downloaded from the NPAT Website on the NHS Intranet.

This should be supplemented with information about how services are organised locally. Hospital Eye Units should take responsibility for writing this up, and ensuring that it is available to professionals who are likely to need it (optometrists, GPs, community pharmacists and other staff who work mainly with older people).

Information should be given to patients as early in their treatment pathway as possible, even if the diagnosis has not yet been confirmed by an ophthalmologist. This will give them time to assimilate it, to think of any concerns or questions they may have, and to decide whether they want to have surgery if it is offered. When hospitals give the patient an appointment, they should let the patient know:

- what will happen;
- the names of key staff they are likely to see;
- how long they should expect to be at the hospital; and
- what will happen next.

When a professional is giving verbal information, he/she should follow a locally-agreed 'script', to ensure that all relevant points are covered in a consistent way.

Where patients are seen at different sites (eg outpatient appointment at a satellite unit and admission to the main hospital) it is particularly important that they are given consistent information. Staff at each site need to know the people and procedures at the other site.

The Royal National Institute for the Blind gives this guidance on effective communication with people who have poor eyesight:

- *Consider the information needs of, and preferred format for, the recipient when planning and delivering health information*
- *Allow sufficient time to produce information in different formats*
- *Minimum print size should be 12 point for all documents aimed at the general public*
- *Large print is bold and 14 points or over. It is advisable to use large print in publications for elderly people or people who are particularly likely to have a visual impairment. The 'See it Clear' print guidelines should be followed:*
 - *Set margin justification to the left only*
 - *Use an RNIB approved typeface*
 - *Do not set blocks of text in capital letters*
 - *Make sure contrast is always good (for example, black on white) especially when taking photocopies.*
- *Braille can be produced by a number of services, and the RNIB can give details of contacts. Equipment can be purchased to produce Braille in-house*
- *Audiotape can be produced in-house. Larger documents can be recorded by audio transcription services. The RNIB can provide details*
- *Computer: many younger blind or partially sighted people have access to computers and will prefer information to be made available on disk.*

4 Bringing about sustainable improvements: issues for managers

The previous sections of this guidance described what good practice in cataract services looks like. This section tackles the more difficult problem - how to get there. It is aimed at all those involved in managing cataract services, including clinical staff involved in management, and those who commission cataract services.

4.1 Identifying problems with access to cataract services

The data in this section is all taken from existing sources. Several indicators have been used to identify parts of the country where there may be (now or in the future) problems with access to cataract surgery.

4.1.1 Population access rates

The number of cataract operations for England has doubled over the past eleven years. In 1997/98, about 153,000 operations were carried out, and provisional estimates for 1998/99 suggest that this increased to about 170,000 operations.

Cataract surgery in the private sector is thought to add 10-15% to the NHS figure, making a total of 185-195,000 operations. This figure is consistent with manufacturers' estimates of total sales of lens implants. The level of private surgery is unevenly distributed across the country.

There is a wide range in access rates to cataract surgery across England. This is shown in Section 10, and is calculated as a rate per 100,000 residents aged 65 and over, the group which is most at risk of developing cataract. There is no indication in the epidemiological literature of the 'right' level of service provision. However, those Health Authorities where NHS provision is close to, or over, 3,000 cases per 100,000 older people have shorter waiting times, which are within striking distance of the target for 2003 (maximum of six months wait from referral to surgery).

This suggests that to achieve the desired waiting times, the aim should be to reach a level of 3,200 operations per 100,000 people aged 65 and over. This would represent 250,000 NHS cataract operations per year. This figure of 250,000 operations is the new target set by the Government, to be achieved by 2003.

4.1.2 Demographic changes in the next ten years

Elderly people are most likely to develop cataracts. Between a fifth and a third of people aged 65-74 will develop some form of lens opacity over a five-year period.

The population of England will increase by 1.4% from 1999 to 2004, and by 2.6% from 1999 to 2009. The numbers, and proportion, of older people will grow faster than this, however. The number of people aged 60 and over will increase by 2.6% from 1999 to 2004, and by 10.6% from 1999 to 2009.

Individual HAs will however see variations around this average - see Section 9 - and need to plan to meet increases in demand.

4.1.3 Waiting times

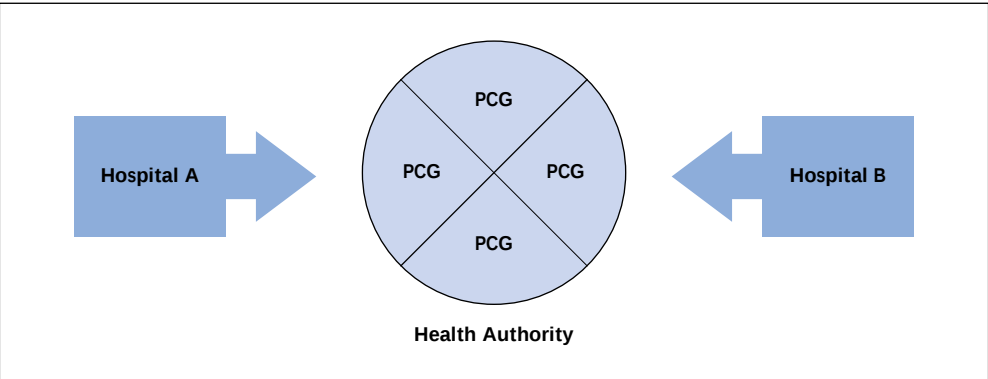
Waiting times for surgery are another measure of access to services. Central information only gives waiting times at specialty level, but it is estimated that 60-70% of patients on ophthalmology waiting lists are waiting for cataract surgery.

The HAs with the highest proportion of ophthalmology patients waiting over six months are shown at Section 10.

4.2 Planning services

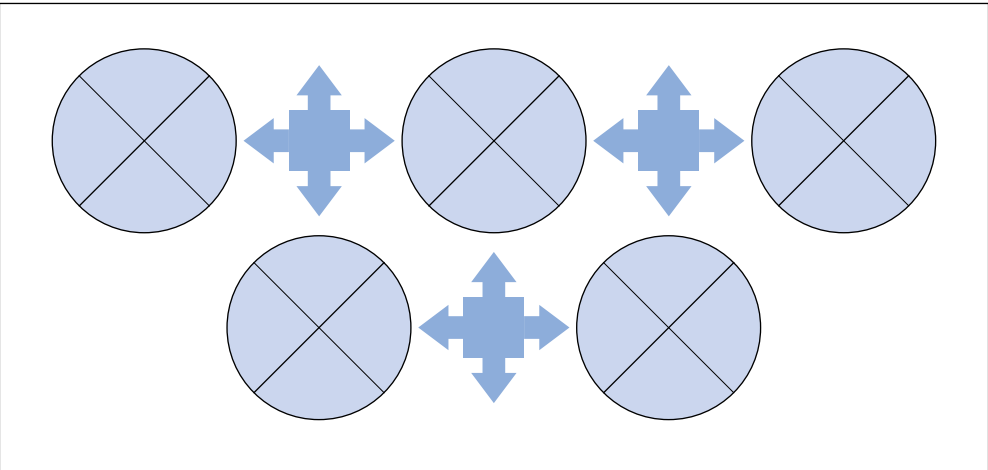
Planning eye services needs to be carried out on a multi-agency, multi-disciplinary basis. The Health Improvement Programme approach is ideally suited to this. In many areas, eye services can be planned Health Authority-wide, because there is a one-to-one, or several-to-one, relationship between hospital ophthalmology departments and the HA.

Figure 4



The picture may be more complicated where hospitals serve several HAs' residents:

Figure 5



The basic building block in the planning process will be the health care needs of a Primary Care Group's patients. This population, however, is likely to be too small for planning hospital eye services in isolation, and in practice, planning is likely to be co-ordinated at HA level. The same principle is likely to apply to eye services in primary care: HAs and PCGs are likely to want consistent service patterns across the whole HA.

Planning cataract services straddles planning for:

- acute services (including reducing waiting times and introducing booked admissions);
- services for older people; and
- services for people with disabilities.

The key people to be involved in an HA-wide group planning cataract services will be:

Figure 6

Users	Trust(s)	Health Authority	PCGs	Partner organisations
Patients	Consultants	Public Health	GP(s) with an interest in eye services	Local Optical Committee
County Association for the Blind or other local organisation	Nurses	Commissioning /Planning	Optometrist rep	Local Authority (Social Services)
CHC	Managers	Neighbouring HAs (if appropriate)		

There may be areas where it is not possible for an HA to plan services in isolation, particularly where a hospital is serving more than just one HA.

The HA and its partner organisations could use the HImP process as the catalyst for reviewing the local cataract service, agreeing a long term strategy, and developing short term action plans for improvement.

Birmingham HA has a successful citywide planning group. The Birmingham Eye Service (BES) is centred on the Birmingham and Midland Eye Hospital, with outpatient services and day case surgery also being undertaken at the three other main general hospitals in the city. All Consultant Ophthalmologists have sessions at the BMEH and one of the 'spokes'.

The group's remit is to manage the strategic and service co-ordination of the BES, working across organisational boundaries. It is chaired by the HA, and has membership from clinicians and managers from each of the Trusts involved. It is developing close working with PCGs and community optometrists. The group monitors service standards, particularly to ensure that waiting times for admission do not exceed six months (if necessary, patients are offered the choice of being treated by a consultant with a shorter wait). The group is ensuring that the BES links to the various Booked Admissions pilots in Birmingham. The group plans developments such as new services, capital schemes, and consultant appointments and replacements.

The group's work is incorporated into the HA's Service and Financial Framework and Health Improvement Programme.

Where services are coming together, and/or where people are trying to standardise different clinical policies between Eye Units or consultants, the simplest approach may be just to map out the patient pathways used by each. Exposing the differences in this way will usually surface the pros and cons of different approaches. Where different approaches cannot be resolved, it can be useful to bring in the advice of an external professional from the discipline concerned.

Gloucestershire is one of the Action on Cataracts Exemplar sites. The county has two hospital eye units, based at Cheltenham and Gloucester. From April 1999, the services became jointly managed by the East Gloucestershire NHS Trusts and from April 2000, after a building scheme, the combined service will be provided on the Cheltenham site.

In order to agree a consistent pattern of service, the two sites held a workshop for all grades of medical staff working in their ophthalmology departments, including anaesthetists. An outside facilitator ran the workshop. Participants were asked:

- *to outline the ways in which their practices were different or the same;*
- *to identify elements of the service which needed to change; and*
- *to name their 'sacred cow': an element of practice where change should be resisted.*

The workshop was helpful in identifying areas of good practice at each site and areas where different approaches needed to be resolved.

4.3 Getting patients' views on the current service

The design of a cataract service should start from the patients' point of view. Planning groups and eye professionals need to find out what their local residents want, and what aspects of the service are important to them. Research carried out by the RNIB highlighted the following issues as being important to patients.

- Ease of obtaining outpatient appointment
- Transport to the hospital
- Finding the clinic
- Appointment arrangements
- Waiting times at the department
- Being kept informed whilst waiting
- Facilities in the waiting area
- Appointment information
- Written information about their eye condition
- Helpers
- Seeing the preferred specialist
- Time to talk.

None of these findings should be a surprise to people providing healthcare services to people with visual impairment, but the design of services needs to consider these factors. A few of the causes may be 'facts of life' - regular turnover of junior medical staff - but we need to find ways of ensuring that they cause as little difficulty as possible for patients.

4.4 Involving patients in assessing outcomes

Assessing the outcome of cataract surgery is important for several reasons:

- the ophthalmologist and the eye team can measure the extent to which they have helped the individual patient, and thus plan any further treatment needs;
- over time, the ophthalmologist can see which techniques and materials are most effective at meeting the needs of different patients; and thus
- it closes the audit loop by showing where changes can improve the service in future.

The most obvious way of measuring the outcome of cataract surgery is to measure visual acuity. But, just as measuring visual acuity before surgery does not give a complete picture of the condition's effect on the patient's quality of life, so post-operative visual acuity may not give a complete assessment of the outcome.

Patients can be involved in assessing the outcome of cataract services at the individual level - how effective was their own treatment? - and the service level - how effective is the cataract service as a whole?

To involve patients in assessing the clinical outcomes at the individual patient level, the necessary factors are:

- Honest straightforward dialogue between clinicians and patients
- Full information on the condition, and realistic expectations of sight improvement
- Appropriate follow-up arrangements
- Opportunity and adequate time for discussion
- Opportunity for alternative clinical opinions
- The right 'balance of power' between patients and clinicians.

When patients are involved in assessing outcome at the service level, they need to have:

- A realistic understanding of what the system is able to deliver
- Full information about each stage in the patient's journey
- Adequate communication
- The opportunity to comment on services individually and collectively, including patient satisfaction surveys, structured interviews and focus groups
- Information on, and access to, complaints procedures.

It is important to bear in mind that patients and their carers may be reluctant to make criticisms (even constructive ones) of the staff who have treated them. They may also be nervous about making comments in a group composed of professional staff. For these reasons, the most effective way to get patients' opinions may be to use an independent agent, such as the CHC or local voluntary group, to help.

When patients have taken the trouble to give their views on the effectiveness of the service, it is important to let them know about changes which have been made as a result.



4.5 Resource issues

4.5.1 The extra cost of treating more patients

The variable costs of cataract surgery are relatively small. Most admissions should be as day cases, so bed availability is not an issue. If more patients can be put onto existing lists, then there would be no additional staffing cost. If an extra nurse is needed for a theatre session to improve throughput, the cost will be around £60 per session. Consumables and drug costs are about £30 per patient and the cost of the lens will be £75-£120 per patient depending on type and supplier.

The range of Hospital Reference Costs in 1997-98 for the two cataract HRGs showed that 80% of hospitals had reference costs between £420 and £864 (day cases) and £560 to £1,185 (inpatients). This wide range in costs suggests that some Trusts may be able to achieve further efficiency. Do not start by looking at where to find financial savings. Look at how the service can be streamlined and quality improved: savings will come as a by-product.

4.5.2 Staffing

Consultants

A full-time (or maximum part-time) consultant ophthalmologist will usually have two operating sessions per week and four outpatient sessions.

The number of NHS ophthalmology consultants has increased by about 4% for each of the past four years. Middle grade and trainee staff numbers have increased substantially.

Figure 7

	1995	1996	1997	1998
Consultant	530	564	580	598
Staff Grade	79	90	105	142
Associate Specialist	98	123	122	131
SR/SpR	123	183	281	312
Registrar	142	126	45	29
SHO	397	419	423	406
Total	1,369	1,505	1,556	1,618

Source: Department of Health, from Trust returns

The number of consultant vacancies each year is around 50-60 each year, though this can increase as result of waiting list initiatives. The expected supply of trainees will match this: 80 in 1999/00, 58 in 2000/01, and 50 in 2001/02, so it does not seem that the availability of potential consultants will constrain growth in the volume of cataract services.

Staff Grade and Associate Specialist surgeons undertake a significant proportion (15%) of cataract surgery. Eye Units need to take into account their aspirations and development: being given appropriate clinical responsibilities, being offered adequate training and continuing professional development, and being given the opportunity to contribute to the planning and management of the cataract service.

Other eye care professionals

Little data is available centrally about other professions involved in eye health services. The number of optometrists providing general optical services has increased by about 2½% annually for the past four years.

Hospitals which have introduced an enhanced role for specialist eye nurses have found it easier to recruit and retain these staff.

4.5.3 Space and buildings

What facilities are needed?

Most hospital eye departments have one dedicated theatre, or perhaps two. Dedicated eye theatres are preferable to theatres which are used by several specialties - it saves moving delicate equipment in and out, and it reduces the risk of cross-infection.

Increasingly, hospitals are developing dedicated, self-contained cataract units. The units have three main elements, which are located adjacent to each other:

- Diagnosis and pre-operative assessment
- Space for treatment and recovery on the day of surgery
- Theatre space.

This model:

- allows flexible use of staff and improves communications between the staff involved in the different elements of the service;
- minimises travel for patients between the different elements of the service;
- helps to increase the number of patients seen for diagnosis and pre-operative assessment;
- helps to improve theatre throughput and efficiency; and
- frees up space in the main Outpatient and Theatre areas.

The model is similar to the way in which many NHS Trusts have developed the provision of endoscopy services.

The experience so far is that dedicated cataract units of this kind can be developed for around £400,000 (depending on the exact content of the scheme). A 'new build' would be more expensive.

What is the impact of doing high volume surgery?

A typical eye department with four consultants will have eight theatre lists per week. The theatre is likely to be in use for 48 weeks per year (although individual consultants are effectively available for about 40 weeks a year). Assume that six of these sessions are taken up with cataract surgery, and that on average, five cataract removals are done per list. The department will treat 6 lists x 5 patients x 48 weeks = 1,440 patients a year.

Increasing to seven patients per list will increase the annual total to 2,016, a 40% increase.

If the unit increased its theatre utilisation to ten lists per week, of which (say) eight were for cataracts, this would give 8 lists x 7 patients x 48 weeks = 2,688 patients per year. In practice the total will be rather less, depending on who covers for consultant absence, and the proportion of procedures undertaken by trainees.



Figure 10 in Section 10 shows how many more cataract operations are needed in each HA to meet the Government targets.

Units which need to increase their volume of cataract surgery should look first at increasing the number of cases per list, then at increasing the number of lists per week, and only then at increasing theatre capacity. Where increased theatre capacity is needed, it would be sensible to plan the increase with neighbouring units. There is no point in duplicating the development of partly-used facilities.

If the patient's journey is streamlined so that fewer visits are needed, then an increase in the volume of surgery need not mean a pro rata increase in outpatient attendances.

5 Approaches to change: change principles for reducing delays and waiting times

The main way to improve access to cataract services is to treat more patients. The challenge for the NHS is to treat more patients without increasing cost. Reducing delays and treating more patients are often assumed to increase cost, but this is not necessarily the case. Often, delays and restricted access are the result of poorly designed, costly systems. Improving the design of the system can reduce delays and reduce cost.

This section is based on ‘Guide to reducing delays and waiting times throughout the healthcare system’⁷, an excellent practical guide.

A change principle is a general, scientifically grounded, idea for change. A process change is the specific application of that idea in a local context. Not all of these will be applicable to every eye service. Pick the ones that are relevant, and which will bring improvements.

Figure 8

Change Principle	Examples of Process Changes
REDESIGN THE SYSTEM	
1. Do tasks in parallel	Copy referral letters to Registration Team so patient can be registered on PAS whilst the consultant/nurse is given the referral letter to ‘grade’ Order TTO packs from Pharmacy at time of pre-op assessment, to be delivered on day of surgery Prepare next patient for surgery while setting up instruments
2. Use separate processes for different categories of patients, instead of ‘one size fits all’	Use separate pathways for (a) ‘straightforward’ cataract patients and (b) those with other eye conditions Trained nurse to see all patients for post-op review; consultant to see only those with complications If patients from a distant area have difficulty travelling to hospital, organise OP or theatre sessions for that group, and arrange transport Put on cataract-only theatre lists, rather than mixed lists
3. Minimise hand-offs (steps where the patient/information is passed from one person to another). Hand-offs lead to delays and communication breakdowns	Train same person to do all elements of pre-op assessment Nurse who does pre-op counselling to accompany the patient to theatre Nurse who receives the patient on the day of surgery to accompany the patient to theatre Patients is on one ‘trolley bed’ for the entire operation process (anaesthetic room, theatre, recovery room)
4. Synchronise different activities: time all of the steps in a process with reference to a clearly-defined, agreed-upon synchronisation point	Make the synchronisation point for the diagnostic outpatient appointment the time when the patient sees the consultant. Arrange arrival, registration and VA testing to lead up to this time Plan date for pre-op assessment backwards from date of surgery Make the synchronisation point for surgery the incision time: gear all the preparatory tasks to this time

5. Move the physical location of steps closer together	Put pre-op assessment adjacent to diagnostic clinic, to improve communications between staff and reduce walking distance for patients Put day case unit next to theatre to eliminate need for portering assistance. If no space, make a small waiting area outside theatre for the next one or two patients, so that theatre is never waiting for a patient
6. Use automation to improve the flow of processes	Let optometrists/GPs refer electronically or by fax, or by phone Contact second eye patients by phone
7. Consider people to be in the same system. Giving individuals a common purpose provides a basis for optimising the larger system, rather than each unit trying to optimise its own system	Consider community optometrists and hospital eye service to be part of the same system, capable of carrying out same tasks Bring optometrists/GPs into the integrated system and work with them to manage demand Reducing delays at the hospital end will reduce demand on GPs to expedite admissions Optometrists/GPs giving information to patients before they go to hospital will help the patient to know what to expect at hospital
8. Use multiple processing units	Use identical room set-ups in OPD - saves time because people know where to find things Train staff to do all elements of pre-op assessment, so patients don't have to wait for the bottleneck in the process (eg biometry)
9. Have specialists do only the tasks that require their specific skills	Use nurses instead of doctors to run post-op review clinics, screening for the patients who need to see an ophthalmologist
10. Convert internal steps that are done as part of the process to external steps that are done ahead of time or deferred until later	Use data from the referral form to pre-register patients
SHAPE THE DEMAND	
11. Eliminate things that are not used	Standardise IOL types/makes - don't routinely stock the ones that are rarely used Standardise the pre- and post-op medication chosen by each consultant
12. Use waiting time to get or give information	Give patients information about cataract surgery before their diagnostic appointment, so they can decide in advance whether they want surgery Use waiting time in clinic to give health promotion/lifestyle advice to patients
13. Combine services and eliminate duplication	If INR results are needed before cataract surgery, make sure the results are also available to Haematology clinic and to GP If the community optometrist has checked visual acuity recently, don't check it again when the patient comes to hospital Many older patients may also be attending hospital for other conditions. Try to arrange eye appointments for the same day - one trip to hospital not two
14. Automate processes: meet an individual need with a standardised process	Audiotape/videotape answers to frequently asked questions
15. Triage: establish multiple channels for dealing with different needs which initially appear the same	Direct booking to one stop Cataract Clinic for straightforward cataract patients; general clinic appointment first for patients with other eye problems
16. Eliminate the demand for ineffective care/services	Don't do pre-op blood tests, ECG or X-rays unless there is a clinical reason Let patients go to theatre in their own clothes; no need to change into theatre gowns or pyjamas

16. (continued)	Instead of automatically recalling second eye patients for pre-op assessment, phone them first to check whether their health or social status has changed For patients with PCO, let optometrists/GPs book direct to Laser clinic, rather than via a General clinic
17. Anticipate demand	Model the increased level of activity to meet extra demand from demographic change and waiting time goals: be proactive not reactive. Have a long-term plan for facilities and staffing
18. Promote self-care	Teach patients to put their own drops in Explain to patients in advance what post-op symptoms are normal and what are abnormal and require action
MATCH CAPACITY TO DEMAND	
19. Improve predictions	Plan likely number of OP referrals to be met from given catchment population Plan 'conversion rate': how many new patients go on to have surgery Involve theatre staff in planning lists: they know how long each surgeon actually takes to do a particular procedure. Plan theatre lists based on what is efficient and what will run smoothly and on time, rather than what is 'interesting' Get key staff to plan their leave and study commitments 2-3 months in advance, to minimise last-minute cancellations Protect admissions from disruption by medical 'outliers' by doing more day case surgery
20. Smooth the work flow	Introduce booked admissions Book referrals to the clinic with the shortest wait Discharge post-op patients regularly through the session, rather than all together at the end of the list
21. Adjust to peak demand	Match staffing levels to pattern of booked admissions Make sure grade of anaesthetist is appropriate for cases on the list If admission waiting times are uneven, move patients from longest to shortest waiting list. Use Staff Grade or SpR sessions to work through the longest waiting lists
22. Identify and manage the constraint	Find and deal with the bottlenecks in the system - for cataracts, most likely to be theatre time or surgeon time
23. Work down the backlog	If OP waits are too long, switch consultant sessions away from theatres temporarily, and vice versa If OP slots are freed up by cancellations, offer the appointment to patients who have waited longest
24. Balance centralised and decentralised capacity	Cross-train nurses, orthoptists and optometrists so they can cover for more of each others' work. It is cost-effective and flexible, enhances team cohesiveness, and broadens staff knowledge and skills Make sure satellite clinics are not under-utilised
25. Use contingency plans	Make a plan for occasions when consultant is called out of clinic to go to theatre: tell all the patients waiting, offer to reschedule appointments

Appendices/Technical Annexe



6 Action on Cataracts project

Figure 9

Steering Board:	
Dr Val Chishty	Department of Health (Chair)
Mr David Mudd	National Patients Access Team (Project Director)
Mr Nick Astbury	Consultant Ophthalmologist, West Norwich Hospital
Dr Helen Bevan	National Patients Access Team
Miss Mildred Blunt	Cataract patient, Sussex
Mr Mike Davidge	National Patients Access Team
Dr Parul Desai	Consultant Ophthalmologist/Epidemiologist, Moorfields Eye Hospital
Mr Graham Dickerson	Manager, Gayton Road Health Centre, King's Lynn
Mr John Gibb	Divisional Director - Surgery, South Tees Acute NHS Trust*
Dr Jeff Graham	Department of Health
Ms Sue Grindey	Manager - Eye Health Programme, Royal National Institute for the Blind
Ms Barbara Harris	Chief Executive, Royal United Hospital NHS Trust, Bath
Ms Claire Hicks	IMPACT
Mr Bruce James	Consultant Ophthalmologist, Stoke Mandeville Hospital
Mr Ernie James	IMPACT
Mr Paul Johnson	Senior Clinical Nurse, Sunderland Eye Hospital
Mrs Patricia Leaning	Community Optometrist, London N1
Ms Christine Miles	Director of Operations, Moorfields Eye Hospital
Dr John Oldham	GP, Manor House Surgery, Glossop
Ms Alison Pickford	Waiting List Team, NHS Executive
Mr Nick Price	Consultant Ophthalmologist, East Gloucestershire NHS Trust*
Mr Jerry Read	Department of Health
Mr Mark Watts	Consultant Ophthalmologist, Arrowe Park Hospital
*Exemplar sites	

Action on Cataracts is a Department of Health project to improve access to cataract services. It was set up in late 1998 following discussions with the College of Optometrists, the RNIB, and the Royal College of Ophthalmologists, and will run till May 2000.

The aim of the project is to significantly improve access to care for people who need cataract surgery, and to reduce variation in waiting times for cataract surgery across the English NHS. We aim to help local services to identify their constraints and find effective solutions, by setting up a programme of visits, putting them in touch with 'Best Practice' sites, and organising workshops and conferences.

The Steering Board is grateful to the many people involved in eye health services who have contributed to the Good Practice Guidance.

7 RNIB's focus group research

The RNIB carried out focus group research on the quality of secondary eye care in 1998. The patients they interviewed had a range of eye problems, not just cataracts. Their findings need to be followed up locally in cataract services.

Ease of obtaining referral: Views were mixed. Waiting times were important. White Europeans were more critical of long waiting times than ethnic groups, and family/friends were most critical.

Transport to the hospital: Negative/mixed views. Although people were grateful for the service, they were often worried because they did not know whether it would turn up, and feared they would miss their appointment. People need reassurance about how the service works.

Finding the clinic: Lifts need audio instructions and good lighting. Long corridors can be hard to negotiate. Signposting and site maps need to be appropriate for people with poor eyesight.

Appointment arrangements: Need to be flexible with appointment and surgery dates, so that patients can arrange support from family or friends.

Waiting times at the department: Negative views. People come to expect long waits in the NHS.

Kept informed whilst waiting: Very negative. People felt abandoned and often feared that they had missed their turn. Notice boards should be easier to read. Remember that older patients may also be hard of hearing.

Facilities in the waiting area: Positive views, except for crowded corridors with insufficient room for friend or relative. Plastic seats felt uncomfortable after a long wait, and wheelchairs get in the way in a corridor. Diabetic patients were worried to leave to get food in case they missed their turn. "You can wait for up to an hour in the main room, and then you wait up to the same time in the next hall. I have sat there for over an hour on occasion".

Appointment information: Should include name of the people who the patient will see. Should give a clear warning about the effects of dilation. Appointment letters, information and consent forms need to be in 14 point print: "They just sent me a standard letter with small print and I couldn't read it".

Written information about their eye condition: Very negative responses. Patients would like staff to give them written information to take away. Many people were not aware of information stands.

Helpers: Access to an informed person who is not a member of staff can be helpful. This might include representatives of voluntary organisations, or ex-patients. If they are giving information about local services, make sure they have any necessary training, materials such as leaflets, and up-to-date information. Support workers in clinics can help to overcome many of the concerns listed above, especially for older people attending on their own.

Seeing the preferred specialist: Very negative responses: “You are lucky if you see the same person twice in there”. Consistency of information from the professionals involved in care is vital.

Time to talk - the importance of communication: People were made to feel at ease by the consultant, but there were problems with communication and language used:

- technical terms were often difficult to understand
- sometimes patients received very little information
- sometimes patients felt they were treated as being unintelligent
- sometimes patients felt frightened to ask questions
- sometimes they didn't know what to ask.

Patients and their carers need:

- clear straightforward language so they can understand their condition and prognosis;
- to know that a family member or friend can be present to give support;
- a contact they can telephone if further questions occur to them later; and
- written or audiotape information about their condition which they can go over in their own time at home.

Specific needs of people with cataract:

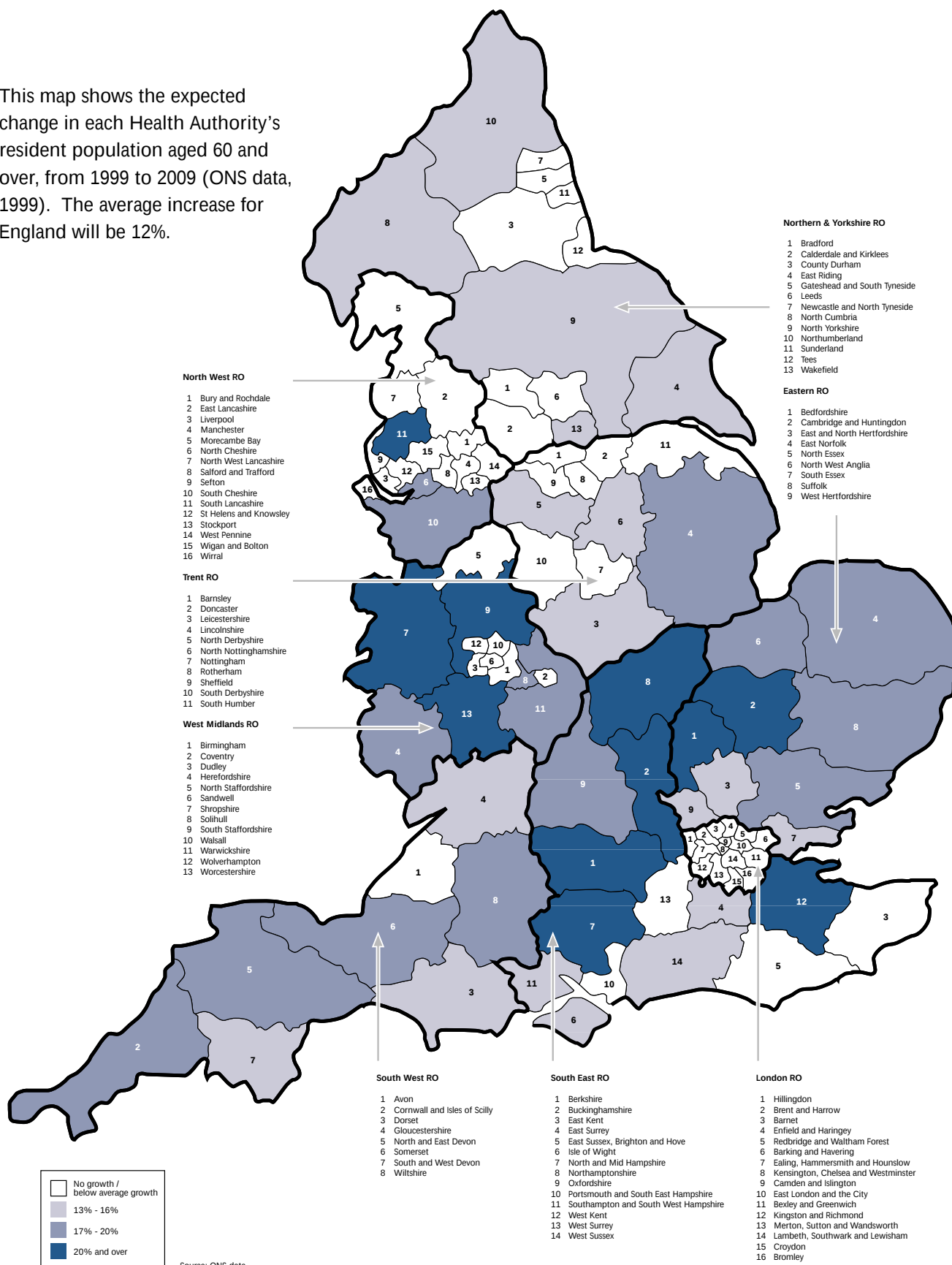
- Recognition of other problems (sensory handicaps, physiological needs)
- Explanation of treatment outcomes, planned procedures, expected outcome, risks and benefits
- Opportunity to discuss these things, before consent to surgery is obtained
- Increased public awareness of eye health
- Additional support following day case surgery, including hospital/hotel schemes and home support arrangements
- Explanation and understanding of the roles of the different professionals involved.

8 Example of a standard referral form for use by optometrists

REFERRAL FOR CATARACT SURGERY: ANYTOWN EYE SERVICE				
Patient name:				
Patient address:				
		Postcode:	Telephone:	
Occupation:	Date of birth:		Male/Female	
Referring optometrist name:			General practitioner name:	
Address:			Address:	
Telephone:		Postcode:	Telephone:	
Postcode:				
VISUAL ACUITY	Right eye:		Left eye:	
Visual acuity:				
Current spectacle prescription:				
EYE HEALTH				
Lens:				
Cornea:				
Macula:				
Disc:				
Other eye co-morbidities:				
Date of examination:		Dilated: Yes/No		
GLARE				
Visual difficulty in bright sunlight	None	Mid/moderate	Severe	
Driving at night	None	Mid/moderate	Severe	
VISUAL IMPAIRMENT				
Seeing TV screen	No difficulty	Some difficulty	Severe difficulty	Not applicable
Reading print/doing handicrafts	No difficulty	Some difficulty	Severe difficulty	Not applicable
Driving	No difficulty	Some difficulty	Severe difficulty	Not applicable
Seeing traffic lights/road signs	No difficulty	Some difficulty	Severe difficulty	Not applicable
Recognising faces	No difficulty	Some difficulty	Severe difficulty	Not applicable
SOCIAL FACTORS				
Does the patient live alone?	Yes/no	Does patient have any dependants?		Yes/no
Can the patient:				
Do tasks at work?	No difficulty	Some difficulty	Severe difficulty	Not applicable
Care for dependant?	No difficulty	Some difficulty	Severe difficulty	Not applicable
Administer own medication?	No difficulty	Some difficulty	Severe difficulty	Not applicable
Provide own food?	No difficulty	Some difficulty	Severe difficulty	Not applicable
Safely walk in the street?	No difficulty	Some difficulty	Severe difficulty	Not applicable
OTHER DISABILITIES				
Significant deafness?	Yes/no	Physical disability?	Yes/no	
PREVIOUS MEDICAL HISTORY			OTHER RELEVANT INFORMATION	
Does the patient have: Diabetes? Yes/no Hypertension? Yes/no Heart disease? Yes/no Respiratory disease? Yes/no Central nervous system disorder? Yes/no Other eye disease? Yes/no Is the patient on anticoagulants? Yes/no			DETAILS: 	
Does the patient want surgery if it is appropriate? Yes/no Have you given the patient an information leaflet about cataracts? Yes/no				
Signature of referring optometrist:			Date	
Please send/fax top copy to: Eye Service, Local District Hospital, fax no 0888 888 888. Second copy to patient's GP; keep third copy. If you have any queries about completing this form, please phone the Eye Service on 0888 888 888.				

9 Demographic change

This map shows the expected change in each Health Authority's resident population aged 60 and over, from 1999 to 2009 (ONS data, 1999). The average increase for England will be 12%.



10 Results of Access to Care analysis

The 1997/8 NHS High Level Performance Indicators show cataract surgery rates by HA, as shown in the map opposite. The table on page 46 gives this data, together with the number of operations that would need to be done for each HA to reach a rate of 3,200 operations per 100,000 older people. At this level of access, the waiting time from referral to treatment appears to be around six months. This level of access to surgery would require 250,000 NHS cataract operations, compared to the 170,000 done in 1998/99.

In planning the future volume of surgery, HAs will need to use the latest available baseline. The NPAT Website on the NHS Intranet will give data for 1998/99 as soon as this is available.

The map below shows Health Authorities with rates greater than 10% below the England average in 1997-98.

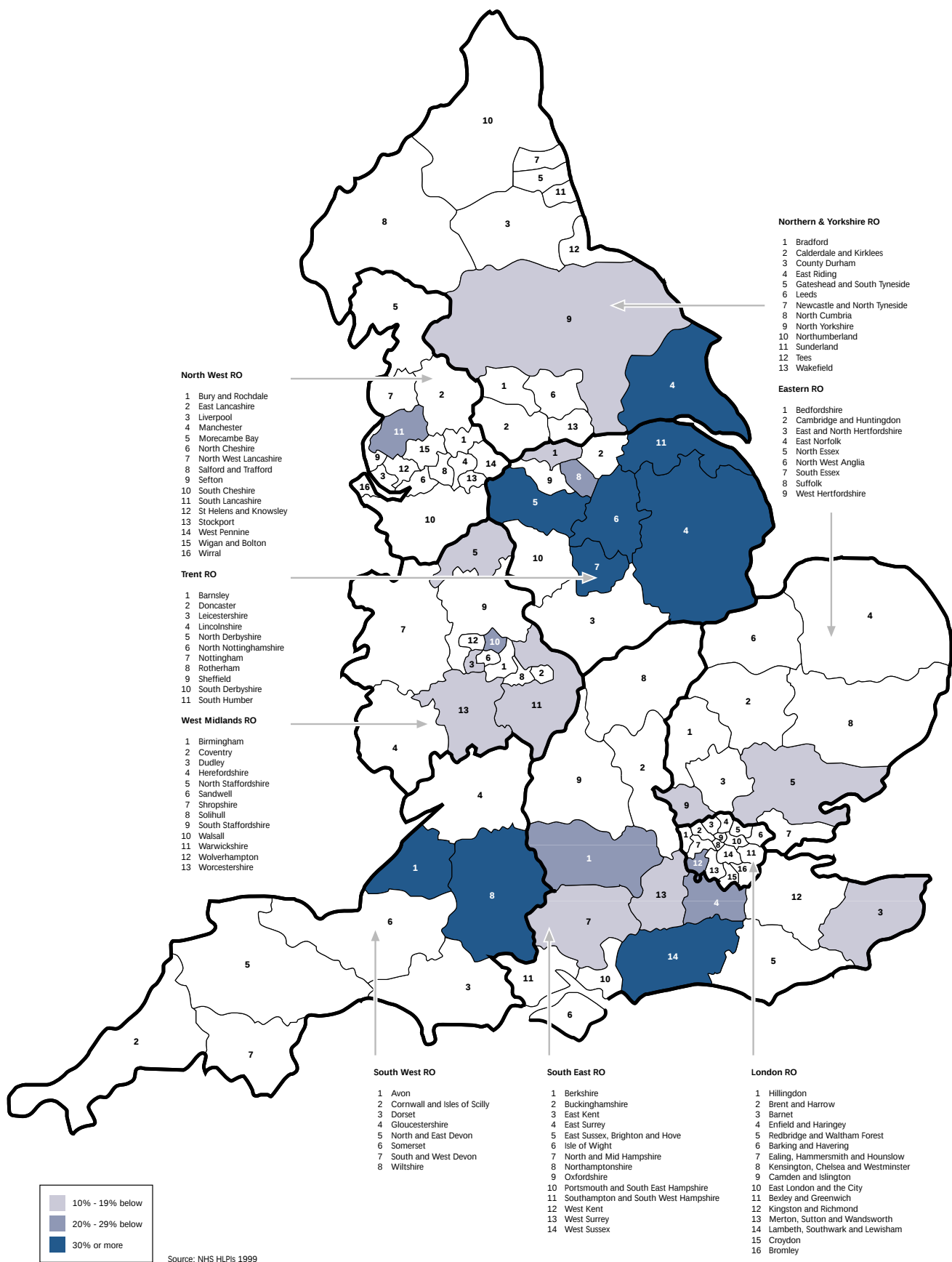


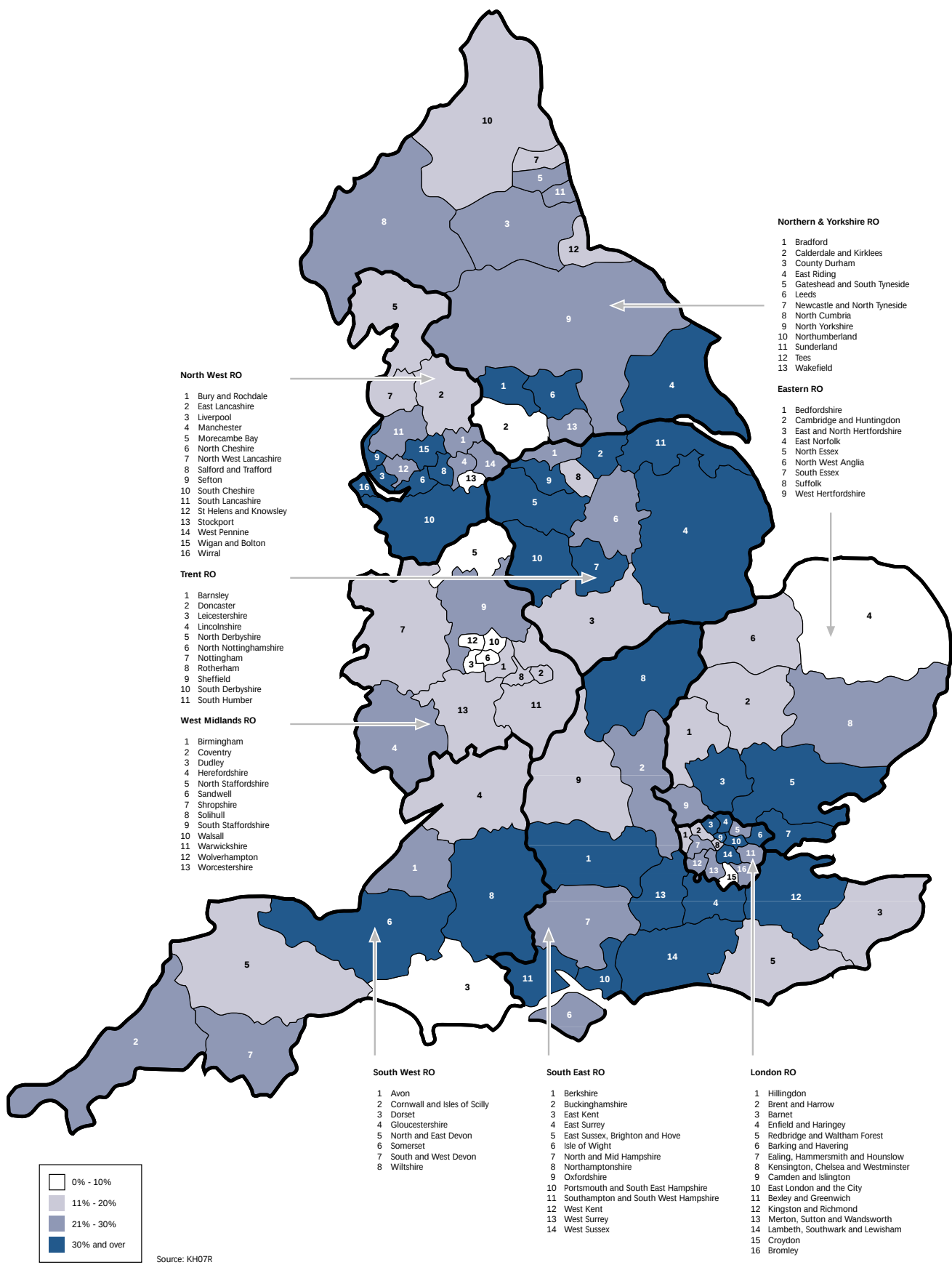
Figure 10

HA Name	Over 65 population	Total cataract operations (all ages) 1997/98	Rate per 100,000 residents aged 65 and over 1997/98	Target number of operations 3,200 per (100,000 residents aged 65 and older)	Additional cases needed to reach target rate	Percentage increase needed to reach target rate
West Pennine	67,937	2,438	3,589	2,188	0	0
Croydon	42,595	1,393	3,270	1,372	0	0
Sunderland	44,211	1,381	3,124	1,424	43	3
Brent & Harrow	56,704	1,758	3,100	1,826	68	4
Ealing, Hammersmith & Hounslow	77,953	2,286	2,933	2,510	224	10
East Norfolk	119,440	3,470	2,905	3,846	376	11
Bromley	50,496	1,426	2,824	1,626	200	14
Bradford	69,330	1,950	2,813	2,232	282	14
East Lancashire	76,818	2,106	2,742	2,474	368	17
Bury & Rochdale	55,672	1,506	2,705	1,793	287	19
North Cumbria	55,140	1,469	2,664	1,776	307	21
Calderdale & Kirklees	87,412	2,302	2,634	2,815	513	22
North West Anglia	71,519	1,799	2,515	2,303	504	28
Gateshead & South Tyneside	60,950	1,528	2,507	1,963	435	28
Birmingham	148,350	3,719	2,507	4,777	1,058	28
Portsmouth & S E Hampshire	88,672	2,200	2,481	2,855	655	30
Redbridge & Waltham Forest	61,233	1,494	2,440	1,972	478	32
East & North Hertfordshire	72,760	1,775	2,440	2,343	568	32
Wakefield	46,270	1,128	2,438	1,490	362	32
St Helens & Knowsley	47,899	1,164	2,430	1,542	378	33
Cambridge & Huntingdon	63,128	1,508	2,389	2,033	525	35
Enfield & Haringey	60,776	1,413	2,325	1,957	544	38
County Durham	97,553	2,258	2,315	3,141	883	39
Northumberland	52,299	1,210	2,314	1,684	474	39
Suffolk	117,237	2,648	2,259	3,775	1,127	43
Kensington Chelsea & Westminster	46,229	1,037	2,243	1,489	452	44
Manchester	57,968	1,298	2,239	1,867	569	44
Newcastle & North Tyneside	78,545	1,728	2,200	2,529	801	46
South & West Devon	113,739	2,501	2,199	3,662	1,161	46
Sheffield	87,025	1,895	2,178	2,802	907	48
East London & City	65,386	1,420	2,172	2,105	685	48
Camden & Islington	44,940	973	2,165	1,447	474	49
Oxfordshire	84,650	1,827	2,158	2,726	899	49
Leeds	110,721	2,381	2,150	3,565	1,184	50
Herefordshire	31,604	679	2,148	1,018	339	50
Isle of Wight	28,944	618	2,135	932	314	51
Hillingdon	34,560	736	2,130	1,113	377	51
North West Lancashire	89,011	1,875	2,106	2,866	991	53
Northamptonshire	87,028	1,831	2,104	2,802	971	53
Wirral	57,689	1,210	2,097	1,858	648	54
Stockport	47,554	995	2,092	1,531	536	54
North & East Devon	98,824	2,053	2,077	3,182	1,129	55
South Cheshire	108,099	2,213	2,047	3,481	1,268	57
Gloucestershire	95,857	1,958	2,043	3,087	1,129	58
Barnet	45,631	922	2,021	1,469	547	59
Salford & Trafford	71,572	1,441	2,013	2,305	864	60
Solihull	32,385	651	2,010	1,043	392	60
Tees	81,943	1,639	2,000	2,639	1,000	61
South Derbyshire	89,163	1,776	1,992	2,871	1,095	62
Merton, Sutton & Wandsworth	82,176	1,635	1,990	2,646	1,011	62
North Cheshire	42,181	839	1,989	1,358	519	62
Lambeth, Southwark & Lewisham	87,151	1,732	1,987	2,806	1,074	62

HA Name	Over 65 population	Total cataract operations (all ages) 1997/98	Rate per 100,000 residents aged 65 and over 1997/98	Target number of operations 3,200 per (100,000 residents aged 65 and older)	Additional cases needed to reach target rate	Percentage increase needed to reach target rate
Bedfordshire	71,026	1,410	1,985	2,287	877	62
Bexley & Greenwich	62,239	1,226	1,970	2,004	778	63
Doncaster	45,599	897	1,967	1,468	571	64
Dorset	150,868	2,940	1,949	4,858	1,918	65
Sefton	54,211	1,055	1,946	1,746	691	65
Leicestershire	137,736	2,655	1,928	4,435	1,780	67
East Sussex, Brighton & Hove	157,136	3,022	1,923	5,060	2,038	67
Cornwall & Isles of Scilly	97,570	1,872	1,919	3,142	1,270	68
Liverpool	68,582	1,309	1,909	2,208	899	69
South Essex	112,057	2,137	1,907	3,608	1,471	69
Southampton & S W Hampshire	91,644	1,746	1,905	2,951	1,205	69
Morecambe Bay	57,001	1,067	1,872	1,835	768	72
Wigan & Bolton	82,780	1,546	1,868	2,666	1,120	72
West Kent	141,174	2,623	1,858	4,546	1,923	73
Buckinghamshire	84,995	1,570	1,847	2,737	1,167	74
Sandwell	46,976	858	1,826	1,513	655	76
Somerset	93,851	1,695	1,806	3,022	1,327	78
Barking & Havering	63,444	1,144	1,803	2,043	899	79
South Staffordshire	84,538	1,523	1,802	2,722	1,199	79
Coventry	47,405	849	1,791	1,526	677	80
North Staffordshire	76,386	1,359	1,779	2,460	1,101	81
Warwickshire	79,452	1,350	1,699	2,558	1,208	90
North & Mid Hampshire	73,422	1,244	1,694	2,364	1,120	90
North Yorkshire	132,078	2,231	1,689	4,253	2,022	91
North Essex	148,421	2,507	1,689	4,779	2,272	91
Dudley	49,811	840	1,686	1,604	764	91
West Surrey	98,859	1,656	1,675	3,183	1,527	92
Shropshire	67,938	1,138	1,675	2,188	1,050	92
Barnsley	36,066	597	1,655	1,161	564	95
East Kent	117,425	1,936	1,649	3,781	1,845	95
Wolverhampton	39,814	651	1,635	1,282	631	97
Worcestershire	86,497	1,389	1,606	2,785	1,396	101
South Lancashire	45,679	733	1,605	1,471	738	101
West Hertfordshire	79,402	1,267	1,596	2,557	1,290	102
Berkshire	99,185	1,513	1,525	3,194	1,681	111
Rotherham	38,597	565	1,464	1,243	678	120
Kingston & Richmond	47,076	684	1,453	1,516	832	122
Walsall	40,662	586	1,441	1,309	723	123
East Surrey	71,310	1,006	1,411	2,296	1,290	128
South Humber	50,727	703	1,386	1,633	930	132
Lincolnshire	116,984	1,612	1,378	3,767	2,155	134
North Nottinghamshire	63,255	863	1,364	2,037	1,174	136
North Derbyshire	63,713	861	1,351	2,052	1,191	138
Avon	160,942	2,038	1,266	5,182	3,144	154
Wiltshire	92,061	1,134	1,232	2,964	1,830	161
West Sussex	151,284	1,540	1,018	4,871	3,331	216
East Riding	94,516	372	394	3,043	2,671	718
Nottingham	99,588	106	106	3,207	3,101	2,925
England	7,764,911	152,817	1,968	250,030	97,485	64

Clearly, there may be some data shortfalls that account for the very lowest access rates.

The map below shows, for each HA at 30 June 1999, the proportion of patients waiting six months or more for ophthalmology admission.



11 Different models of service provision

There are about 130 hospital eye services in England. There is no one 'right' model for service provision. The way services are organised depends on many factors. Typical organisational arrangements are:

- Teaching centres

Teaching centres tend to serve the larger cities and their environs. They usually have 8-12 Consultant Ophthalmologists/Senior Lecturers, 6-10 Specialist Registrars/Lecturers, and 5-6 SHOs. These centres will treat the complete range of eye problems, and cataract surgery will be a smaller proportion of their casemix than in other Ophthalmology Departments.

The teaching centres in London (apart from Moorfields) tend to be smaller than this. Typically, they will have 4-6 consultants and about the same number of Specialist Registrars.

- Large (eg county-wide) service - one centre, or hub and spoke

These services typically serve populations of 300-500,000. They would have 3-6 consultant ophthalmologists, and 2-3 Specialist Registrars. They tend to have one (or maybe two) sites where surgery is undertaken, but run OP clinics on a number of sites in order to give good geographical access to their catchment populations.

These services, like the teaching centres, may have some middle grade ophthalmologists (Staff Grade or Associate Specialists).

- District General Hospital service

This category includes the majority of ophthalmology departments in England. Typically, they have 2-4 consultants. If there are 3 or 4 consultants, they will have a Specialist Registrar and 2-4 SHOs. If there are only 2 consultants, they will have 2 SHOs.

The countywide services, and the larger DGH services, will provide a complete secondary service, referring only specialist cases on to the teaching centres. Often they will have an Eye Casualty service. The smaller DGH services will provide a basic hospital eye service, probably with some specialist clinics. The bulk of their work is likely to be cataract surgery.

The trend is for fewer, larger ophthalmology departments. Sometimes this is because the decision has been taken specifically to create a larger Eye department; sometimes it is the result of a decision to amalgamate Trusts.

Larger departments do create opportunities to develop and enhance eye services:

- Consultants can develop sub-specialty expertise, reducing the need to refer patients to specialist centres.
- Cross-cover can be more easily arranged for leave, vacancies, teaching and Continuing Medical Education.
- Larger departments are more likely to be able to meet the Royal College's requirements for training posts.
- Larger departments are more likely to be able to attract staff such as specialist eye nurses and anaesthetists with an interest in ophthalmology.

Whilst larger departments can increase the range of services available, there is also a trend towards reducing the number of sites from which ophthalmology services are provided. This has the potential to reduce accessibility for patients. The service which is developed must attempt to minimise inconvenience to these patients and improve aspects such as waiting time for surgery and the need for fewer visits.

12 Techniques for bringing about change

This section outlines some techniques which have been used to bring about sustained change in the organisation of eye services.

12.1 Theory of Constraints

The Theory of Constraints is based on thinking by Dr Eli Goldratt, a writer and management consultant.

Most systems - manufacturing, service industries, or healthcare - consist of a series of dependent steps. Step 2 cannot begin until Step 1 has been completed. The speed at which the whole system works is determined by the speed of the slowest step in the chain. To speed up the rate at which patients are treated, you must identify the step in the process which is the bottleneck, and introduce measures to increase the number of patients this step can deal with. Increasing the throughput of steps which are not bottlenecks will not help, and may be counter-productive.

For example, no matter how many new outpatients are seen, the total number of patients treated by a hospital cannot increase unless the throughput of theatre increases. Just seeing more outpatients will result in more patients waiting for admission.

The ToC approach is beginning to be widely adopted in the NHS. This is how the Radcliffe Infirmary used it:

“Managing and reducing waiting lists is a common problem across many Trusts. Many initiatives have been attempted to reduce the lists, but no long-term solution has been achieved that deals with the complex environment that we work in.

The Radcliffe Infirmary ran a two-day workshop on the Theory of Constraints.

The objectives of the workshop were:

- *To introduce participants to the Theory of Constraints and to establish its applicability in addressing the waiting list issue*
- *To develop an implementation plan to establish:*
 - *What to change?*
 - *What to change to?*
 - *Consensus on the actions needed to implement the necessary changes.*

The workshop and implementation involved:

- *Step 1 **Identifying** the system constraint - which could be a bottleneck; a supplier; the market or a policy.*
- *Step 2 **Getting the most** out of the constraint, because the throughput of the whole system is governed by the capacity of the constraint.*

- Step 3 **Supporting** the system's constraint: focus on finding different/better ways for the constraint to work. All parts of the system understand the importance of the constraint and work to get the most out of it.
- Step 4 **Elevating** the system's constraint: reducing the extent to which it limits the performance of the whole system.
- Step 5 Once changes are implemented the staff then **Go Back** to Step 1. This ensures continuous improvements in the system.

The benefits at the Radcliffe Infirmary in Neurosurgery and Ophthalmology were:

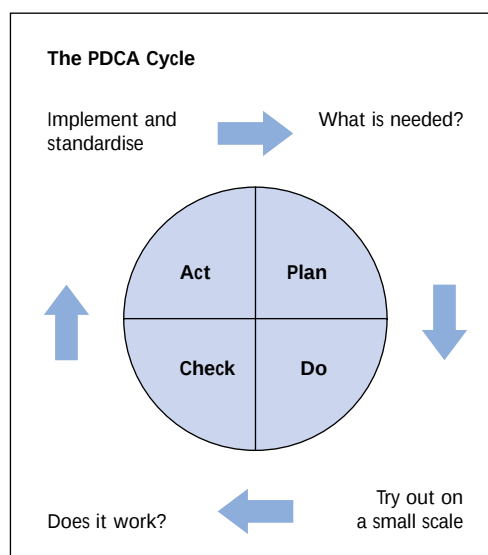
- Improvements were instant (100% reduction in elective cancellation)
- Throughput up by 16% in Neurosurgery and up 20% in Ophthalmology
- Ophthalmology waiting list reduced by 754 more than planned
- Average waiting time for OPD reduced to 10 weeks, and sustained at this level
- No major system mapping or re-engineering project was required
- Staff were involved in all steps and action planning to implement changes
- No additional resources were required
- Management effort was focussed and productive.

Several Regional Offices have set up ToC workshop programmes.

12.2 Plan, do, check, act

A simple way of achieving continuous improvement is the 'Plan, Do, Check, Act' cycle, developed by the quality guru W E Deming in the 1950s.

Figure 11

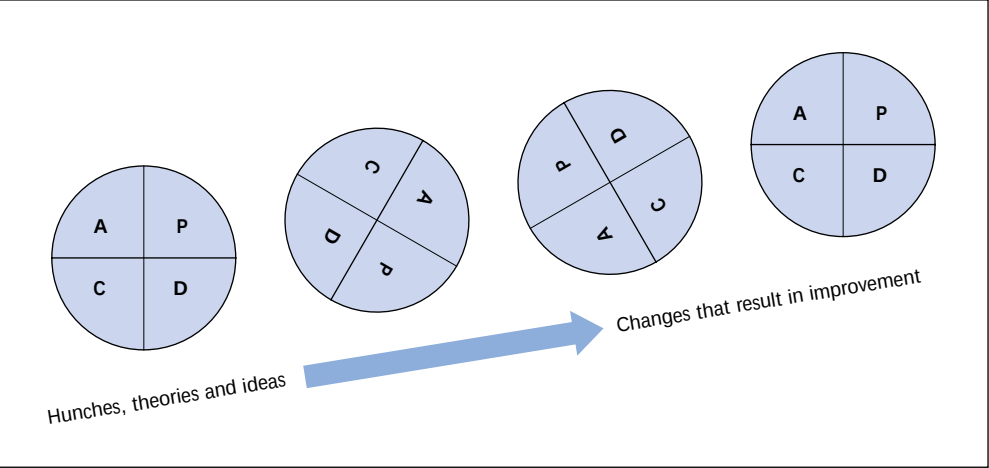


- Begin by planning what to do. This may be improvement in patient outcomes, or in the design of the service and its component steps.
- Then Do: this means small-scale experimentation. Explore the problems, come up with possible causes, investigate them, identify the most likely ones.
- Check: try out what you have found to see if your ideas are valid.
- Then Act: implement widely if it is a success, or abandon it if not. Where a new procedure is adopted, standardise it and make it part of the culture. The

cycle is about learning, and continuous improvement. You learn what works and what do not in a systematic way. After one cycle is complete, another one starts.

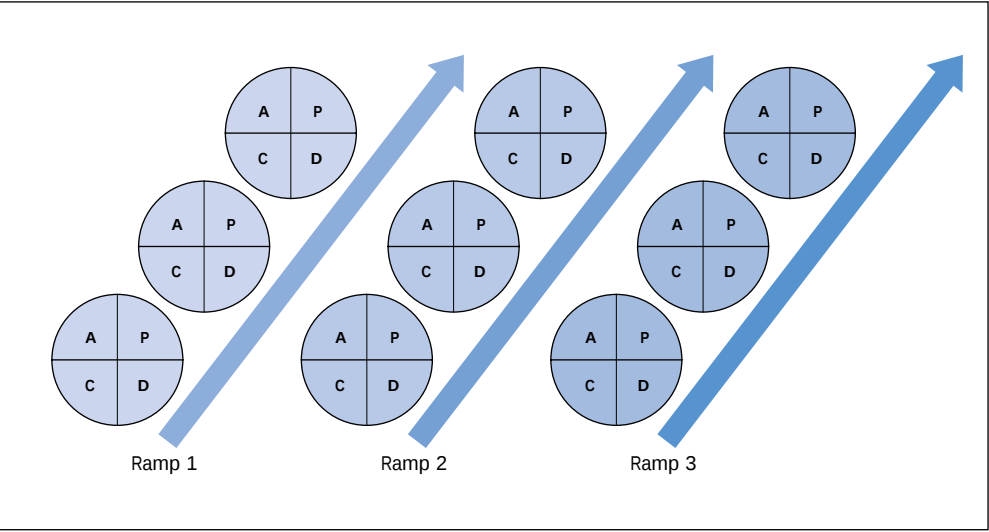
It is often better to run small cycles sooner rather than big cycles later, after a long planning period. People are far more willing to try out a change if they know that the changes can and will be amended as necessary. Linking small changes in this way - a 'ramp' - helps overcome an organisation's resistance to change.

Figure 12



Teams may be involved in testing more than one change at a time:

Figure 13



12.3 Benchmarking and the NHS Learning Zone

Benchmarking is about searching for, learning from, and implementing other people's best practice in order to improve performance. Benchmarking comparisons can be:

- internal - two departments within the same organisation;
- external - comparing with another organisation, preferably 'best in industry' or 'world class';
- functional - comparing the same process, such as waiting list management;
- generic - comparing basic processes. The Rotterdam Eye Hospital compares its booking processes with the airline KLM; and

- performance - where specific measures of performance are compared (for example, Outpatient DNA rates).

Be clear on what it is you want to benchmark, then select an appropriate organisation to look at. Benchmark against the best, not the average. World class performance can often be found from an unexpected source. One hospital's operating theatres benchmarked their preparation time between operations against a Formula 1 racing team's pitstops.

The aim should be to learn how the other organisation achieves its results - system design, equipment, training. Concentrate on how the organisation does it, rather than just measures of performance.

The NHS is developing organisational capacity for benchmarking, through the 'NHS Learning Zone' (HSC [1999] 110) and the establishment of Beacon Services (HSC [1999] 034).

13 References

1. Desai P, Reidy A, Minassian D. Profile of patients presenting for cataract surgery in the UK: national data collection. *British Journal of Ophthalmology* 1999; 83:893-6.
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3. Percival S, Setty S. Prospective audit comparing ambulatory day surgery with inpatient surgery for treating cataracts. *Qual Health Care* 1992; 1:38-42.
4. Davies B, Tyers A. Do patients like day case cataract surgery? *British Journal of Ophthalmology* 1992; 76:262-3.
5. Laidlaw D, Harrad R, Hopper C, Whitaker A, Donovan J, Brookes S, et al. Randomised trial of effectiveness of second eye cataract surgery. *The Lancet* 1998; 352 (September 19):925-9.
6. Coombes A, Seward H. Posterior capsular opacification prevention: IOL design and material (Commentary). *British Journal of Ophthalmology* 1999; 83:640-1.
7. Nolan T, Schall M, Berwick D, Roessner J. *Guide to reducing delays and waiting times*. Boston, MA: Institute for Healthcare Improvement, 1996.

14 Useful contacts and publications

Exemplar cataract sites

Gloucestershire Eye Service:

Nick Price, Clinical Director for Ophthalmology, or
Stasia Moss, Action on Cataracts Project Manager,
Ophthalmology Department,
Cheltenham General Hospital
Sandford Road
Cheltenham GL53 7AN

Tel: NP: 01242 273172

SM: 01242 273120

Fax: 01242 273652

Email: nicholas.price@egnhst.swest.nhs.uk or: stasia.moss@egnhst.org.uk

South Tees Acute Hospitals NHS Trust:

John Gibb, Divisional Manager - Surgery
North Riding Infirmary
Newport Road
Middlesbrough TS1 5JE

Tel: 01642 854001

Fax: 01642 854064

Email: john@nricataract.ukf.net

Website: <http://members.tripod.co.uk/nriexemplar>

Beacon sites relating to eye health services:

- Holbrooks Health Team, Coventry, W Midlands - integration of optometry into primary health care team
- Latham House Medical Practice, Melton Mowbray, Leics - in-house ophthalmology clinic
- Windhill Green Medical Centre, Shipley, W Yorks - eye assessment clinic to reduce waiting times
- Sheffield Children's Hospital NHS Trust - reducing waiting times and improving multi-disciplinary working
- South Durham Healthcare NHS Trust - booked admissions and process redesign
- Southampton Eye Unit, Southampton University NHS Trust - improving access to day case cataract services
- Worcester Royal Infirmary NHS Trust - efficient and patient-friendly cataract service.

Contact via NHS Beacon Services (Website: www.nhsbeacons.org.uk).

Organisations:

Royal National Institute for the Blind

224 Great Portland Street

London W1N 6AA

Tel: 020 7388 1266

Website: www.rnib.org.uk

IMPACT

151 Western Road

Haywards Heath

West Sussex RH16 3LH

Tel: 01444 457080

Fax: 01444 457877

Email: impact@pavilion.co.uk

Plain English Campaign

PO Box 3

New Mills

High Peak SK22 4QP

Tel: 01663 744409

Fax: 01663 747038

Email: info@plaineng.demon.co.uk

National Patients Access Team

2a New Walk

Leicester LE1 6TF

Tel: 0116 254 8126

Fax: 0116 255 2147

Website: to be confirmed - via NHS Intranet

Royal College of Ophthalmologists

The Royal College of Ophthalmologists

17 Cornwall Terrace

London NW1 4QW

Tel: 020 7935 0702

Fax: 020 7935 9838

Website: <http://www.rcophth.ac.uk>

College of Optometrists

42 Craven Street

London WC2N 5NG

Tel: 020 7839 6000

Fax: 020 7839 6800

Email: optometry@college-optometrists.org

Website: www.college-optometrists.org

Other Websites:

Eye resources on the Internet:

<http://webeye.ophth.uiowa.edu/f/DEPT/websites/eyeres/eyeindex.htm>

Eye journals:

<http://www.sciencekomm.at/journals/medicine/opth.html>

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This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.