

G I R F T

GETTING IT RIGHT FIRST TIME

Ophthalmology

GIRFT Programme National Specialty Report

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and Lydia Chang, Clinical Advisor

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Foreword from Professor Tim Briggs GIRFT Programme Chair

I am delighted to recommend this Getting It Right First Time review of ophthalmology, led by Alison Davis and Professor Carrie MacEwen, with the support of clinical advisor Lydia Chang.

Together, the three of them and their team have applied the GIRFT approach to their field – the highest volume outpatient specialty in England, which also provides the most common operation offered on the NHS, cataract surgery. This offered immense scope to explore unwarranted variation in the delivery of ophthalmology care, using data to pinpoint important differences between providers. The leads have then applied their insight and professional expertise to understand those differences.

Having visited 120 trusts, their resulting evidence-based recommendations for change promise to make an immense difference to patients. They could mean surgery or treatment is provided earlier for sight-threatening conditions – ultimately helping preserve sight, and the independence that goes with it, for longer. They will make services more integrated, accessible and responsive. They also have the potential to save the NHS millions of pounds each year.

Like GIRFT teams before them, I know that our ophthalmology leads have found a huge desire within the NHS for change, and in particular for ways to address shared concerns around capacity, timeliness and quality of care. Again like those before them, the leads have also found many examples of outstanding and innovative services, and seek in the report to shine a light on these.

Recognising excellence in this way underlines the collaborative spirit within the health and care sector. That is crucial: GIRFT cannot succeed without the backing of clinicians, managers and all of us involved in delivering care.

With that shoulder-to-shoulder support, GIRFT and the other Carter programmes are already demonstrating that transforming provider services and investing to save can bring huge gains in improving care for patients. My greatest hope is that they will continue to do so, to prompt solutions and improvements that make a greater difference for more patients.



GIRFT Programme Chair and National Director of Clinical Improvement for the NHS

Professor Tim Briggs is Consultant Orthopaedic Surgeon at the Royal National Orthopaedic Hospital NHS Trust, where he is also Director of Strategy and External Affairs. He led the first review of orthopaedic surgery that became the pilot for the GIRFT programme, which he now Chairs.

Professor Briggs is also National Director of Clinical Improvement for the NHS.

Professor Tim Briggs CBE

Introduction from Clinical Leads

It has been our privilege to jointly undertake this GIRFT review of ophthalmology provision in the NHS. We began almost two years ago and between us have now visited 120 trusts across England, seeing at first hand the commitment of the entire ophthalmology workforce. We have also seen at first hand the pressures so many providers face: pressures on space, resource and time, as they respond to rapidly growing demand with an already stretched team and a physical department that is often at the limits of its capacity.

The GIRFT methodology is ideally suited to such a context. It provides the hard evidence of variation that serves as the business case for change, plus the conversations of the deep dive visits that allow innovative solutions and successful practices to be shared. From high-volume surgery lists that promise to make cataract operations available sooner to patients that want and need them, to using virtual diagnostic clinics and teleophthalmology and providing treatments such as intravitreal injections outside of the hospital, many of our recommendations are designed to encourage the adoption of innovative ways of working. They urge providers and commissioners to rethink how best to deliver care and make more effective use of the whole range of skills and workforce available to them.

We know from our discussions that there is a huge appetite for such change. Indeed, long before this report was finalised, we were delighted to hear of many providers who had already introduced new practices or were in contact with peers to learn from them – reflecting the innovative nature of this specialty.

This report now brings together our findings and our recommendations in the areas where we think we can make the most difference. We have focused in this phase of work on the three most common sight-threatening conditions, where even small changes to practice have the potential to make a big difference to overall capacity and to large numbers of patients. We have also looked at ophthalmic care more broadly to see where there are opportunities to implement change to both improve services and reduce unwarranted variation.

Together, our recommendations offer a substantial opportunity for change, benefiting patients and providers. However, we would reiterate one view expressed strongly in our stakeholder consultation: that if demand for ophthalmology services continues to grow as predicted, our recommendations alone will not be sufficient to maintain the quality of care we all want to provide. The workforce must expand too.

We thank all those who have assisted in the production of this report, including the Royal College of Ophthalmologists and the stakeholders who took the time to review and comment. We are excited by the opportunities ahead.



Alison Davis
Joint clinical lead

Consultant Paediatric Ophthalmologist at Moorfields Eye Hospital, National Clinical Advisor for Ophthalmology



Professor Carrie MacEwen
Joint clinical lead

Consultant Ophthalmologist at Ninewells Hospital, Chair of the Academy of Medical Royal Colleges, Ophthalmology Specialty Advisor to the CMO in Scotland



Lydia Chang
Advisor

Consultant Ophthalmologist at Hinchingbrooke Hospital

Statement of Support

The Royal College of Ophthalmologists

The Royal College of Ophthalmologists welcomes the publication of this report. It reflects a huge commitment by the GIRFT team, led by Alison, Carrie and Lydia, to analyse the ophthalmology services being delivered at the 120 trusts in England, and to identify innovative models of eye care which, if adopted nationally, would greatly impact on our ability to keep pace with rising demand and ensure patients benefit from high quality care.

We live in a vision dominated society but often take our sight for granted, an attitude reflected in the resources allocated to eye care services in the NHS. Throughout my 30-year career I cannot recall a time when ophthalmic services were not struggling to meet the needs of an increasingly ageing population. During this time there have been major advances in treatment and adoption of better models of care. One example is the switch from inpatient extracapsular cataract surgery, typically under general anaesthesia, with a prolonged post-operative recovery period involving several outpatient visits, to day case phacoemulsification surgery under topical anaesthesia which almost immediately restores vision.

The principle value of this GIRFT report is that it provides an in-depth assessment of what is good practice and what could be improved. The clinicians and managers working in ophthalmology services, and those that commission these services, have a duty to reflect on its recommendations. It is vital that we adopt efficient models of care, and the reporting and auditing of that care, to ensure we are able to deliver the quality of services that all patients have a right to expect.



Mike Burdon

President of the Royal College of Ophthalmologists

Executive summary

Ophthalmology is one of the busiest specialties in the NHS, providing over 7.5 million outpatient appointments a year (representing the highest volume outpatient specialty in England) and more than half a million surgical procedures – including the most common operation offered on the NHS, cataract surgery.

The context: soaring demand for ophthalmology services

Over recent years, demand for ophthalmology services has been rising fast – with referrals from primary care up by 12% since 2013/14. Repeated studies have indicated it will rise faster still, particularly in an ageing population. While millions of patients every year benefit from high-quality care – including primary care provided by optometrists – many in the specialty are highly aware that the system is struggling to keep pace. The ophthalmology workforce has not grown in line with demand; many hospital ophthalmology departments are cramped with little scope for expansion, and reliant on outdated or limited IT systems.

While many other specialties could point to similar challenges, in ophthalmology there is clear evidence of a deeply damaging consequence: large numbers of patients have experienced delays in receiving follow-up care, or even been “lost” to the system. A 2017 investigation found that over 20 people a month lose their vision due to delays in receiving follow-up care.¹

These are not new issues, and the ophthalmology community has already been looking at ways to address them. In 2016, The Royal College of Ophthalmologists (RCOphth) published *The Way Forward*,² a major analysis of provision of ophthalmology services and care today and what will be needed for tomorrow. The Clinical Council for Eye Health Commissioning (CCEHC) has been set up to bring together representatives from multiple professional bodies to provide collective input to policy-makers, commissioners and providers. An example is its Systems and Assurance Framework for Eye health (SAFE), which aims to help commissioners develop a more strategic and consistent approach to service planning.³

The issues have also been recognised more broadly within the NHS. Ophthalmology is one of the first specialties to benefit from the scrutiny of the Elective Care Transformation Programme (ECTP), which focuses on identifying opportunities to transform services at pace. In early 2019, the programme published its Ophthalmology handbook, drawing on best practice to provide practical guidance on changes to service delivery⁴ as part of a High Impact Intervention (HII).

Applying the GIRFT methodology

This report draws on all of these initiatives, while adding the unique perspective that comes from the Getting It Right First Time (GIRFT) programme methodology. Like all GIRFT work, it is data-driven, starting by identifying variation in the way services are configured and delivered, and in the outcomes for patients. Data is gathered from multiple sources, including a tailored questionnaire. This was particularly important for ophthalmology, as there was insufficient data available in core national data sets to conduct the kind of analysis on which GIRFT is based. The findings are then explored through deep dive visits to every NHS trust, to understand in more detail how each is addressing the challenges the specialty faces.

We undertook 120 deep dive visits. As a whole, they underlined that providers in all areas of the country are delivering some outstanding care; in recognition of this, and to facilitate peer learning, we have compiled a list of exemplars for different aspects of ophthalmology provision – in particular, those areas where there is innovation in care – which will be published alongside this report. Following the visits, we have also heard of new initiatives that are now underway in many areas, building on the deep dive discussions. This is a very positive development which demonstrates the ongoing commitment of the ophthalmic community to improve the quality of patient care.

However, the visits also showed there is widespread concern about the challenges ahead. Across the country, providers are taking different approaches to addressing these challenges – which we see as important and beneficial. This report, and the GIRFT process as a whole, provides another mechanism to share these widely.

¹ Foot B, MacEwen CJ (2017) - Surveillance of Sight Loss due to delay in ophthalmic treatment or review: frequency, cause and outcome. *EYE* 2017;31:771-775

² RCOphth (2016) *The Way Forward* www.rcophth.ac.uk/standards-publications-research/the-way-forward

³ See www.college-optometrists.org/the-college/ccehc/safe-systems-assurance-framework-for-eye-health.html

⁴ See <https://www.england.nhs.uk/wp-content/uploads/2019/01/ophthalmology-elective-care-handbook-v1.1.pdf>

Drawing on best practice to rethink delivery

Our recommendations for change reflect the best practice we have identified. Our focus overall has been on rethinking the way ophthalmology services are delivered, looking at how to make the best use of all available resources, including primary care, to deliver the right care in the right place at the right time. To that end, we have looked at ways that we can optimise provision and increase capacity, reducing pressure on consultants and empowering the wider team while offering patients a more flexible service and better experience. This approach is in line with the direction set in the NHS Long-Term Plan.

The potential impact

The recommendations, if fully implemented, could lead to a notional financial opportunity for the specialty in excess of £64 million a year: this is not a direct saving, but rather a sizeable sum that could be used more effectively. But more importantly, by reducing vision loss, individuals' independence and quality of life will be protected and maintained for longer – which in turn reduces reliance on other health and care services. A 2016 Deloitte study calculated that, in total, sight loss in adults costs the UK economy £28.1 billion a year.⁵

The structure of our report

The first section of our report covers three high-volume, sight-threatening conditions: cataract, glaucoma and medical retina. We then looked at some issues that affect the specialty as a whole, including physical space, IT provision and the workforce. Our focus in the last case was on maximising the skills of the existing workforce; however, it must be acknowledged that to maintain the quality of care that is currently available in the face of rapid growth in demand, the workforce must expand in line with the ophthalmic needs of the population. RCOphth's 2018 Workforce Census includes more detail on the staffing levels – and shortages – today.⁶

There are several areas of ophthalmology services that we have not yet examined in depth. These include areas such as oculo-plastics, vitreo-retinal surgery and ophthalmic oncology – none of which are discussed in this report. These, and other issues, may be considered in future GIRFT work but it is not the intention of the GIRFT process to provide an all-encompassing examination of an entire specialty.

The report does touch on ophthalmic paediatric and specialised services. However, in both areas, the available data to support GIRFT analysis is limited. Indeed, across the entire specialty, there is a need to improve the recording and sharing of data, without adding to the workload of clinical teams.

Common sight-threatening conditions

Cataract

For some years, cataract surgery has been the most common surgical procedure performed in England and demand for the procedure is expected to grow further. It is typically a short procedure that restores quality of vision – enabling people to retain their independence. It is therefore essential that pathways are effective so that the right patients receive surgery promptly and efficiently.

What we found

- Responses to our questionnaire demonstrated that there is wide variation between different areas in the 'conversion rate' for cataract surgery – that is, the proportion of those referred to hospital services with cataract, having met referral criteria for surgery, who receive surgery. The national average was 77% of referred patients receiving surgery, but this was less than 60% in some providers. This indicates that referral pathways may not be effective, with a large proportion of those referred not requiring or wishing to have surgery.

⁵ See <https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-018-2836-0>

⁶ See <https://rcophth.ac.uk/publications/workforce-census-2018/>

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- Through deep dive visits, it became apparent that as yet not all providers follow the 2017 NICE guidance on eligibility for cataract surgery, which advises that patients should be referred based on symptoms and lifestyle needs and not on the basis of their visual acuity alone.
 - On average, providers complete seven routine cataract procedures on a four-hour surgical list (based on questionnaire responses). This is below previously recommended best practice of eight per four-hour list. While a growing number do manage eight or more procedures, 22 complete six and ten providers typically complete fewer than six.
 - Amongst those with lower rates of surgical throughput, the barriers cited during deep dive visits to completing more procedures were invariably non-surgical; they included insufficient staffing, poor skills mix, the distance between ward and theatre and a lack of support for patients.
 - 25 providers stated in their questionnaire responses that they typically discharge patients to primary care after cataract surgery for post-operative review. They reported no clinical issues or concerns with this approach, which serves to reduce the number of outpatient appointments required. Importantly, these providers have introduced some additional measures to support discharge via primary care including ensuring that post-operative visual acuity and refractive data is returned to the hospital. During deep dive discussions, it was apparent that many more providers would like to adopt a similar approach, if it was commissioned in their area.

Our recommendations

1. Improve conversion rates for patients referred for cataract surgery to 80-85% by implementing consistent referral criteria, improving training for community optometrists and using shared decision-making tools during the referral process. Ensure that patients who wish to discuss surgery with an ophthalmologist to make a final decision are able to do so.
2. Deliver routine cataract surgery in a maximum of 30 minutes of theatre time, through streamlining turnaround processes. This often requires staff to facilitate faster turnaround and does not apply to more complex cases.
3. Use commissioned primary care optometry services to review patients who have had uncomplicated / routine cataract surgery and have no serious ocular comorbidity.

Glaucoma

Glaucoma is a common condition causing irreversible damage to the optic nerve. It is often asymptomatic until the late stages, so some patients do not present until there is extensive vision loss – resulting in permanent visual impairment. The primary challenges identified relate to initial diagnosis – where referral practice over the last decade has seen a large proportion of people referred with a possible diagnosis of glaucoma proving to be “false positives” – and then ongoing management of patients with risk factors.

While changes to NICE guidance are now helping to reduce the number of false positives, there remain practical challenges in improving accurate referrals. Referral filtering is a common way to reduce the number of false positives.

What we found

- Referral filtering is delivered in different ways across the country. Around half of providers said in questionnaire responses that repeat measures – the most basic form of filtering – are available in their area. A similar number replied that full referral refinement – the most advanced form of filtering – is available.
- In terms of ongoing management, many providers said during deep dive visits, that they offer similar levels of monitoring to all patients, even though among patients diagnosed with glaucoma there are very different levels of risk of disease progression. Only a small proportion actively stratify patients according to risk and then tailor provision accordingly.
- Patients being lost to follow-up remains a major issue. 89% of providers said in questionnaire responses that there was some delay in follow-up for glaucoma patients; 43 providers reported that follow-up had been delayed for more than 500 glaucoma patients during the preceding 12 months. This is of major concern as the 2017 British Ophthalmological Surveillance Unit (BOSU) study⁷ highlighted glaucoma was the most common reason for loss of vision.

Our recommendations

4. Reduce rate of false positive referrals for patients with glaucoma by instituting consistent referral criteria in line with 2017 NICE guideline and referral filtering schemes.

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5. Adopt a model pathway for glaucoma drawing on NICE guidance, including risk stratification, multidisciplinary team (MDT) working, virtual clinics and active discharge policies for previous glaucoma suspects in whom the condition has been excluded. This core pathway should be supported by qualified medical and non-medical ophthalmology professionals (HCPs) and community pathways.
 6. Implement the actions of the High Impact Intervention (HII) on failsafe prioritisation for all ophthalmology patients, particularly those with glaucoma and medical retina conditions, and on undertaking a risk audit to identify and discharge those patients that are clinically ready to be discharged.
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Medical retina

While medical retina covers a range of conditions, we focused on two common conditions, both of which can lead to rapid loss of vision: diabetic retinopathy and “wet” age-related macular degeneration (AMD). Wet AMD in particular has been identified as a major challenge for ophthalmology services.

What we found

- There is a highly successful national eye screening programme for patients with diabetes. Where this screening pathway includes optical coherence tomography (OCT), it reduces unnecessary referrals significantly. According to questionnaire responses, only 45% of screening pathways (from screening to provider) use OCT to refine referrals into specialist clinics for diabetic maculopathy.
- There is considerable variation in the number of intravitreal injections conducted in an average four-hour session. Questionnaire responses ranged from four to 30 – with a single outlier performing 40. The mean number of cases managed in a four-hour session was 15.9.
- 77% of providers stated in responses to our questionnaire that some of their medical retina patients’ appointments had been delayed during the past 12 months. 17% reported delays affecting more than 500 patients.
- Providers are seeking to increase capacity through innovative approaches. Among those discussed in deep dive visits were community-based clinics and mobile units – which are connected via appropriate IT to the secondary care services.

Our recommendations

7. Develop a national standardised referral pathway for suspected diabetic maculopathy that includes the use of OCT as a form of referral refinement to reduce unnecessary referrals from screening services.
 8. Increase the capacity and productivity of wet AMD pathways, through more extensive use of virtual clinics for stable patient monitoring and clean rooms for intravitreal injections, while training more members of the non-medical ophthalmology HCP team to carry out injections
 9. Continue to engage with stakeholders in order to facilitate the use of available treatments for the management of all wet AMD patient groups as well as the use of new treatments as they are developed.
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Paediatric ophthalmology services

As noted above, we did not study paediatric services in depth at this point – gathering information only about the delivery of vision screening for 4-5 year olds and strabismus care.

What we found

- In responses to our questionnaire, 80% of hospital eye services confirmed that vision screening is provided in their area; 9% said it is not.
- Screening is not mandatory but recommended by the National Screening Committee.⁸ Concerns were widely voiced during deep dive visits about future funding for the screening programme.

⁸ See www.gov.uk/government/publications/child-vision-screening

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- Paediatric strabismus care in general is of high quality, resulting in good outcomes for patients. However, deep dive discussion revealed that there is wide variation in pathways. For instance, in some areas, children are reviewed post-surgery by orthoptists only; in others, they may have two or more scheduled follow-up appointments with the surgeon.

Our recommendations

10. Review the delivery of the national 4-5 year old children's vision screening programme and consider the possibility of making it mandatory to help reduce unwarranted variation in implementation around the country.
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Emergency care

Emergency care accounts for a small, but crucial, proportion of ophthalmology work. Effective and safe delivery over seven days / 24 hours across the country is key.

What we found

- Based on questionnaire responses, some form of emergency care service is provided at 95 trusts (79% of all providers).
- An increasing number of hospital eye services offer out-of-hours emergency eye care for a restricted number of hours only or in partnership with other local providers. However, 26 providers acknowledged in questionnaire responses that there was no Service Level Agreement (SLA) in place with their partners.
- A small number of providers were unable to give the GIRFT team any details about the arrangements they had in place for out-of-hours provision.

Our recommendations

11. Develop a clear pathway for out-of-hours emergency eye care, implemented locally and regionally and agreed among all providers, supported by contractual arrangements and SLAs.
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Specialised commissioning in ophthalmology

As in all specialties, specialised services in ophthalmology are commissioned at a regional or national level and providers must be accredited to offer them.

What we found

- 105 providers said in their responses to our questionnaire that they offer some form of specialised ophthalmology service.
- 66% of providers who said they provide specialised services were unable to supply the GIRFT team with details of patient numbers and 78% could not provide procedure numbers. Only 23% of providers who said they are delivering specialised services said they measure outcomes.
- This suggests that some of these providers may not be commissioned to provide specialist services – yet when this was examined in deep dive discussions, it appeared that the treatments being offered would be covered by the specialised services contract.

Our recommendations

12. Review delivery of specialised services to ensure all aspects of the service specification, including data collection, are being met.
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Workforce and workspace

Developing the ophthalmology workforce

Numerous reports, including the RCOphth 2018 Workforce Census, have highlighted the growing gap between demand for ophthalmology services and the available workforce. The Workforce Census noted a shortfall of 230 consultants and further shortfalls in numbers across the entire ophthalmology team. This report has not sought to address that issue. However, many of our recommendations focus on how providers could increase capacity – mitigating some but by no means all of the gaps – and improve patient care by making better use of available staff, often in expanded roles.

What we found

- 98% of providers who answered our questions about the topic said they regularly schedule extra clinics and longer hours outside job plans.
- 63% of units in England said they used locums to cover unfilled posts at consultant and specialty doctor level. The total locum spend in ophthalmology in the financial year before our deep dive visits was over £25 million.
- Providers recognise the value of MDT working and want to offer expanded roles – in particular for specialist nurses – but told the GIRFT team that they struggled to find enough time or resource to train willing team members.

Our recommendations

13. Implement specialised ophthalmic MDTs across all units.
 14. Implement the structured training curriculum which has been developed for non-medical ophthalmology health care professionals (HCPs) based on the Ophthalmology Common Clinical Competency Framework (OCCCCF).
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Considering physical space in hospital eye services

During initial deep dive visits, several providers commented that one of the challenges they faced in meeting demand was a lack of space within ophthalmic units to deliver care effectively. We therefore added questions about space to the questionnaire used for later visits. With capital funding limited, the challenge is to find innovative ways to increase space.

What we found

- 49 of the 52 providers who were asked about space said that they felt lack of space in their department was a limiting factor in the delivery of care. To increase space, providers have adopted innovative approaches such as using mobile units and opening clinics in community centres and shopping centres.
- Many also told us that they offer virtual clinics and run clinics in evenings or weekends, to make use of the available space as efficiently as possible.

Our recommendations

15. Undertake a detailed assessment of patient pathways to identify needs for more space to offer patient-centred care in different settings.
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Working with the independent sector

High quality NHS-funded care is essential, whether provided by the NHS or by independent sector providers. During our NHS deep dive visits, views relating to independent sector provision were expressed. Further analysis and collaborative work is required to explore these issues, including GIRFT deep dives in the independent sector.

What we found

- There are concerns that the current pricing arrangements for ophthalmology services do not sufficiently reflect the different case and activity mix that providers undertake.
- There are concerns that, in planning and commissioning ophthalmic services, there can be insufficient attention to the impact on training arrangements.

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- We heard concerns about clinical governance and information sharing in relation to some services provided. There is work underway in this area, and GIRFT hopes to provide further advice.

Our recommendations

16. Consider changes to pricing arrangements that better reflect costs associated with different case mix and types of activity.
 17. Improve arrangements for training, taking into account the different skill mix of different providers.
 18. Improve clinical governance and information sharing arrangements in relation to services provided by independent sector providers.
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Improving the quality and use of data

Many of our recommendations relate to the need for better information sharing – within departments, between providers and with primary care – and more effective central recording of data relating to ophthalmology services. These are not new issues: there is a longstanding commitment to roll out electronic patient record (EPR) systems across the NHS by 2020, now reinforced by the commitment in NHS Long Term Plan for secondary care providers to be fully digitised by 2024. But the issues relating to data appear particularly acute for ophthalmology, with its emphasis on long-term outpatient care for chronic conditions, and where there is only one specialist national registry at present: the National Ophthalmology Database (NOD).

What we found

- We asked providers if they use an EPR: 63% of providers said they do. However, some of them were very limited in their capabilities, providing facilities such as digital scanning and archiving but with very little capacity to share information with other systems and perform clinical audit.
- Several providers also indicated that their EPR systems do not interface with other essential patient information systems that are unique to ophthalmology, such as visual field machines and retinal imaging, or with systems that are part of the main hospital IT system e.g. appointment and correspondence systems
- Although submission of data to the NOD is mandatory, we found that submission rates vary between providers. There are also gaps and inconsistencies in what is reported, as we identified when we compared NOD data on case ascertainment to Hospital Episode Statistics (HES).
- Some providers said that to fulfil NOD reporting requirements – which they wanted to comply with – they effectively had to enter data twice: on their existing EPR platform, which doesn't interface with the NOD, and in a separate system which does.

Our recommendations

19. Facilitate joint working within providers, between providers and with primary care to continue the rollout of networked EPR in ophthalmology.
 20. Improve the quality, depth and accuracy of data collected nationally about ophthalmology services and clinical outcomes, without adding to provider workloads.
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Procurement

As with all GIRFT workstreams, we looked at procurement and identified significant unwarranted variation in the amounts different providers were paying for the same or similar items.

What we found

- There appear to be more than 100 different procedure packs across the NHS for intravitreal injections – some of which contain 14 or more items. On many occasions, over half the pack is unused.
- 45 different brands of intraocular lenses are being used for cataract surgery. 80% of these come from 10 brands.

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- There appears to be a substantial opportunity to save on the amount spent each year on lenses.
 - There is no routinely collected national clinical outcome data by which products and brands can be judged for quality and effectiveness.

Our recommendation

21. Enable improved procurement of equipment and devices through:

- cost and pricing transparency;
- aggregation and consolidation;
- the spreading of best practice;
- encouraging trusts to purchase all of their lenses through NHS Supply Chain; and
- reducing the unwarranted variation in procedure and instrument packs across the NHS.

Litigation

Litigation is also a theme covered across all GIRFT workstreams. The most significant cost in ophthalmology was for claims relating to loss of vision – almost a quarter of all claims made against ophthalmology over the last five years.

What we found

- Clinical negligence claims in ophthalmology as a whole were estimated to cost between £25.3 and £52.1 million per year over the last five years. This equates to an estimated mean cost of litigation per admission or outpatient procedure was £13.
- There are vast differences between providers, with some reporting an average cost per admission or procedure of £0, while at the other end of the scale, one provider generated an estimated average of £228 in litigation costs per admission or outpatient procedure.

Our recommendation

22. Reduce litigation costs by application of the GIRFT Programme's five-point plan.

A full table of recommendations, with responsibilities and actions to deliver them is overleaf.

What happens next?

Throughout the GIRFT process, we have not only benefited from the input of individual clinicians, managers and trusts but also of numerous professional bodies, including NICE, the RCOphth, the CCEHC, the College of Optometrists (CoOptom), Royal College of Nursing (RCN), British and Irish Orthoptic Society (BIOS) and the Association of Health Professions in Ophthalmology (AHPO). We have also had extensive discussions with colleagues from across the NHS, particularly in relation to our findings around independent sector provision and anti-VEGF medication. Our engagement with all stakeholders outside NHS England and NHS Improvement has been consultative.

This ongoing engagement means we are confident that our recommendations can be embedded into everyday care within the timescales we suggest. The GIRFT regional hubs will support providers in implementing the recommendations and the clinical leads will begin revisits in spring 2020.

What is ophthalmology?

Ophthalmology is the branch of medicine dealing with the prevention, diagnosis and treatment of diseases of the eye and visual system. It is one of the busiest specialties in the NHS, conducting over half a million surgical procedures and more than 7.5 million outpatient appointments a year.

There are 120 NHS trusts offering ophthalmic services in England. In most of these, the core of the workload is primarily related to elective care/surgery and the management of chronic ophthalmic diseases, such as glaucoma, AMD and diabetic eye disease. While much of the management of these conditions is non-surgical, ophthalmology conducts 6% of all NHS surgery, including the single most common surgical procedure in the NHS: cataract surgery. The majority of eye surgery is performed on a day-case basis.

The specialty also provides oncology services; adnexal services which includes oculo-plastics, lacrimal and orbital services; neuro-ophthalmology; ocular motility and paediatric services; and deals with eye injuries and other emergency conditions.

Caring for an ageing population

While eye diseases can affect patients of any age, many of the most common conditions dealt with by hospital eye services are associated with older patients. In England and Wales, it is estimated that around 2.5 million people aged 65 or older (approximately 20-25% of the total population over 65) have some degree of visual impairment caused by cataracts. Glaucoma is most common in adults over the age of 70. While annual eye screening for retinopathy is offered to all patients with diabetes aged 12 or over, diabetes itself is more commonly diagnosed amongst those over 40.

With an established long-term demographic trend of an ageing UK population associated with new, effective, but recurrent treatments, the demand for ophthalmology services has been growing for some years and is forecast to continue to grow. The Way Forward estimated that over the next 20 years (from 2017) there will be:

- a 50% increase in demand for cataract surgery;
- a 44% increase in glaucoma cases; and
- a 60% increase in the overall case load for patients with diabetic retinopathy and AMD.

Dealing with a higher number of older patients also means that ophthalmology departments have to be aware of increased co-morbidities associated with ageing – including dementia and cardiovascular diseases – as well as practical considerations, such as reduced mobility.

Paediatric ophthalmology

At the other end of the demographic spectrum, there is a major sub-specialty of paediatric ophthalmology, focused on early correction of vision problems such as strabismus (squint), amblyopia (lazy eye) and refractive errors, as well as dealing with a range of congenital and genetic conditions and syndromes, lacrimal, lid and orbital diseases, congenital glaucoma, ocular oncology services and cataracts in children.

To aid early diagnosis and detection, particularly of amblyopia, there is a clinical case for all children aged four to five to receive vision screening as part of a national programme and the UK National Screening Committee (UKNSC) recommends this approach. The screening should be commissioned by local authorities and should be led by orthoptists.

Paediatric ophthalmology is often provided in separate facilities, dedicated to the care and support of children, and by specialised staff. It has not been a primary focus of GIRFT work to date.

Ophthalmology provision today

Core ophthalmology services – dealing with cataract, glaucoma, AMD and diabetic eye conditions plus eye emergencies – are provided in almost every NHS trust in England and the overwhelming majority of hospitals. Specialist services are available in more than 100 locations, often delivered on a formal or informal “hub and spoke” network basis, where most of the specialist services are provided by a regional hub with local care at spoke hospitals as part of the patient pathway. Some spoke hospitals retain a particular specialism reflecting consultant expertise.

Most ophthalmologists perform general ophthalmic services but also sub-specialise in one or more areas.

With the very high patient numbers outlined above, many providers report that they are struggling, in terms of both staffing and physical space, to find sufficient capacity to meet demand. To enable them to see enough patients within the facilities they have available, and with the staff they have, many hospital eye services operate extended hours, with evening cover to 9pm being relatively common. We asked providers about this extended cover; some 43 of the 44 providers who answered these questions said they regularly schedule extra clinics and theatre time – defined as those outside job plans – whether in the main department or in smaller units.

Though hours are extended for routine elective care, many providers do not offer 24/7 emergency care. Emergency out-of-hours care in some form is provided at 95 trusts – 79% of all providers. However, a growing number of departments do this via partner hospitals – although formal arrangements or formal Service Level Arrangements (SLAs) are not always in place.

The ophthalmology workforce

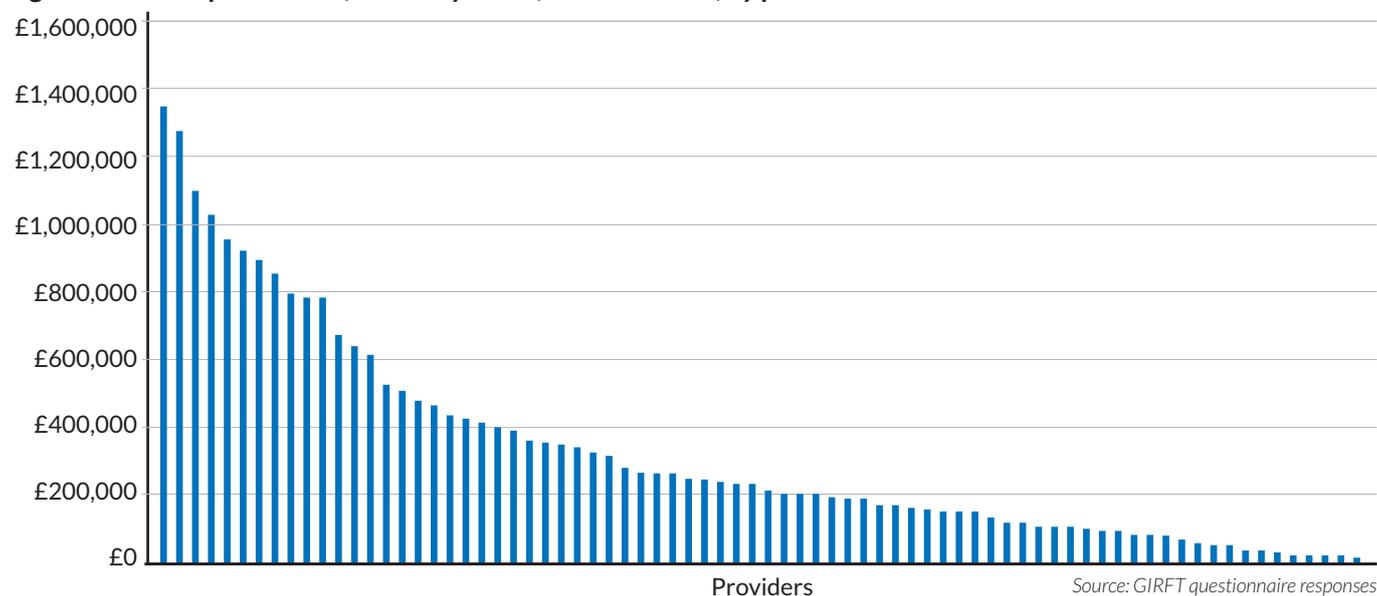
According to the 2018 Workforce Census,⁹ conducted by RCOphth, there were 1,260 consultant ophthalmologists in England. Providers reported there were a further 600 Specialty Doctors, Staff Grades and Associate Specialists.

In this census, over three quarters of units in England stated they had unfilled consultant posts; while most use locums to cover, a quarter of new posts are left vacant. 64% of units said they have difficulty in recruiting to consultant posts, and 85% have difficulty recruiting at specialty/staff grade level. This is largely due to a lack of suitably trained candidates for such posts. By contrast, training posts are typically filled quickly and, indeed, are oversubscribed – indicating that, if more funding was available, many more trainees could be appointed. The census showed that there are currently more than 700 ophthalmology specialty trainees – engaged in a basic seven-year training programme with some undertaking additional out of programme activities for one year or more.

These latest figures indicated that shortages at senior level – which have been recognised for some time – are becoming a greater problem. Almost every department reported that it would need to recruit more consultants or senior clinicians over the next two years to meet demand.

The short-term response to these shortages is to use locums where available. In response to the GIRFT questionnaire, 63% of units in England said they used locums to cover unfilled posts at consultant and specialty doctor level. With some hourly rates for locums over £125, this becomes a major recurring expense, as figure 1 below shows.

Figure 1: Locum spend in the financial year before GIRFT visit, by provider



⁹ See <https://rcophth.ac.uk/publications/workforce-census-2018/>

Based on the 76 providers who responded to this question alone, this amounts to a total expenditure on locums in the preceding financial year of over £25 million. If all providers were included, the figure may be higher. In the context of debates around efficiency and capacity, this figure necessarily should come under scrutiny – as should the considerable variation between locum spend, with four providers each spending over £1m.

Alongside ophthalmic medical staff, crucial roles are played in hospital eye services by multidisciplinary teams of ophthalmic nurses, orthoptists, ophthalmic technicians and hospital optometrists. Many are involved in expanded roles in the assessment and ongoing management of elective, emergency and long-term ophthalmic patients. In addition, around two-thirds of providers also have vision support officers¹⁰, who provide practical and emotional support to patients dealing with sight loss or reduced vision.

All of the roles are vital in helping to meet the demand facing ophthalmology services, but it is widely recognised that training for additional responsibilities in expanded roles is inconsistent and that many providers are struggling to offer the broader team the level of training needed to continue to provide safe levels of care.

Furthermore, if demand for services does grow in line with current projections, it is clear that workforce numbers will need to increase significantly to maintain the high-quality care and timeliness to which all in the specialty aspire. The RCOphth Workforce Census 2018 commented *“the data suggests an extra 230 consultant posts are required to meet the rising demand for ophthalmology services over the next two years.”*

Primary care optometrists and community ophthalmic services

In considering ophthalmology services, it is important to examine the integral role played by high street optometrists and medical primary care. Both are key sources of referrals to hospital services, either following routine sight tests or a GP appointment; both can also be part of post-surgical management and ongoing care for discharged patients.

Routine sight tests are delivered as part of the General Ophthalmic Services (GOS) contract, which is commissioned by NHS England and governed by national regulations. Optometrists are paid a standard fee and may not charge patients for NHS sight tests. Many optometrists offer additional services and testing over and above the basic, reimbursed sight test, for example to improve the quality of referrals to hospital eye departments. However, these additional services are additional to the GOS and are commissioned locally. Participation is not mandatory, leading to differences in provision of primary care ophthalmic services not only between areas, but within them.

This, in turn, means relationships between hospitals and these primary care services vary considerably – in particular regarding the quantity and appropriateness of referrals. The relationships work best where there are clear and consistent referral pathways and criteria, backed by transparent commissioning arrangements for payment mechanisms to optometrists.

The same issue applies to follow-up care, where – properly supported and commissioned – primary care optometrists can manage patients after routine cataract surgery. This allows discharge from hospital directly following surgery.

The CCEHC has produced guidance on how primary and community services could be commissioned to use the skills and knowledge of optometrists to best effect for patients and to help address capacity issues.¹¹ More recently, the CCEHC has developed the Systems and Assurance Framework for Eye-Health (SAFE), a framework for providing effective ophthalmic care outside the hospital setting using the multi-disciplinary team in a community setting.¹² This emphasises the requirement to commission services specifically for this purpose, with clear clinical leadership, governance and accountability.

There is a pressing need to deliver ophthalmic care as part of a joined-up pathway – an approach firmly in line with the ethos of the NHS Long Term Plan. A proposed framework would see a trained multidisciplinary team managing a carefully selected case load, in networked community locations – making it more convenient for patients and reducing the pressure on the hospital eye service.

The role of the independent sector

The final part of the ophthalmology landscape is the growing range of independent providers that are commissioned to provide NHS treatment. Such providers typically focus on a subset of conditions for which they can offer treatment of comparative quality to that available at hospital services but often at a lower cost to the commissioner.

¹⁰ Vision support officers are also known in some areas as Eye Clinic Liaison Officers (ECLOs)

¹¹ See www.college-optometrists.org/the-college/ccehc/planning-commissioning.html Primary Eye Care Framework (2016; updated 2018) and Community Ophthalmology Services Framework (2015, updated 2018)

¹² See www.college-optometrists.org/the-college/ccehc/safe-systems-assurance-framework-for-eye-health.html

The aim of this model is to help meet the demand for certain procedures and thus reduce the pressures on NHS providers. For example, in ophthalmology, independent providers have been commissioned in some areas to manage glaucoma outpatient care, conduct cataract surgery or provide intravitreal injections for wet AMD. In theory, the additional facility and space means patients may receive treatment sooner or at a location that is more convenient for them. The lower costs can be achieved because independent providers do not need to invest in providing the full spectrum of services, nor do they have training responsibilities for junior medical staff. Instead, they can optimise their provision around the specific, low complexity procedures they offer.

Because of the high demand for ophthalmology services, the additional capacity provided by the independent sector has been welcomed in some areas. However, there are recognised concerns within the ophthalmology community that independent providers have not integrated fully into the overall care model in some locations; that national tariff prices may not adequately reflect activity and case-mix; and that commissioning arrangements may reduce training opportunities. These are examined in more depth in the report.

Recommendations

Our recommendations begin by looking at three of the most common sight-threatening conditions. The fundamental issues are similar across these core conditions, based around the need to:

- improve referral and discharge processes;
- ensure that patients are seen efficiently at the appropriate time and by the most appropriate professional for their condition and need; and
- use resources across the entire specialty in an optimal way.

However, the individual solutions vary and the examples are specific to the management of that condition.

This is followed by recommendations related to different aspects of the ophthalmology workload and the way services are delivered and managed.

Sight-threatening conditions – Cataract (pg 26-34)

Recommendation	Actions	Timescale
1 Improve conversion rates for patients referred for cataract surgery to 80-85% by implementing consistent referral criteria, improving training for community optometrists and using shared decision-making tools during the referral process. Ensure that patients who wish to discuss surgery with an ophthalmologist to make a final decision are able to do so.	1A Commissioners and providers to agree consistent referral criteria and make conversion rates a key performance indicator (KPI) in contracts.	April 2020
	1B Commissioners and providers to consider whether they need to develop any additional training for optometrists, based on audit of conversion rates. The audit should involve optometrists.	October 2019
	1C GIRFT to support implementation of patient shared decision-making aids to be used by community optometrists and providers, along with a process for auditing their usage. Stakeholders to include RCOphth, CoOptom and patient groups, with input from NHSE and NICE as required.	September 2019
	1D RCOphth and CoOptom to consider whether further support and guidance regarding referral criteria or training.	For immediate consideration
	1E Providers to report conversion rates in routine data collection for cataract and share data with referring optometrists. GIRFT to discuss enablers with NHSE.	For immediate discussion
2 Deliver routine cataract surgery in a maximum of 30 minutes of theatre time, through streamlining turnaround processes. This often requires staff to facilitate faster turnaround and does not apply to more complex cases.	2A Providers to review the whole patient pathway for routine cataract surgery, from referral to post-operative care, engaging with relevant members of the whole team, with a view to optimising the process. This includes examining pre-assessment to identify suitable patients for high-volume surgery using risk stratification and patient information; admissions; in-theatre processes and post-operative care.	Within 6 months from publication
	2B Providers to train a consistent and dedicated specialist multidisciplinary theatre team to perform high-volume lists.	Within a year from publication
	2C Providers to develop high-volume lists (more than eight patients per list) for appropriate patients.	Within 6 months from publication
	2D RCOphth to incorporate high-volume lists into revised training curriculum, with all trainees to gain experience in performing high-volume lists and senior ophthalmic trainees to be trained to lead high-volume lists.	For consideration in revised curriculum
	2E NHS Improvement to measure baseline data for theatre efficiency.	To be determined
	2F Providers to audit theatre utilisation against baseline data and, where they are not meeting the 30-minute theatre time, identify the root cause and take appropriate action.	Within 6 months from completion of 2E
3 Use commissioned primary care optometry services to review patients who have had uncomplicated / routine cataract surgery and have no serious ocular comorbidity.	3A Providers and commissioners to work with optometrists to implement pathways so that at least 80% of uncomplicated cataract patients without ocular comorbidity e.g. glaucoma or diabetic retinopathy can receive follow-up and discharge via primary care optometrists, with payment dependent on receipt of post-op data.	Within 1-2 year from publication
	3B Baseline data on post-operative assessments, including whether patients were assessed in hospital or at a primary care optometrist, to be routinely collected.	Within 1 year from publication
	3C RCOphth and CoOptom to consider the need for further guidance and training for hospital teams and primary care optometrists.	For immediate consideration
	3D Providers, commissioners and primary care to agree clear governance and data sharing requirements, both from primary care to hospitals and vice versa, before any new pathway goes live.	Concurrent to 3A
	3E Providers, commissioners and primary care to ensure that post-operative visual acuity and refractive data is submitted to the NOD or other suitable data collection mechanism.	To be determined (assuming this data is not collected by NOD)

Sight-threatening conditions – Glaucoma (pg 35 - 41)

Recommendation	Actions	Timescale
<p>4 Reduce rate of false positive referrals for patients with glaucoma by instituting consistent referral criteria in line with 2017 NICE guideline and referral filtering schemes.</p>	<p>4A Commissioners to commission referral filtering schemes in addition to GOS, as recommended in the 2017 NICE guidelines, in consultation and agreement with providers. Schemes to reflect NICE guidance and CCEHC frameworks.</p>	For consideration within 2 years from publication
	<p>4B Commissioners to consider use of NHS Standard Contract mechanisms to implement criteria and audit adherence.</p>	For consideration within 2 years from publication
	<p>4C NHSE consider developing a mechanism to enable referring optometrists to receive feedback on the results of their referrals.</p>	For consideration within 2 years from publication
	<p>4D GIRFT to collect business cases and evaluations of referral filtering schemes to build evidence about the cost-effectiveness of implementing different approaches.</p>	For immediate action
<p>5 Adopt a model pathway for glaucoma drawing on NICE guidance, including risk stratification, MDT working, virtual clinics and active discharge policies for previous glaucoma suspects in whom the condition has been excluded. This core pathway should be supported by qualified medical and non-medical ophthalmology HCPs and community pathways.</p>	<p>5A Commissioners and providers to consider model glaucoma pathways (including community pathways) as in The Way Forward and the CCEHC “SAFE” Glaucoma Service System, and adjust processes accordingly to enable more patients to be seen in the right place at the right time.</p>	Within 2 years from publication
	<p>5B Providers to introduce consistent risk stratification for all glaucoma patients.</p>	Within 6 months from publication
	<p>5C Providers to adopt MDT working in glaucoma diagnosis and management, addressing workforce training as required to build capacity in the wider team.</p>	Within 6 months from publication, unless training/ recruitment required
	<p>5D Providers to introduce virtual clinics for glaucoma.</p>	Within 1 year from publication
	<p>5E Providers to develop discharge policies and processes in line with existing NICE guideline (2017).</p>	Within 6 months from publication
	<p>5F Providers to educate staff about the discharge policies to underpin consistent application.</p>	Within 6 months from publication and ongoing
<p>6 Implement the actions of the High Impact Intervention (HII) on failsafe prioritisation for all ophthalmology patients, particularly those with glaucoma and medical retina conditions, and on undertaking a risk audit to identify and discharge those patients that are clinically ready to be discharged.</p>	<p>6A Providers to audit their approach against the recommendations of the High Impact Intervention and develop their processes accordingly.</p>	For immediate action
	<p>6B Trusts to calculate the whole-time equivalent (WTE) need for the failsafe officer role as part of their annual business planning.</p>	For immediate action
	<p>6C Providers to implement the approach recommended in the High Impact Intervention and undertake a risk audit at least annually. This should be a joint responsibility for clinicians and managers.</p>	For immediate action
	<p>6D Commissioners to work with providers, based on the outcomes of the annual risk audit, to assess the need for additional capacity within the hospital eye service (including virtual clinics) and primary care optometry.</p>	For immediate action

Sight-threatening conditions – Medical retina (pg 42 - 49)

Recommendation	Actions	Timescale
7 Develop a national standardised referral pathway for suspected diabetic maculopathy that includes the use of OCT as a form of referral refinement to reduce unnecessary referrals from screening services.	7A GIRFT to work with NHSE and the screening programme provider to develop the national standardised referral pathway.	Within 2 years from publication
	7B Providers and commissioners to manage referrals in line with the pathway and any accompanying guidance.	Upon completion of 7A
8 Increase the capacity and productivity of wet AMD pathways, through more extensive use of virtual clinics for stable patient monitoring and clean rooms for intravitreal injections, while training more members of the non-medical HCP team to carry out injections.	8A Providers to review their wet AMD pathways to identify opportunities to use virtual clinics to reduce the number of face-to-face outpatient appointments. The CCEHC frameworks, including SAFE-AMD, may be of use in this review.	Reviews to be completed 6 months from publication
	8B Providers to consider business case to add clean rooms to minimise theatre usage and use trained non-consultant staff to conduct a greater proportion of injections.	Within 6 months from publication
	8C GIRFT, working with NHS Improvement, to develop/collect business cases to demonstrate cost benefits of clean rooms and training more staff to conduct injections.	Concurrent to 8B
	8D GIRFT to work with RCOphth, CoOptom, BIOS and RCN to consider whether there are any additional training needs.	For immediate consideration
9 Continue to engage with stakeholders in order to facilitate the use of available treatments for the management of all wet AMD patient groups as well as the use of new treatments as they are developed.		Ongoing

Paediatric ophthalmology services (pg 50-51)

Recommendation	Actions	Timescale	
10 Review the delivery of the national 4-5 year old children's vision screening programme and consider the possibility of making it mandatory to help reduce unwarranted variation in implementation around the country.	10A GIRFT and PHE to review the delivery of the national 4-5 year old children's vision screening programme, examining issues including: <ul style="list-style-type: none"> • the quality of this screening service where it is available; • who carries out the screening, audit etc; • uptake of screening; • outcomes; and • costs, both to the local authorities who commission it, and the resultant upstream NHS cost of managing referrals from screening. 	Within 2 years from publication	
	10B Based on the review outcomes, GIRFT and PHE to consider the possibility of making vision screening mandatory to help reduce unwarranted variation in implementation around the country.		
	10C Providers, supported by BIOS and British & Irish Paediatric Ophthalmology & Strabismus Association (BIPOSA), to review pathways used post paediatric strabismus surgery to understand the approaches taken and assess whether there are opportunities to increase consistency or make better use of community provision.		Within 18 months from publication
	10D GIRFT to examine audit results with NHSE CRG to assess whether there is any unwarranted variation.		On completion of provider review

Emergency care (pg 52-54)

Recommendation	Actions	Timescale
11 Develop a clear pathway for out-of-hours emergency eye care, implemented locally and regionally and agreed among all providers, supported by contractual arrangements and SLAs.	11A Commissioners and providers to agree pathways to deliver this, drawing on best practice outlined in RCOphth OSG, SAFE and other CCEHC frameworks.	Within 2 years from publication
	11B Commissioners and providers to ensure that agreed pathways are reflected in clinical agreements and financial SLAs for all out-of-hours services in their area.	Within 2 years from publication

Specialised commissioning in ophthalmology (pg 55-56)

Recommendation	Actions	Timescale
12 Review delivery of specialised services to ensure all aspects of the service specification, including data collection, are being met.	12A Providers and NHS Specialised Commissioning to improve their processes for recording data around specialised services, in particular around procedure numbers and outcomes.	Within 1 year from publication
	12B Regional specialised commissioning teams to review the commissioning of specialised services in their region, and in particular to focus on moving to a hub and spoke model.	Within 2-3 years from publication
	12C NHS England and NHS Specialised Commissioning to use the data collected by GIRFT to inform the forthcoming review of the service specification and development of the dashboard for specialised services in ophthalmology.	Ongoing – working group to commence 2019-20

Workforce and workspace (pg 57-60)

Recommendation	Actions	Timescale
13 Implement specialised ophthalmic MDTs across all units.	13A Providers to establish specialised ophthalmic theatre teams.	Within a year from publication
	13B GIRFT to work with Health Education England (HEE), RCOphth, CoOptom, BIOS, RCN and AHPO to develop consistent national frameworks for specialist roles in ophthalmology.	Within 2-3 years from publication
14 Implement the structured training curriculum which has been developed for non-medical ophthalmology health care professionals (HCPs) based on the Ophthalmology Common Clinical Competency Framework (OCCCF).	14A GIRFT to work with HEE, RCOphth, CoOptom, BIOS, RCN and AHPO to ensure that training arrangements reflect OCCCF.	Within 2-3 years from publication
	14B Training providers to implement agreed programme locally.	On completion of 14A
	14C Providers to put in place training strategies with clear timelines for non-medical staff.	On completion of 14B
15 Undertake a detailed assessment of patient pathways to identify needs for more space to offer patient-centred care in different settings.	15A Providers and commissioners to assess pathways and identify any areas where space may be a constraint on their overall capacity or their ability to deliver patient-centred care.	Within 1 year from publication
	15B GIRFT to work with NHS Improvement to examine options and gather case studies for increasing space, which may be in a community setting and include virtual service delivery.	Within 1 year from publication
	15C Providers to determine if space is a constraint on delivery of ophthalmology pathways locally and, with commissioners, consider options to provide increased space or rethink care settings.	Concurrent to 15B

Independent sector provision (pg 61-62)

Recommendation	Actions	Timescale
16 Consider changes to pricing arrangements that better reflect costs associated with different case mix and types of activity.	16A GIRFT to commission costing and pricing analysis to investigate the payment system's effect on providers with differing case mix and types of activity, involving stakeholders below.	Within 1 year from publication
	16B Discuss results with NHS England/NHS Improvement, relevant professional bodies and other stakeholders, including the United Kingdom Ophthalmology Alliance and Independent Hospital Providers Network to agree next steps.	On completion of 19A
17 Improve arrangements for training, taking into account the different skill mix of different providers.	17A GIRFT to work with HEE to support commissioners in assessing the impact of commissioning decisions on training and providing suitable arrangements for trainees.	For continual action
18 Improve clinical governance and information sharing arrangements in relation to services provided by independent sector providers.	18A GIRFT to provide advice on clinical governance and information sharing as part of its work with the independent sector, cognisant of work already underway in this area. All providers should also discuss and resolve governance issues locally.	For further consideration from October 2019

Improving the quality and use of data (pg 63 -66)

Recommendation	Actions	Timescale
19 Facilitate joint working within providers, between providers and with primary care to continue the rollout of networked EPR in ophthalmology.	19A Trusts to consider using the RCOphth Electronic Medical Records – Standards to inform any EPR procurement exercise and make capability for information sharing a key criterion.	For consideration as part of existing EPR rollout
	19B Providers to explore feasibility of using existing EPR systems to support joint working and information sharing.	For consideration as part of existing EPR rollout
20 Improve the quality, depth and accuracy of data collected nationally about ophthalmology services and clinical outcomes, without adding to provider workloads.	20A Providers, including independent sector providers, to increase case ascertainment for cataract surgery in the NOD to at least 85% of cases.	For immediate action
	20B GIRFT to work with RCOphth and NHS England to consider the introduction of, and develop requirements for, a national audit for glaucoma interventions (laser and surgery), based on the feasibility study undertaken by HQIP, including measuring clinical outcomes.	For immediate action
	20C GIRFT to work with NHSE to consider the introduction of, and commission a pilot for, a national AMD audit based on the feasibility study undertaken by HQIP.	Within 6 months from publication
	20D Trusts to submit data to all these national data collections as required.	
	20E GIRFT to explore with NHS England, HQIP, the RCOphth and others the sustainability of national outcomes collections to maximise data sharing and reduce duplication in collections.	For ongoing discussion

Procurement (pg 67-69)

Recommendation	Actions	Timescale
<p>21 Enable improved procurement of equipment and devices through:</p> <ul style="list-style-type: none"> • cost and pricing transparency; • aggregation and consolidation; • the spreading of best practice; • encouraging trusts to purchase all of their lenses through NHS Supply Chain; and • reducing the unwarranted variation in procedure and instrument packs across the NHS. 	<p>21A GIRFT to work closely with sources of procurement data such as PPIB and PLICS and use relevant clinical data to identify optimum value for money procurement choices, considering both outcomes and cost/price.</p>	January 2019
	<p>21B GIRFT to identify short and long-term opportunities for improved value for money, including the development of benchmarks and specifications, and locate sources of best practice and procurement excellence, identifying factors that lead to the most favourable procurement outcomes.</p>	February 2019
	<p>21C GIRFT to work with the UKOA and the new Category Towers to rationalise and standardise procedure and instrument packs across the NHS to reduce variation.</p>	March 2019
	<p>21D Trusts and STPs to work with GIRFT and the new Category Towers, to benchmark and evaluate their products and seek to rationalise and aggregate demand with other trusts to secure lower prices and supply chain costs.</p>	March 2020
	<p>21E GIRFT, UKOA and Category Towers to develop standard specifications for procedure packs to enable cost comparison, building on the work already commenced by UKOA.</p>	March 2021
	<p>21F GIRFT to work with RCOphth, the NOD and the UKOA to develop and collect outcome measures to better inform procurement of intraocular lenses</p>	TBC
	<p>21G GIRFT to establish an ophthalmology National Clinical Technology Advisory Panel (NCTAP) to review national specifications, device safety and efficacy as well as provide guidance on best value.</p>	TBC

Litigation (pg 70-72)

Recommendation	Actions	Timescale
<p>22 Reduce litigation costs by application of the GIRFT Programme's five-point plan.</p>	<p>22A Clinicians and trust management to assess their benchmarked position compared to the national average when reviewing the estimated litigation cost per activity. Trusts will have received an updated version of this for ophthalmology in the GIRFT 'Litigation in surgical specialties data pack'.</p>	<p>For immediate action</p>
	<p>22B Clinicians and trust management to discuss with the legal department or claims handler the claims submitted to NHS Resolution included in the data set to confirm correct coding to that department. Inform NHS Resolution of any claims which are not coded correctly to the appropriate specialty via CNST.Helpline@resolution.nhs.uk</p>	<p>Upon completion of 20A</p>
	<p>22C Once claims have been verified clinicians and trust management to further review claims in detail including expert witness statements, panel firm reports and counsel advice as well as medical records to determine where patient care or documentation could be improved. If the legal department or claims handler needs additional assistance with this, each trusts panel firm should be able to provide support.</p>	<p>Upon completion of 20B</p>
	<p>22D Claims should be triangulated with learning themes from complaints, inquests, SUIs and SIs; where a claim has not already been reviewed as a SI/SUI, this should be carried out to ensure no opportunity for learning is missed.</p>	<p>Upon completion of 20C</p>
	<p>22E Where trusts are outside the top quartile of trusts for litigation costs per activity GIRFT we will be asking national clinical leads and regional hub directors to follow up and support trusts in the steps taken to learn from claims. They will also be able to share with trusts examples of good practice where it would be of benefit.</p>	<p>For continual action throughout GIRFT programme.</p>

Common sight-threatening conditions

Cataract

Referring the right patients

Cataract is opacity of the lens in the eye. It is a natural ageing effect that may progress to cause reduction in vision. Cataracts are very common and are generally considered to be clinically significant once they reduce vision to a level that interferes with daily life.

Cataract surgery replaces the cloudy lens with an artificial one which, in the majority of cases, restores quality of vision. For some years, cataract surgery has been the most common surgical procedure in England as, indeed, it is globally. More than 400,000 such procedures were performed by NHS providers in England in 2018 and demand for the procedure is expected to grow due to an ageing population.

Eligibility for surgery: NICE guidelines

Providers have offered cataract surgery to patients based on different local commissioning criteria. Some commissioners determined eligibility purely based on a visual acuity measurement, meaning that patients were systematically referred for surgery when their vision was measured as deteriorating beyond a certain pre-determined level.

Aside from the fact that different visual acuity criteria were used in different locations – which was underlined in responses to the GIRFT questionnaire – the simplistic nature of this approach took no account of each person's vision requirements and the effect of reduced vision on their lives, ignoring personal lifestyle and circumstances. This effect may have been considerable: for example, the deterioration in vision may have made it difficult or impossible to work or to drive.

The 2017 NICE guideline *Cataracts in adult: management*¹³ advised providers not to base the decision to refer for surgery on visual acuity criteria alone. Instead, NICE emphasised that the decision should be based on factors including how the cataract affects the patient's vision and quality of life (for example, their level of independence, ability to work or risk of injury through falls) and – crucially – whether the patient wants to have cataract surgery.

This addresses the situation where patients are referred to hospital based on visual acuity measurements alone, but then decline surgery because they do not feel the cataract affects their day to day lives. This could be determined before referral so that hospital eye services do not waste time and resource on assessing and preparing patients for surgery who have no interest in receiving the procedure. This problem was sufficiently common that *The Way Forward* included patients' willingness for surgery as one of its two core referral criteria.

This is further emphasised in appendix J of the NICE guideline, Health Economics, which demonstrates that there is a compelling economic case for carrying out surgery when patients have visual symptoms due to cataract and want to undergo surgery. This economic case is based on providing surgery before vision further deteriorates to the point that it restricts independence – which, in turn, can increase the cost to the NHS of managing the patient.¹⁴

It is clear that some areas have not yet fully adopted the standards set out in the 2017 NICE guideline, resulting in variation in access to surgery.

Conversion rates

Cataract conversion rates refer to the percentage of patients referred for cataract surgery who proceed to surgery at the first hospital appointment. Patient willingness for surgery is a key factor in conversion rates. A higher conversion rate arguably indicates a more effective and accurate referral process, with fewer patients opting out, or not being deemed to need surgery.

We asked providers what their conversion rate was. As figure 2 below shows, there was substantial variation across departments, with just 25 providers achieving a conversion rate of 85% or above.¹⁵ The national mean conversion rate was 71%.

¹³ NICE (2017) NG77 *Cataracts in adults: management* www.nice.org.uk/guidance/ng77

¹⁴ See www.nice.org.uk/guidance/ng77/evidence/appendix-j-health-economics-pdf-167615924437

¹⁵ In their initial responses, eight providers reported conversion rates of below 30%. Discussions during deep dive visits indicated that these providers were measuring conversion rate in a different way – as the percentage of all cataract patients who received surgery. These providers have been excluded from figure 2 below and the calculation of the mean. All providers have been asked to measure conversion rate as the percentage of new referrals for surgery when they resubmit data in 2018/19.

Figure 2: Reported conversion rates for cataract surgery by provider



A 100% conversion rate is neither desirable nor clinically appropriate: there will always be some patients who do not proceed to surgery following referral for medical or other reasons, and there is a risk that the highest rates indicate some patients may be undergoing surgery inappropriately.

At the other end of the spectrum, those providers with conversion rates below 75% are effectively seeing a quarter of referrals unnecessarily. This inevitably impacts on their overall workload, delaying appointments for other patients and wasting the time of the unwilling referred patients.

Improving that conversion rate by a small margin, to 80 or 85%, would indicate that a proportion of unnecessary referrals are being eliminated – freeing capacity in the process, while offering a better patient experience.

The first step in increasing conversion rates is to re-examine the referral processes. That starts with re-considering guidance provided to the referring optometrists and GPs. In their responses to the GIRFT questionnaire, 63% of providers said that they currently provide guidance to optometrists and primary care – meaning that over a third do not.

For those that do, such guidance may need to be reviewed and refreshed to reflect the updated NICE guideline and emphasise the fact that some of the most common reasons for not proceeding to surgery following referral are that the patient is unwilling or that, based on their lifestyle, are unlikely to benefit from the procedure.

Building on that, the next step is to facilitate the discussions between optometrists and patients before referral. Commissioners and providers can help by developing shared decision-making aids for use by optometrists and primary care physicians to help understand the patient’s needs and readiness for surgery. The information gathered through these aids can then be shared with the provider, whether or not the patient is referred; where the decision is not to proceed with surgery, the information is useful to monitor the effectiveness of the overall referral process and should be regularly audited.

It should be noted that any additional steps for optometrists may need to be specifically commissioned, as further discussions, testing and involvement in individual decision-making are not part of the GOS. The CCEHC has examined this in both SAFE and its Primary Eye Care Framework. The case for commissioning such services is not only related to improving conversion rates from the provider perspective; it also means patients who do not want surgery are not required to attend hospital.

Any discussions before referral should not prevent patients from seeing ophthalmology consultants if they wish to; indeed, if there is any doubt in either the mind of the patient or the referrer, then the default option should be to refer.

A final step used by a number of providers is to phone the patient before their appointment is made to confirm that they would still like to consider surgery for their cataract.

In practice: improving cataract referrals in Croydon

Moorfields Eye Hospital and Croydon CCG have jointly developed and introduced a new shared decision-making tool for GPs and optometrists to use prior to referral for cataract surgery. The tool provides key information to ensure the patient understands what is involved in cataract surgery, including potential risks and benefits, and then asks a series of questions to check they are happy to proceed. The tool is expected to ensure that only patients who both need and would like to have cataract surgery are referred to the hospital. This will help to increase available capacity to provide surgery by reducing the numbers of patients who either do not need or do not want to have cataract surgery. The patient shared decision-making aid has been included in the London Choosing Wisely Cataract Policy.

In practice: pre-operative validation at Hinchingsbrooke Hospital

For over a decade, Hinchingsbrooke Hospital (now part of the newly merged North West Anglia Foundation Trust) has worked with primary care optometrists to review all patients referred for cataract surgery before they are seen by consultants. The optometrists assess the patients and conduct pre-operative checks including verifying that the patient wants surgery. They complete and submit a detailed form to the hospital. Formal consent is then taken by trained nurses in the hospital, as part of the full pre-operative preparation.

This process results in a conversion rate over 90% - so far fewer wasted appointments. After surgery, the optometrists then provide a full post-operative assessment and submit visual outcome data, including refraction data, to the hospital. Governance and remuneration processes are well-established and robust, with payments made to the optometrist only at the end of the pathway (i.e. after the submission of relevant post-operative visual acuity and refractive data).

Improved conversion rates are the simplest measure of progress, but these are not currently routinely reported. This could easily be added to the national data set – whether as part of the National Ophthalmology Database (NOD) or another registry or reporting mechanism; doing so would ensure that providers measure this key indicator. It would also benefit all those in the referral pathway, including optometrists, to be aware of conversion rates locally and nationally.

While improved conversion rates are a useful indicator of effectiveness, some important points should be underlined. Firstly, the aim of improving referral processes is not to increase or decrease surgery volumes, which should always depend on the clinical need and patient readiness. Instead, the aim is to avoid the unnecessary referrals.

Secondly, a patient's decision not to proceed to surgery today should not rule out their ability to change their mind at a later date, if their condition worsens or their life circumstances change.

Standardised cataract referral forms

The Elective Care Transformation Programme has examined the viability of standardising referral pathways for cataract surgery, and in particular introducing standard referral forms. More guidance on this, including a detailed case study on how introducing a standard form in Lincolnshire improved the conversion rate from 57% to 93%, can be found in its ophthalmology handbook.

<https://www.england.nhs.uk/wp-content/uploads/2019/01/ophthalmology-elective-care-handbook-v1.1.pdf>

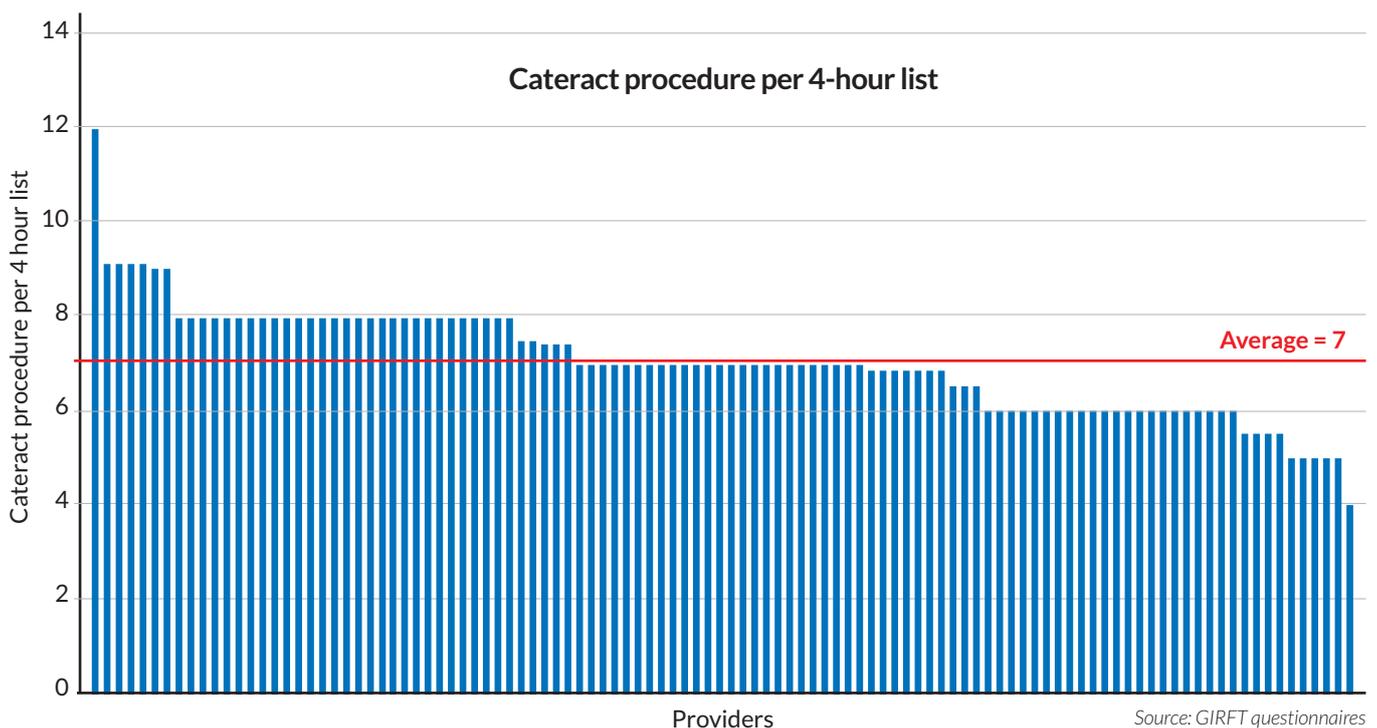
Optimising surgical flow

Standard cataract surgery is a relatively short procedure, typically lasting 15-25 minutes from the start of the procedure until the patient leaves the theatre.

By reviewing various efficient cataract units, the 2015 Monitor report *Helping providers improve productivity in elective care* recommended that providers should be able to complete at least eight straightforward cataract procedures on a four-hour surgery list.¹⁶ Put another way that means conducting one procedure every 30 minutes – reinforcing a recommendation that had been previously in a 2000 Department of Health report, *Action on Cataracts*.¹⁸ The evidence cited in the Monitor report included providers who were including surgical training within these four-hour lists.

This recommendation is well established and surgeons themselves are keen to improve throughput. However, in our questionnaire, we asked providers how many operations they typically performed during a routine cataract list. The responses showed that 67% of providers did not generally meet the recommended best practice standard of one operation per 30 minutes of operating time. Overall, the mean number of procedures per four-hour service list was seven but ten providers typically completed fewer than six. Figure 3 below shows the variation.

Figure 3: Responses to GIRFT question “How many operations do you typically perform during each cataract list?”



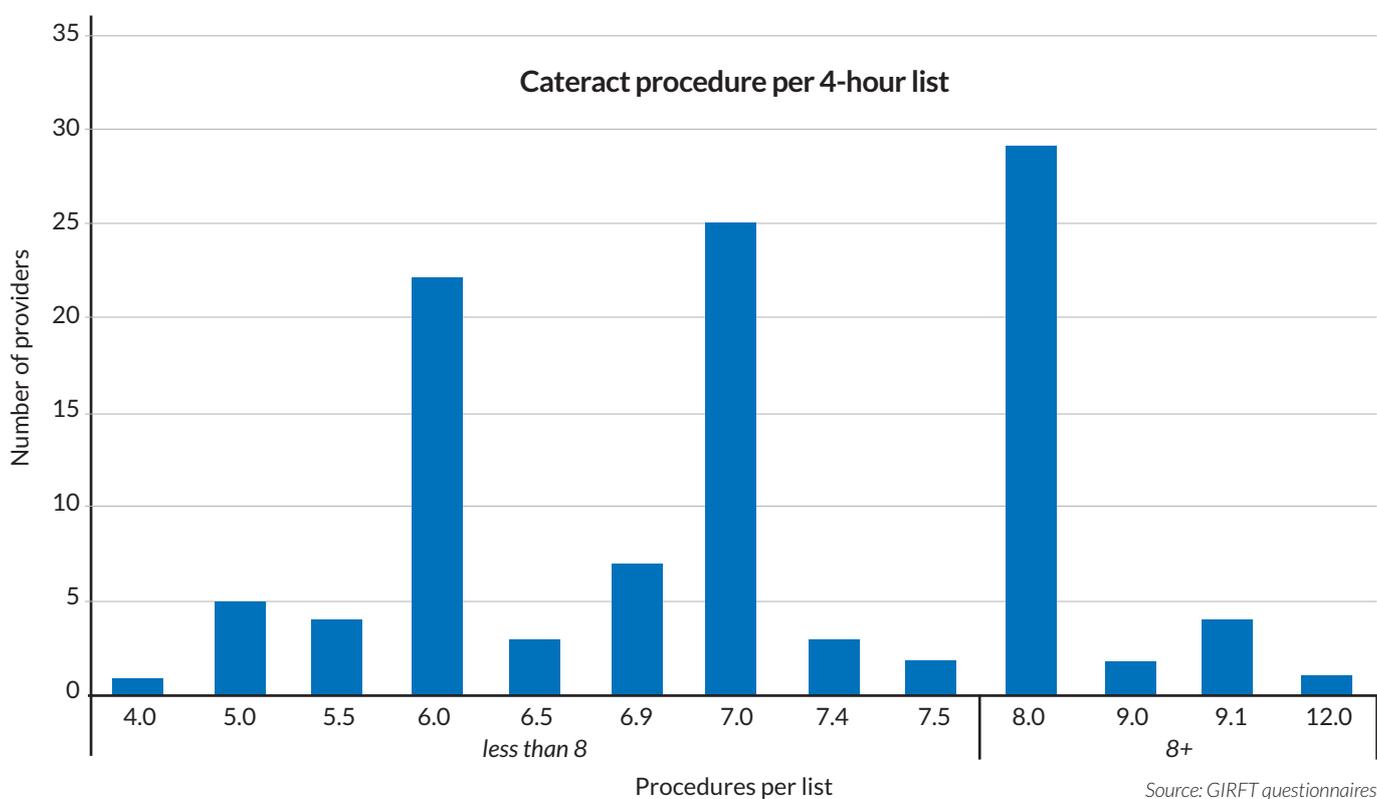
¹⁶ See https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/466895/Elective_care_main_document_final.pdf

¹⁷ See www.rcophth.ac.uk/wp-content/uploads/2015/03/Action-on-cataracts-Jan-2000-dh_4014514.pdf

The provider that typically conducts 12 procedures on a routine list is Sunderland Eye Infirmary, which has maintained this standard for some years. When we visited, the key elements of success appeared to be the way each member of the team understood his/her role in maintaining the flow of patients across the whole pathway: Sunderland as an exemplar for its effective delivery of high-volume surgery and patient feedback shows that they are very happy with the care they receive.

Other providers are adopting similarly effective processes. Six others reported completing nine or more procedures on a typical four-hour list – and around a third of all providers perform dedicated high-volume lists (typically 8-12 cases) once or several times a week, intermixed with lower volumes for lists which involve very junior trainees and/or more complex cases. At Norfolk and Norwich University Hospital, seven cases are completed on a standard four-hour list, but the provider also has fortnightly high-volume lists, where 14 procedures are conducted within a three-and-a-half-hour session.

Figure 4: Number of cataract procedures per 4-hour list, grouped by number of providers



During the deep dive visits to these providers, the GIRFT team explored the approach taken to achieve these higher volumes and asked about surgical and patient outcomes.

Firstly and crucially, the providers were able to demonstrate that there was no negative impact on clinical outcomes or patient safety associated with the higher volumes. All emphasised that actual surgical time was not reduced or restricted, and made clear that the greater speed was reliant on effective teamwork and not on individual surgeons; the volumes were achieved through faster turnaround between procedures and through making more effective use of the entire clinical team. Indeed, several providers incorporate surgical training into high-volume lists and it is recognised that trainees must be exposed to high-volume lists for future provision. That includes not only being part of the team delivering a high-volume list but also, at senior trainee level, being trained to lead them.

A key common step is that nurses provide expanded and specific roles: in Sunderland, the named nurse who prepares the patients for theatre on the day of surgery also accompanies them during surgery (writing up some of the theatre notes as the procedure progresses) and provides post-operative care through to discharge. This not only removes the need for handovers and the inherent delays these cause, but also improves the quality of the patient and staff experiences.

Nurses are also trained in clinical pre-assessment and as cataract theatre scrub nurses. In a typical week, they will all undertake all these roles at different times. This leads to a very high standard of teamwork as everyone understands all the roles in the patient pathway.

Based on the feedback from those providers that offer high-volume lists, we see it as crucial that specialist ophthalmic theatre teams are identified and trained in delivering high-volume lists, rather relying on general theatre teams. This offers a development opportunity for members of the ophthalmology workforce, so can support retention of high-quality staff. It also has potential advantages in terms of patient safety – these are specialists who understand the specific risks around surgery on the eye – and patient experience, through continuity of care.

In addition to extending the roles of the multidisciplinary team, an important part of enabling good theatre flow is careful selection of patients. Those chosen for high-volume lists (more than eight patients per list) should be low-risk – as determined by systematic risk stratification.¹⁸ The risk considered should not only apply to the cataract procedure itself, which should be expected to be routine, but also any co-morbidities or other health concerns that may lead to delays. It is also crucial to ensure that patients understand the intention to operate swiftly and are prepared for it.

In practice: risk stratification for high-volume lists at Derby

At Royal Derby Hospital (now part of the University Hospitals of Derby and Burton NHS Foundation Trust) risk stratification of patients has underpinned the introduction of high-volume lists for cataract surgery as well as increasing the flexibility of provision. Since 2014, the department has identified a series of potential risk factors around surgery, including factors such as previous eye surgery, the size of the pupil, cataract density and the age of the patient. Each of these is rated and the total score determines whether the procedure is deemed to be low-risk; if so, the patient can be placed on a high-volume list.

This process of risk stratification makes it easier to select patients for high-volume lists and helps plan lists and allocate patients. The risk stratification also supports training. Derby now regularly conducts lists of nine or more low-risk procedures.

In practice: delivering high-volume lists at Norfolk and Norwich

At Norfolk and Norwich University Hospital, high-volume lists are scheduled approximately fortnightly for low-risk cataract surgery (patients with no ocular comorbidities e.g. glaucoma and who are able to walk). These require only one surgeon, but the surgical team is strengthened with additional scrub nurses and hand holders. There are two ward nurses responsible for admitting and discharging the patients, with admissions staggered and all consent obtained on the day.

When the surgeon has finished one case, the patient is accompanied by one hand holder from the theatre back to the ward. At the same time, a different hand holder takes the next patient from the ward to the operating theatre. The administrative process is further streamlined by having secretarial staff on hand to complete the paperwork and data entry during surgery.

The result is a highly effective high-volume list, enabling 14 procedures to be conducted within a 3.5 hour list. Levels of patient satisfaction are also consistently high.¹⁹

¹⁸ *The Way Forward included a model for risk stratification for cataract surgery. See <https://www.rcophth.ac.uk/wp-content/uploads/2015/10/RCOphth-The-Way-Forward-Cataract-300117.pdf> pg 15*

¹⁹ *The approach was examined in greater detail in Roberts HW et al Time and motion studies of National Health Service cataract theatre lists to determine strategies to improve efficiency (British Journal of Ophthalmology 2017; 0:1–9. doi:10.1136/bjophthalmol-2017-310452)*

With demand for cataract surgery already high and growing, the ability to conduct a greater number of procedures effectively on each list is essential for the future delivery of ophthalmic services. The GIRFT process found that there are no negative outcomes associated with higher volumes and may be some positive outcomes, beyond pure efficiency: staff development and satisfaction and the strong sense of teamwork engendered were all stated.

Barriers to high-volume lists

The GIRFT team also examined the approaches taken by providers who are delivering lower numbers of cataract operations per list. The deep dive discussions confirmed that the issues again were not associated with surgical skill or the surgical procedure itself; instead, the common thread was that providers with lower volumes had longer turnaround times between procedures – of real frustration to surgeons. Some of the reasons cited for these turnaround times were:

- long distances between wards or waiting areas and theatres;
- a lack of dedicated ophthalmic nursing and support staff, meaning that instead of a team familiar with the procedure and the specific process, the surgeons rely on ‘general’ nurses or support staff, who need additional training and support. Similarly, without dedicated ophthalmic nursing staff on the day case unit / ward that services the operating lists, there were delays in the preparation and discharge of patients, which affected the overall flow;
- insufficient staffing overall – for example, theatre staff also serving as escorts to and from the ward, because insufficient porters are available, meaning the next procedure cannot begin until they return;
- a lack of pre-operative or post-operative support for patients;
- ineffective working practices and communication between wards and theatres; and
- practices where, when lists finish early, nursing staff are reallocated to other lists – rather than looking at the opportunity to improve efficiency of the cataract lists or use this time for additional training.

While the solutions may vary, it seems apparent that at least some of these issues should be surmountable within the existing facilities and resource envelope. Staff training is clearly crucial for the whole team so that every member understands their role in achieving higher throughput.

Other solutions may require a review of existing pathways and processes. For example, the issue of distance between theatre and ward could be addressed by improved planning, so patients are brought to a waiting area near the theatre earlier. Alternatively, providers with more than one hospital with operating theatres could consider whether to conduct routine cataract surgery at the unit where the distance to the theatre is the shortest and increase the investment in that site. Improving theatre throughput involves active planning and implementation with the entire team supported by executives, managers and all clinicians.

During deep dives, a number of providers suggested that inability to set up instrument trolleys in advance of surgery is a limiting factor for their turnaround time between procedures. The main reason that trolleys are not prepared in advance is related to infection control policies and in particular to reduce the risk of endophthalmitis; a serious, sight-threatening surgical complication that is commonly caused by commensal organisms. Further evidence is required to establish the relationship between cataract surgery endophthalmitis rates, (currently reported as < 0.2%), and timing of instrument trolley set up, to inform infection control policies. In the interim, having two scrub nurses in the surgical team may help to reduce this delay.

Post-surgical care

Serious post-operative complications following cataract surgery are infrequent. Where they do occur, they commonly become apparent shortly after surgery (days to weeks). Patients are therefore provided with information about possible complications, their symptoms and direct contact details of relevant hospital staff, so that if they do experience complications, they can quickly speak to the right person. Currently most uncomplicated cataract surgery patients are reviewed in the outpatient setting by optometrists or nurses, rather than by surgical team members.

Given the already high workload of hospital eye services, it is pertinent to ask why patients need to return to hospital at all? Around 28% of patients nationally are discharged directly to primary care; the 25 providers that told GIRFT they use, or rely on, primary care optometrists for post-operative review and discharge report no issues with this approach.²⁰

Importantly, though, these providers have introduced some additional measures to support discharge via primary care, including:

- ensuring patients are given clear information about the symptoms of complications before they leave (or even before surgery);
- providing patients with contact details of relevant hospital staff before they leave the hospital;
- providing training and accreditation to optometrists to review patients following routine cataract surgery; and
- requiring optometrists to provide post-operative visual acuity and refraction data to the hospital, and specifically including this requirement as part of the remuneration agreement.

Difficulty in obtaining post-operative data is understood to be a common barrier to discharge to primary care. Visual acuity and refraction data is vital for planning second eye surgery and overall outcome monitoring, as well as annual appraisal for all staff and revalidation for medical staff. It is therefore the logical concluding step in the cataract surgery pathway. However, there is no obligation under the GOS contract for optometrists to share post-operative visual acuity data with providers, so unless there is a specific local agreement, providers are unlikely to receive such data consistently from optometrists. Some providers indicated that they retain the post-operative review process in the hospital, specifically to ensure that this data is gathered.

There are multiple approaches to overcoming this issue, from secure email – as used in NHS Scotland – to using the capability in electronic patient record (EPR) systems that allows optometrists to enter data securely directly to the EPR. At Moorfields Bedford, refractive data is returned by optometrists using this system in over 90% of cataract surgery cases.

To help reduce the workload of hospital eye services, and provide a more flexible service to patients, the approach of using primary care optometrists to conduct post-operative assessments of patients following routine cataract surgery should be extended – an approach that is in line with the direction set out in the NHS Long Term Plan.

However, in rolling this out, it is imperative that commissioners and optometrists address the data issue. A practical approach would be to ensure that data requirements are identified across the whole pathway, and specific services commissioned from primary care, including the submission of visual outcome and refraction data, ideally using compatible electronic data collection sources.

There are some important exceptions to the general principle that post-cataract surgery review should be undertaken by community optometrists. Firstly, it is an established requirement from the RCOphth Training Committee that trainee ophthalmologists should follow up at least 20 of their non-complex cases during their six years of training, both to check the success of the procedure and to add to their broader experience.

Secondly, where patients have ocular co-morbidity or have undergone more complex surgery, post-surgery review should remain the hospital's responsibility.

In practice: using primary care optometrists for post-operative review following cataract surgery

Historically, all cataract patients at Cambridge University Hospital (CUH) had to return to the hospital for post-operative review, but many would be seen by a nurse or an optometrist, with only the complex cases being dealt with by consultants. Around five years ago, the CUH optometry lead proposed a different approach, with these less complex cases being followed-up in the community.

The service uses a number of optometrists in different primary care locations – providing patients with choice about where to go. The optometrists conduct standard tests and return all post-operative to the CUH optometry team. The data is added to the patient's hospital record.

The approach is more convenient for patients and offers continuity of care, with around 50% of patients returning to the optometrist that initially referred them. It also frees up time in the hospital to focus on the more complex cases.

Recommendation	Actions	Timescale
<p>1 Improve conversion rates for patients referred for cataract surgery to 80-85% by implementing consistent referral criteria, improving training for community optometrists and using shared decision-making tools during the referral process. Ensure that patients who wish to discuss surgery with an ophthalmologist to make a final decision are able to do so.</p>	<p>1A Commissioners and providers to agree consistent referral criteria and make conversion rates a key performance indicator (KPI) in contracts.</p>	April 2020
	<p>1B Commissioners and providers to consider whether they need to develop any additional training for optometrists, based on audit of conversion rates. The audit should involve optometrists.</p>	October 2019
	<p>1C GIRFT to support implementation of patient shared decision-making aids to be used by community optometrists and providers, along with a process for auditing their usage. Stakeholders to include RCOphth, CoOptom and patient groups, with input from NHSE and NICE as required.</p>	September 2019
	<p>1D RCOphth and CoOptom to consider whether further support and guidance regarding referral criteria or training.</p>	For immediate consideration
	<p>1E Providers to report conversion rates in routine data collection for cataract and share data with referring optometrists. GIRFT to discuss enablers with NHSE.</p>	For immediate discussion
<p>2 Deliver routine cataract surgery in a maximum of 30 minutes of theatre time, through streamlining turnaround processes. This often requires staff to facilitate faster turnaround and does not apply to more complex cases.</p>	<p>2A Providers to review the whole patient pathway for routine cataract surgery, from referral to post-operative care, engaging with relevant members of the whole team, with a view to optimising the process. This includes examining pre-assessment to identify suitable patients for high-volume surgery using risk stratification and patient information; admissions; in-theatre processes and post-operative care.</p>	Within 6 months from publication
	<p>2B Providers to train a consistent and dedicated specialist multidisciplinary theatre team to perform high-volume lists.</p>	Within a year from publication
	<p>2C Providers to develop high-volume lists (more than eight patients per list) for appropriate patients.</p>	Within 6 months from publication
	<p>2D RCOphth to incorporate high-volume lists into revised training curriculum, with all trainees to gain experience in performing high-volume lists and senior ophthalmic trainees to be trained to lead high-volume lists.</p>	For consideration in revised curriculum
	<p>2E NHS Improvement to measure baseline data for theatre efficiency.</p>	To be determined
	<p>2F Providers to audit theatre utilisation against baseline data and, where they are not meeting the 30-minute theatre time, identify the root cause and take appropriate action.</p>	Within 6 months from completion of 2E
<p>3 Use commissioned primary care optometry services to review patients who have had uncomplicated / routine cataract surgery and have no serious ocular comorbidity.</p>	<p>3A Providers and commissioners to work with optometrists to implement pathways so that at least 80% of uncomplicated cataract patients without ocular comorbidity e.g. glaucoma or diabetic retinopathy can receive follow-up and discharge via primary care optometrists, with payment dependent on receipt of post-op data.</p>	Within 1-2 year from publication
	<p>3B Baseline data on post-operative assessments, including whether patients were assessed in hospital or at a primary care optometrist, to be routinely collected.</p>	Within 1 year from publication
	<p>3C RCOphth and CoOptom to consider the need for further guidance and training for hospital teams and primary care optometrists.</p>	For immediate consideration
	<p>3D Providers, commissioners and primary care to agree clear governance and data sharing requirements, both from primary care to hospitals and vice versa, before any new pathway goes live.</p>	Concurrent to 3A
	<p>3E Providers, commissioners and primary care to ensure that post-operative visual acuity and refractive data is submitted to the NOD or other suitable data collection mechanism.</p>	To be determined (assuming this data is not collected by NOD)

Glaucoma

Glaucoma is a condition causing damage to the optic nerve. It generally develops slowly and progressively, and is often asymptomatic until the late stages of the disease. By this time there will be irreversible, but previously unnoticed, impairment in the patient's vision. Early diagnosis is therefore important, so that the condition can be monitored and treated before the patient loses vision or to reduce the rate of visual loss.

Referring the right patients

The first stage in diagnosis is generally as a result of a routine eye examination by a primary care optometrist. Where the optometrist identifies a combination of potential abnormalities of the visual field, the intraocular pressure or the appearance of the optic disc as part of the routine sight test, the optometrist will typically refer the patient to the ophthalmology department for more advanced clinical assessment and/or diagnostic testing.

The 2009 NICE Clinical Guideline on Glaucoma: Diagnosis and Management (CG85)²¹ did not include any guidance on referral filtering options. Having reviewed the guideline, the Association of Optometrists, the Federation of Ophthalmic and Dispensing Opticians and the Association of British Dispensing Opticians issued a joint response, "*Advice on NICE glaucoma guidelines*", advising optometrists that they should refer any patients in "*with an intraocular pressure over 21mmHg but without any other signs*" to hospital eye services. The response argued that if optometrists failed to do so, they would potentially be non-compliant with the NICE guideline and so be at risk of legal action.

This resulted in a significant increase in the number of patients being referred for possible glaucoma; however, when these patients were fully examined, as many as 40% were found to be "*false positives*." This was obviously stressful for the patients and significantly increased the workload of providers.

In 2017, NICE updated its guidance, producing NG81 which included recommendations on case finding for glaucoma.²² It specifically stated that referrals should not be made "*solely on IOP measurement using non-contact tonometry*", recommending the use of "*Goldmann-type applanation tonometry*" and repeat testing before referral. It is anticipated that these revised recommendations will lead to a drop in the overall number of referrals and in particular in the number of false positives.

Despite this revised guideline, some optometrists may still refer following a single suspicious or abnormal test, for several reasons. Some do not have the necessary equipment to conduct further tests; further, the services required to investigate further are not covered under GOS, meaning they do not automatically receive NHS funding for follow-up appointments to repeat tests.

Regardless of the reasons, the high number of false positive hospital referrals continues to place a significant strain on resources. Further, because service targets require hospitals to examine new patients within a set time, a higher number of referrals also has an impact on the capacity available to monitor and treat those already diagnosed. Indeed, in its 2009 guideline, NICE acknowledged this, describing the situation "*where a new referral for someone who may or may not have a significant eye problem gains priority over a patient with a diagnosed and potentially blinding eye disease*" as a distortion of clinical practice.

Referral filtering schemes have been operating for many years in some areas, with a view to reducing the number of patients being referred to hospitals with suspected glaucoma but who do not fulfil the criteria for diagnosis and would be discharged after the first hospital appointment. These filtering schemes range from repeat measures (the simplest form of filtering) – which involves optometrists repeating the intra-ocular pressure (IOP) measurements to determine a reproducible result – to enhanced case finding (more extensive tests than IOP measurements), to referring the patient to a second optometrist, specifically trained to carry out a more comprehensive set of tests and an evaluation of results. This last route is known as referral refinement, the most advanced level of filtering.

Referral filtering processes reduce false positive referrals but if these additional tests indicate there is a risk of the patient having glaucoma, the patient is referred to hospital.²³ At present, referral filtering methods are determined locally, so are likely to reflect local priorities and staff availability.

The 2017 NICE Glaucoma guideline specifically recommended that "*people planning eye care services should consider commissioning referral filtering services*." (see para 1.1.19 of the guideline.)

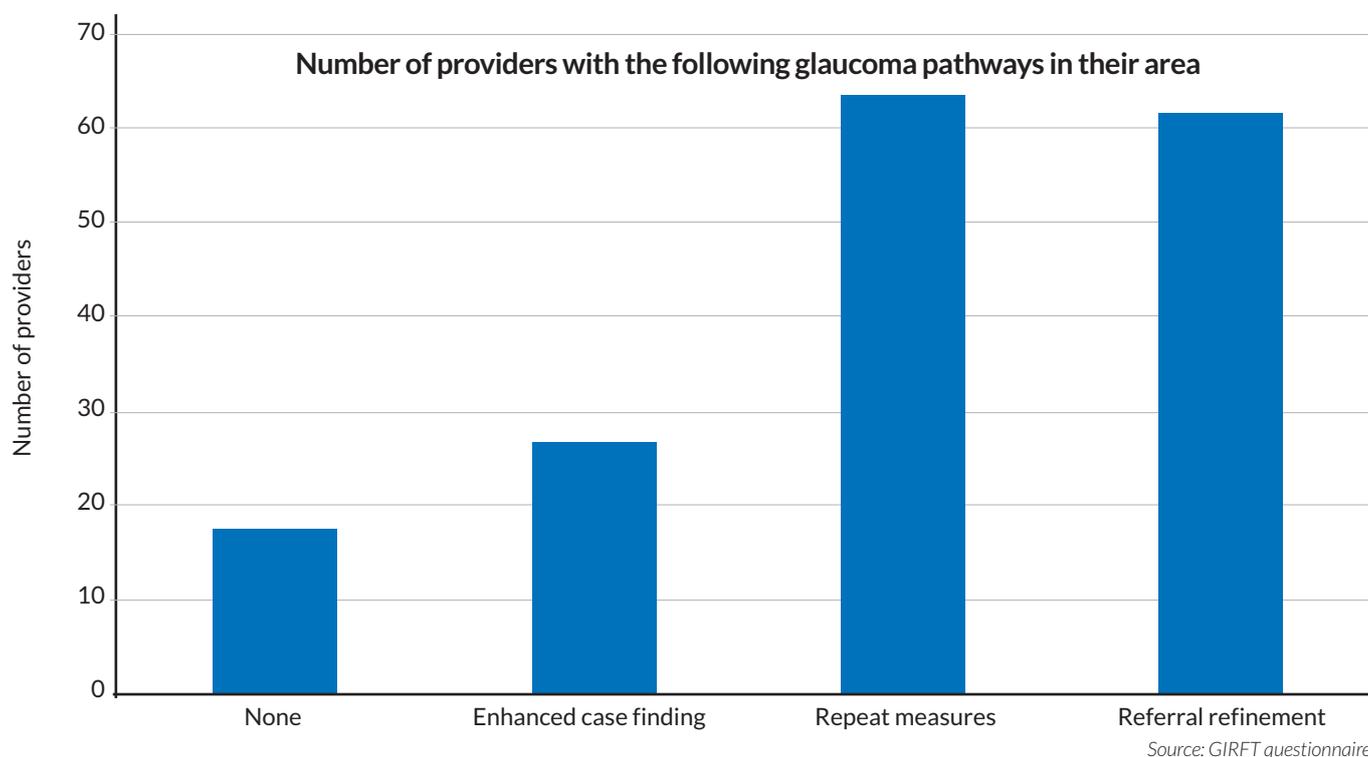
More than 60 providers told us they now use referral refinement schemes, as figure 5 shows – with a similar number using repeat measures. In some areas, providers use both. 28 providers have enhanced case finding (again, sometimes in addition to another form of referral filtering). Fewer than 20 providers have no referral filtering in their area.

²¹ NICE (2009) *Glaucoma: Diagnosis and Management (CG85)* www.nice.org.uk/guidance/cg85

²² NICE (2017) *Glaucoma: Diagnosis and Management (NG81)* <https://www.nice.org.uk/guidance/ng81/chapter/Recommendations#case-finding>

²³ See G Ratnarajan et al (2013) *The effectiveness of schemes that refine referrals between primary and secondary care--the UK experience with glaucoma referrals: the Health Innovation & Education Cluster (HIEC) Glaucoma Pathways Project*. BMJ Open www.ncbi.nlm.nih.gov/pubmed/23878172

Figure 5: Use of referral refinement schemes, enhanced case finding and repeat measures



The majority of providers using these approaches report that they are delivering tangible benefits, by reducing the number of patients that are seen in hospitals unnecessarily. For example, at Bolton NHS Foundation Trust, the referral refinement scheme commissioned has reduced hospital referrals by 40%. Portsmouth Hospital NHS Trust has also found its Glaucoma Referral Refinement service (GRR) to be a safe and cost-effective way of dealing with new glaucoma referrals. First set up in 2008, the Trust reports it has avoided thousands of unnecessary referrals.

Like any form of referral filtering, these approaches free up many hours in eye clinics every year to focus on patients with more significant needs.

In practice: the Manchester Glaucoma Enhanced Referral Scheme (GERS)

Manchester Royal Eye Hospital (part of the Manchester University NHS Foundation Trust) has been operating a successful referral filtering scheme for over 15 years. Under the Glaucoma Enhanced Referral Scheme (GERS), all Manchester patients identified by their initial optometrist as glaucoma suspects are sent to a second optometrist for further measures. These second optometrists, all part of GERS, are specially trained and accredited to operate in enhanced referral. Following this second assessment, patients are either directly referred to the hospital glaucoma service, discharged to community optometry care or referred to the hospital for any other eye conditions. An evaluation published in 2003 showed that the GERS approach had helped reduce false positives from the NHS average of around 40% to just 15%.²⁴ This was confirmed in a more recent study, which also showed that the false negative rate was very low – with only one patient in a sample of over 1400 meeting the GERS referral criteria and not being referred, and no cases of missed glaucoma or non-glaucomatous pathology.²⁵

²⁴DB Henson et al (2003) *Community refinement of glaucoma referrals* Eye 17, 21–26

²⁵Patrick J G Gunn et al (2018) *Clinical effectiveness of the Manchester Glaucoma Enhanced Referral Scheme* British Journal of Ophthalmology: 1–6

The updated NICE guideline published in 2017 set out clear glaucoma referral criteria from primary care. These were determined following prolonged discussion between the ophthalmic and optometric communities and detailed data analysis. The guideline therefore provides a consistent framework for referral filtering schemes and can be applied to both new and existing schemes. The guideline offers an opportunity to engage with optometrists to establish a new scheme, using standardised referral criteria, and to negotiate terms. While there may be a cost involved in setting up a scheme, and any scheme will need to establish suitable remuneration for the optometrists, such costs would ideally be offset by the reduction in hospital costs and consultant time required.

The CCEHC has provided guidance on referral filtering and the role of optometrists in SAFE and the Primary Eye Care Framework; the former provides information about the relationships with the remainder of the pathway, and the latter provides the structure for the referral stages. Both are useful reference points in considering how a referral filtering scheme should be incorporated into local care.

There is also guidance in the Elective Care Transformation programme handbook, which provides advice drawn from best practice on how to commission and design referral filtering services, that are appropriate for the local area and practitioners' capacity.²⁶

While referral filtering will typically be delivered by commissioned primary care optometry services, in the absence of willing, trained and properly equipped primary care optometrists, it could also be provided by:

- appropriately trained nurse practitioners, orthoptists or hospital optometrists who provide a referral filtering process in-house or in community locations. These trained team members conduct the secondary diagnostic testing, the results of which are either acted upon directly, depending on agreed protocol and audit, or are then assessed by a consultant in a virtual clinic session.
- a defined number of primary care optometrists who act as the referral filtering specialists for the area instead of engaging with multiple optometrists. This offers a stronger commercial case for the designated optometrist to invest in more advanced diagnostic equipment, and so potentially improves the accuracy and quality of referrals. This can work within an ICS/STP framework.

Managing patients according to risk

Because glaucoma is a long-term condition that typically requires regular, lifelong monitoring and management, the total number of patients being cared for with glaucoma is high. Studies have found that 2% of all people over 40 have some form of glaucoma,²⁷ rising to about 4% for those over 75. These figures are higher for people of Black African or Black Caribbean ethnicity. Over 480,000 people in England have been diagnosed with chronic open angle glaucoma – the most common form.

However, within this population, there are broadly three different levels of clinical need, from those who are at high risk of developing rapid and severe visual loss to those who have a slowly progressive condition, which may not have a significant effect on visual function.

- Those who have a rapidly progressive form of the disease need close monitoring and proactive and timely medical and/or surgical interventions (e.g. laser or surgery such as a trabeculectomy) to improve retention of sight.
- There is a second group of patients with glaucoma who require careful, but less frequent monitoring and can be managed by the non-glaucoma specialist clinicians with glaucoma consultant specialist guidance and leadership.
- Those at lowest risk of vision loss can be monitored by either accredited eye health care graduate professionals (ophthalmic nurses, orthoptists, optometrists) or through virtual clinics with appropriate protocols, audit and ready access to supervision.

During deep dive discussions, the GIRFT team heard numerous examples of providers who, by using a risk stratification process in which patients are placed into a particular category and monitored and treated accordingly, are freeing up valuable consultant time which can then be redeployed. Under this system, patients identified as at higher risk receive care and frequent contact with a specialist consultant-delivered hospital eye service; lowest risk patients may be seen less frequently by accredited non-medical eye health care professionals and reviewed following protocols, with a proportion of such patients being reviewed by consultants (or appropriately trained members of the glaucoma team) in virtual clinics.

While there is no nationally agreed, evidence-based risk stratification model for glaucoma, there are several available for consideration.²⁸ Rather than creating their own, providers can select the one that best fits their provision and demographic need.

²⁶ <https://www.england.nhs.uk/wp-content/uploads/2019/01/ophthalmology-elective-care-handbook-v1.1.pdf> pg 21-26

²⁷ See www.moorfields.nhs.uk/condition/glaucoma

²⁸ See e.g. RCOphth (2016) *Commissioning Guide: Glaucoma (Recommendations)* www.rcophth.ac.uk/wp-content/uploads/2016/06/Glaucoma-Commissioning-Guide-Recommendations-June-2016-Final.pdf pg 14 and NICE (2017) NG81 *Glaucoma: diagnosis and management which includes in section 1.4 recommendations on frequency of reassessment depending on the patient's condition and risk.*

An essential part of the process is to ensure that patients can easily be moved between pathways if their condition – and therefore risk level – changes. To achieve this, patients need to remain under the care of the consultant in charge. Then if, for instance, a patient’s condition has stabilised through the use of medical, surgical or laser treatment, the frequency of their contact with the ophthalmology department may reduce – or vice versa if there is evidence of more rapid deterioration. The patient would then be re-assessed as low risk under the risk stratification model and an appropriate management plan adopted.

The use of virtual diagnostic hubs is increasingly recognised as an effective means of providing care for patients who have ocular hypertension or are in a low risk stable category. They allow patients to attend for testing in different locations – whether hospital-based, or sometimes via a primary care or community ophthalmic service – then participate in a virtual clinic where the results are reviewed by a consultant or accredited clinician. This is more convenient for the patient and offers a more efficient approach for the provider. Where there is a need for further testing or a face-to-face consultation, that can be arranged.

The Elective Care Transformation programme handbook for ophthalmology includes best practice guidance for the use of virtual clinics.²⁹

In practice: virtual clinics for managing low-risk glaucoma patients in Leeds

In 2015, Leeds Teaching Hospitals NHS Trust introduced a virtual clinic model for monitoring stable glaucoma patients. The service now sees 180 patients a week (9000 appointments a year) and has significantly reduced appointment backlogs. Patients love the service: wait times are short, as is the total time they spend in clinics, and they can rely on regular reviews.

To implement the programme, the department had to develop a fully costed business case, which included appointing four technicians to support the clinic and procure some additional equipment. The EPR system was also connected to a separate monitoring tool and virtual clinic time programmed into consultant job plans. While this meant a substantial change to working processes and some up-front investment, the benefits to patients and the hospitals are considerable.

As the above example shows, the introduction of new pathways including community care and virtual clinics is not purely designed to reduce pressure on services: they also have potential to improve patient care, experience and choice. However, achieving these outcomes depends on the training of non-medical eye health care professionals, having adequate IT systems and developing effective audit and review pathways. It is also essential to ensure patients have a good understanding of the pathway and the choices available to them; for glaucoma, attending an appointment for virtual or community monitoring, for instance, is as important as attending a hospital appointment for monitoring.

It is therefore imperative that patient information evolves in step with changes to provision. Vision support officers can also play an important role in enabling patients to navigate the pathway and attend services appropriately.

Ensuring adequate follow-up

Each year, a small number of glaucoma patients suffer loss of vision because of delays in receiving their next hospital appointment. In 2017, the British Ophthalmological Surveillance Unit (BOSU) published research showing that 22 patients a month suffered permanent and severe sight loss due to health service-initiated delays.³⁰ Most of these were glaucoma patients, who had been diagnosed and were receiving treatment for their condition. However, their follow-up appointment was delayed – invariably due to lack of capacity within the overall service to review patients in the time recommended by the ophthalmologist.

²⁹ See <https://www.england.nhs.uk/wp-content/uploads/2019/01/ophthalmology-elective-care-handbook-v1.1.pdf> pg 33-38

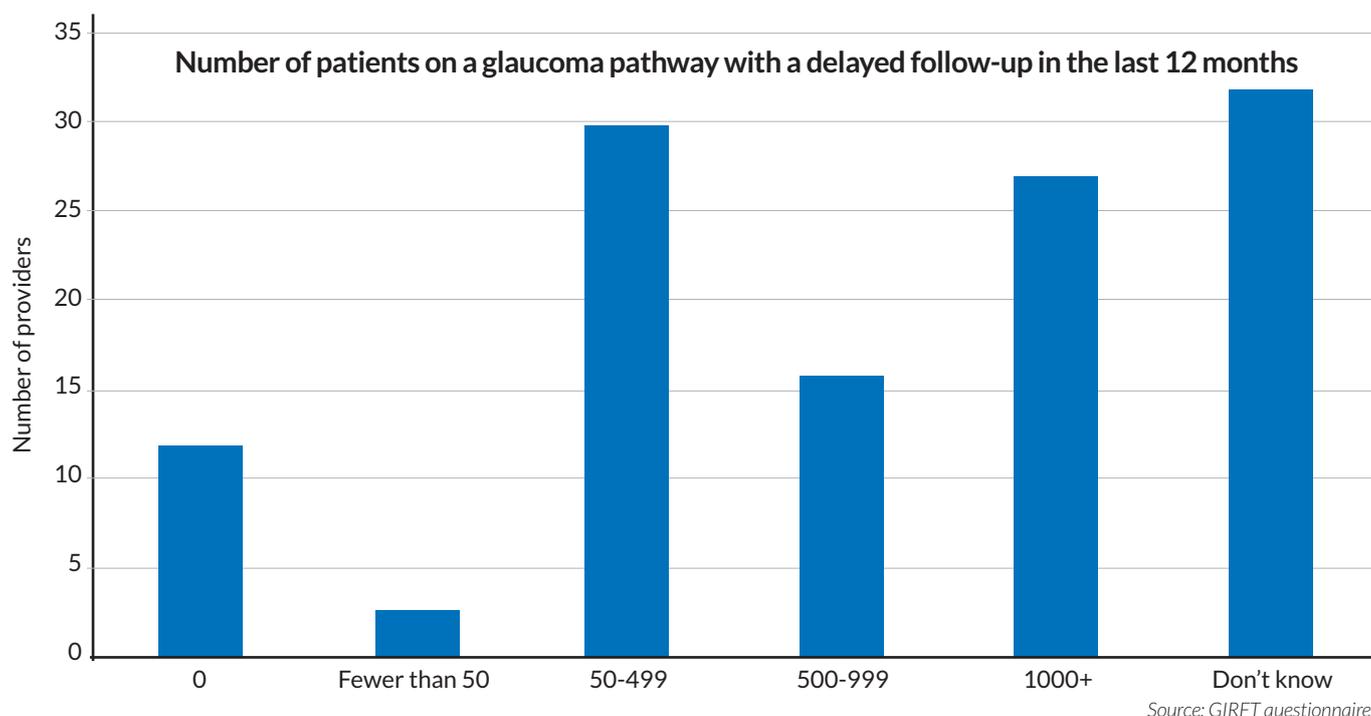
³⁰ Foot B, MacEwen CJ (2017) - *Surveillance of Sight Loss due to delay in ophthalmic treatment or review: frequency, cause and outcome*. EYE 2017;31:771-775

A comprehensive review was conducted of follow-up across all eye conditions at Moorfields Hospital over a five-year period (2007-2012). In total, 145,000 patient episodes were delayed.³¹ Of these, 5251 were lost to follow-up patient episodes for glaucoma patients – which, when compared to total activity, meant 1.3% of all glaucoma patient episodes were delayed.³² Importantly, in referring to episodes, this did not mean the patient was necessarily permanently lost to the system.

To obtain a picture of the current situation, providers were asked in the GIRFT questionnaire how many patients with glaucoma had experienced a delay in follow-up over the preceding 12 months. Worryingly, seven providers were unable to offer any data in response to this. Of those who could, the results painted a concerning picture: 101 providers (89% of all asked) reported some delay in follow-up for glaucoma patients. Only 12 indicated none of their glaucoma patients experienced a delay.

Those who reported delays were asked to quantify how many patients were affected. As Figure 6 shows, around a third were unable to quantify this – which is of further concern. However, 43 providers reported that follow-up had been delayed for more than 500 glaucoma patients during the preceding 12 months; 27 of these indicated delayed follow-up affected over 1000 patients in this period.

Figure 6: Frequency of delayed follow-up for glaucoma patients in preceding 12 months



An explanation advanced during several deep dive visits for the delays was that providers focus resources on seeing new patients, to meet the NHS-wide target of RTT within 18 weeks (a sizeable proportion of whom, as described above, turn out to be “false positives.”) Organising resources in this way means less capacity is available to follow up patients, for whom there are no specific target times. There is no national requirement to report follow-up data – despite these patients having a diagnosis of a sight-threatening condition and being at considerably higher risk of losing vision overall than new referrals.

Due to the evidence presented in the BOSU report on delayed follow-ups in ophthalmology,³³ and the substantial risk such delays create for patients, the NHS England Elective Care Transformation Programme (ECTP) has worked with ophthalmologists, optometrists and representatives from the third sector to address this. It has identified three actions as part of a High Impact Intervention to address delays and patients being lost to follow-up.³³

³¹ www.ncbi.nlm.nih.gov/pmc/articles/PMC5350359/

³² As the study showed, delayed follow-up is an issue across ophthalmology and all conditions – not only glaucoma. For instance, 15534 of the delayed episodes related to medical retina. Delays in follow-up for wet AMD are considered in more detail later in this report.

³³ See www.rcophth.ac.uk/2017/02/bosu-report-shows-patients-coming-to-harm-due-to-delays-in-treatment-and-follow-up-appointments/

³⁴ See www.england.nhs.uk/publication/transforming-elective-care-services-ophthalmology/

The three actions are for all providers to:

- develop failsafe prioritisation processes and policies to manage risk of harm to ophthalmology patients;
- undertake a clinical risk and prioritisation audit of existing ophthalmology patients; and
- undertake eye health capacity reviews to understand local demand for eye services and to ensure that capacity matches demand – with appropriate use of resources and risk stratification.

While these actions apply to managing patients with all conditions, the principle of prioritising patients based on risk should benefit glaucoma patients in particular because of the recognised potential risks of the condition and of delayed follow-up.

The High Impact Intervention further states: “a failsafe officer should be appointed in each ophthalmology department or site (as appropriate) to ensure the failsafe processes are implemented and to audit their implementation.” Failsafe officers, known in some areas as validation officers, are members of the ophthalmology administrative team who are given clear responsibility for ensuring patients receive follow-up appointments within a clinically safe time. The specific responsibilities of failsafe officers set out in the High Impact Intervention are:

- monitor all review ophthalmology patients, ensuring that each has their intended date for follow up documented and that appointments are booked, as appropriate, and not cancelled or postponed;
- identify, investigate, report and escalate all overdue appointments;
- book, rebook and discharge patients in outpatient clinics. Audit, evaluate and report on DNAs and cancellations; and
- identify gaps, inconsistencies, errors and/ or unwarranted variation in clinical risk stratification or prioritisation of follow up, ensuring pathways are completed, with outcomes recorded and monitored.

For failsafe officers to be able to do their jobs effectively, they need, as a minimum, adequate patient administrative systems (PAS), which retain records of all patients and offer some form of automated reporting and alerts when a patient has not been seen for a set length of time. Preferably, providers should have modern EPR systems. Spreadsheets and databases that depend on manual updates have proved unreliable; appropriate PAS software can generate follow-up reports, based on trusts’ own clinical risk strategies, in an automated fashion. EPR software should be able to link to other systems, across primary and secondary care, and exchange data – facilitating the effective monitoring of patients in the long term.

While most providers now appear to have such software, a new initiative involving NHS England, NHS Digital and RCOphth may assist providers further with this.

Preceding recommendations about reducing unnecessary referrals could eliminate thousands of unnecessary ophthalmology appointments each year, which could then be re-allocated to the appropriate follow-up of patients with chronic sight threatening conditions.

Discharging patients when they are clinically ready

While glaucoma is a long-term condition that typically requires ongoing monitoring (in line with risk stratification), there are some patients who, having been initially referred with suspected glaucoma and having undergone hospital-based monitoring, have not demonstrated the clinical features of glaucoma and are no longer suspected of having the condition. NICE guidance is clear that patients in this group should be discharged from the hospital eye service.³⁵

However, at present, we understand that many patients can remain on monitoring lists longer than is clinically necessary.

It is not possible to quantify how frequently this occurs: most trusts do not measure their discharge rates from the glaucoma service. However, deep dive visits suggested that many do not yet have an active discharge policy in line with NICE guidance.

In an environment where providers are struggling to provide adequate follow-up to all patients, there are obvious advantages to removing those who do not need follow-up from the hospital eye service and instead providing a better service through virtual diagnostic clinics and appropriately commissioned community provision.

As the NHS Long Term Plan has identified, the current model of outpatient care is unsustainable; this is an example of where it should be possible to reduce reliance on hospital services.

The 2017 NICE glaucoma guidelines and the risk stratification process recommended as part of the High Impact Intervention will help increase confidence to discharge patients who have been identified as not having glaucoma and therefore do not need constant or repeat monitoring by hospital eye services. This is a decision that may be made at any time, even after several months or even years of repeat visits and appointments.

As well as following the High Impact Intervention recommendation to conduct a patient audit at least annually, leading to discharge of those patients who do not need monitoring, it is important to develop policies that allow for discharge at any relevant stage of the pathway. Such policies need to reflect the roles of the whole multidisciplinary team, including nurses, orthoptists and optometrists, in managing effective and safe discharge. There is an opportunity to use a wider ICS or STP model to provide a suitable service to patients.

Any patients discharged should, as NICE guidance makes clear, be provided with full information about their condition to be shared with their GP and optometrist, so that if clinical signs change, the patient will be re-referred.

The CCEHC has examined approaches to discharge and the role of community providers in ensuring an effective pathway. There are more details in both the SAFE Glaucoma Service System and the Community Ophthalmology Framework to help take this initiative forward.

Pathways also need to be sufficiently flexible, and providers must have the capacity for patients to be re-referred quickly if their clinical needs change.

Recommendation	Actions	Timescale
<p>4 Reduce rate of false positive referrals for patients with glaucoma by instituting consistent referral criteria in line with 2017 NICE guideline and referral filtering schemes.</p>	<p>4A Commissioners to commission referral filtering schemes in addition to GOS, as recommended in the 2017 NICE guidelines, in consultation and agreement with providers. Schemes to reflect NICE guidance and CCEHC frameworks.</p>	<p>For consideration within 2 years from publication</p>
	<p>4B Commissioners to consider use of NHS Standard Contract mechanisms to implement criteria and audit adherence.</p>	<p>For consideration within 2 years from publication</p>
	<p>4C NHSE to develop a mechanism to enable referring optometrists to receive feedback on the results of their referrals.</p>	<p>For consideration within 2 years from publication</p>
	<p>4D GIRFT to collect business cases and evaluations of referral filtering schemes to build evidence about the cost-effectiveness of implementing different approaches.</p>	<p>For immediate action</p>
<p>5 Adopt a model pathway for glaucoma drawing on NICE guidance, including risk stratification, MDT working, virtual clinics and active discharge policies for previous glaucoma suspects in whom the condition has been excluded. This core pathway should be supported by qualified medical and non-medical ophthalmology HCPs and community pathways.</p>	<p>5A Commissioners and providers to consider model glaucoma pathways (including community pathways) as in The Way Forward and the CCEHC "SAFE" Glaucoma Service System, and adjust processes accordingly to enable more patients to be seen in the right place at the right time.</p>	<p>Within 2 years from publication</p>
	<p>5B Providers to introduce consistent risk stratification for all glaucoma patients.</p>	<p>Within 6 months from publication</p>
	<p>5C Providers to adopt MDT working in glaucoma diagnosis and management, addressing workforce training as required to build capacity in the wider team.</p>	<p>Within 6 months from publication, unless training/recruitment required</p>
	<p>5D Providers to introduce virtual clinics for glaucoma.</p>	<p>Within 1 year from publication</p>
	<p>5E Providers to develop discharge policies and processes in line with existing NICE guideline (2017).</p>	<p>Within 6 months from publication</p>
	<p>5F Providers to educate staff about the discharge policies to underpin consistent application.</p>	<p>Within 6 months from publication and ongoing</p>
<p>5G: Consultants and senior clinicians to oversee the implementation and application of discharge policies.</p>	<p>On completion of 5F.</p>	

Recommendation	Actions	Timescale
6 Implement the actions of the High Impact Intervention (HII) on failsafe prioritisation for all ophthalmology patients, particularly those with glaucoma and medical retina conditions, and on undertaking a risk audit to identify and discharge those patients that are clinically ready to be discharged.	6A Providers to audit their approach against the recommendations of the High Impact Intervention and develop their processes accordingly.	For immediate action
	6B Trusts to calculate the whole-time equivalent (WTE) need for the failsafe officer role as part of their annual business planning.	For immediate action
	6C Providers to implement the approach recommended in the High Impact Intervention and undertake a risk audit at least annually. This should be a joint responsibility for clinicians and managers.	For immediate action
	6D Commissioners to work with providers, based on the outcomes of the annual risk audit, to assess the need for additional capacity within the hospital eye service (including virtual clinics) and primary care optometry.	For immediate action

Medical retina

Medical retina conditions are those that affect the retina and need treatment such as monitoring, drugs, eye drops, injections or laser treatment, but not surgical intervention. The two most common conditions are:

- diabetic retinopathy – a complication of diabetes which can ultimately lead to blindness. This is commonly divided into diabetic retinopathy and a subset that affects the central retinal area, diabetic maculopathy;
- age-related macular degeneration (AMD) – a degenerative condition which affects central vision and remains the commonest cause of severe sight loss (i.e. blindness) in the UK.

Improving the accuracy and efficacy of diabetic retinopathy screening

According to Diabetes UK, the number of people with diabetes in this country has more than doubled in the last 20 years³⁶ and, due to ageing and higher levels of obesity, its prevalence is expected to grow further. The link between diabetes and retinal damage is long established and with the numbers of patients with diabetes growing, The Way Forward noted that: “The population with diabetic retinopathy is projected to increase by between 20 and 80% in the next 20 years.”

In 2003, a national eye screening programme was commenced for all people with diabetes (type 1 and type 2) over the age of 12. The aim is to identify early stages of retinopathy and provide appropriate early treatment (such as injections, laser or surgery), if necessary, to reduce or prevent the sight-threatening complications of diabetes.

The screening programme is conducted to national standards, by dedicated commissioned services. Photographs are taken of the retina by the provider and sent to a specialist reading centre for review. Where the photographs indicate that the patient has referable retinopathy, they are referred to the diabetic eye clinic for further assessment and possible treatment.

As with glaucoma and cataracts, many providers indicated during deep dive visits that there is a high incidence of referrals from the screening programme for suspected diabetic maculopathy that, on further assessment, prove to have been unnecessary. A key reason is that the established photography methods provide only 2D representations of the retina, so do not show swelling (macular oedema) or thickening of the retina.

Various studies have found that by using optical coherence tomography (OCT) – a 3D imaging technique that produces more detailed images of the retina – the number of referrals for diabetic maculopathy can be reduced by well over 50%, which has a major impact on the total volume of diabetic retinopathy referrals. Logically, therefore, it would be of major benefit to ophthalmology departments if OCT was used as part of the screening or referral process, to help reduce unnecessary referrals. However, according to responses to the GIRFT questionnaire, at present only 45% of providers use OCT to refine referrals for diabetic maculopathy; 45% of providers stated they do not use OCT and 10% did not respond.

OCT is a non-invasive test and takes no longer than the current standard screening photographs; however, it does require specialist equipment, to which not all screening providers have access. There is also at present a lack of clarity about who should be responsible for commissioning or funding the use of OCT. Given the potential value to the hospital eye service in terms of the number of unnecessary referrals, local systems would also find it helpful to receive advice on commissioning arrangements for OCT imaging as a referral refinement process for diabetic maculopathy.

In practice: using OCT imaging to improve referrals from diabetic eye screening

The Queen Alexandra Hospital (part of Portsmouth NHS Trust) has introduced OCT screening at the first hospital appointment following referral from the diabetic eye screening service. Conducted by a nurse practitioner, this has led to 46% of diabetic patients referred for potential maculopathy being discharged back to community screening.

The nurse takes a brief structured history of risk factors associated with diabetic complications and uses the OCT scans to help explain the eye condition and how to manage risk factors. 40% of the original referrals remained under hospital follow-up at one year, reducing to 17% at three years.

The hospital has calculated that the nurse led clinic saves it 10 new appointment slots with a doctor each week and patient feedback has also been very good.

Referral refinement using OCT could be conducted at a clinic in the main hospital eye service, or at a satellite or mobile unit. The right 'place' will depend on local arrangements and availability of resources such as the imaging equipment. The key point is that, subject to appropriate financial arrangements being made, it offers an obvious opportunity to reduce the workload of the core hospital eye service and avoid unnecessary referrals for patients with diabetic maculopathy.

In practice: consultant-led OCT at University Hospitals Birmingham

To address the problem of high false positives from diabetic retinopathy screening, University Hospitals Birmingham appointed a consultant specialising in medical retina to be the clinical lead for the screening service. The consultant not only sees many of the patients referred but also takes an active role in training screening staff and supporting clear lines of communication with the screening provider. This direct approach has facilitated a sustained reduction in false positives and an excellent relationship between the hospital and the screening provider.

Aside from the formal process and referral pathway, we are also aware that there is a widespread need for better communication between diabetologists and ophthalmologists. This would not only benefit working between the departments, but more importantly ensure patients receive joined-up advice on managing their diabetes to help manage or prevent further development of diabetic eye disease.

Optimising pathways for AMD

Like the other conditions examined in detail in the GIRFT process, AMD is becoming increasingly common. According to the Macular Society, over 600,000 people in the UK have some form of AMD³⁷; the 2018 NICE Guideline cited estimates that there are almost 40,000 new diagnoses of wet AMD made in the UK each year.³⁸

AMD affects the centre of the retina (the macula) leading to blurred and distorted vision, or gaps in the field of vision. It makes everyday tasks like reading difficult, can make it harder to recognise faces (causing social awkwardness and potentially isolation) and can make it unsafe to drive, so reducing independence. It is the most common cause of registerable blindness in the UK.

There are two types of AMD:

- dry AMD, which develops slowly and for which there is currently no effective treatment; and
- wet AMD, also known as neovascular AMD. This causes swelling and bleeding under the macula. Loss of vision can develop very quickly as a result, but the condition is treatable in the early stages.

The most common treatment for wet AMD is intravitreal injections of anti-vascular endothelial growth factor (anti-VEGF) drugs, which stop blood vessels growing under the macula. Injections are given as part of a regular treatment regime and take place in a clean room or theatre environment.

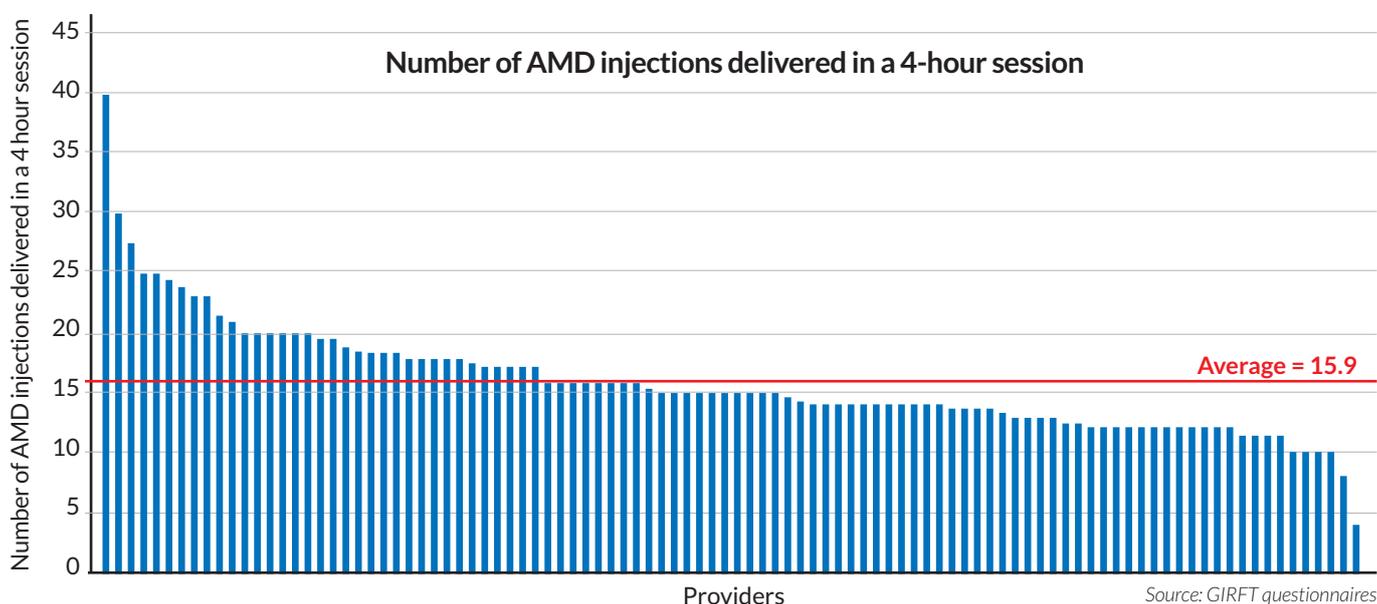
Initially injections were conducted solely by ophthalmologists but the 2015 Monitor Report (supported by the RCOphth) identified that it would be possible to increase capacity by training nurses to carry out the majority of intravitreal injections for wet AMD.³⁹

This approach has been introduced on a large scale, while remaining medically-led, and many providers have now invested in training graduate professionals, including nurses, hospital optometrists and orthoptists, to perform injections. At some providers, the majority of injections are carried out by nurses – including St Paul's Eye Unit (part of the Royal Liverpool Hospital), where over 70% of injections are carried out by nurses, and James Paget Hospital, Great Yarmouth, where the figure is over 90%.

The experience of these providers has shown that it is important that several members of the team are trained to carry out injections. This ensures that there is cover in the event of sickness or holiday absence, and that there is balance in individual workloads.

Having more trained staff could potentially increase the capacity to perform intravitreal injections, but other factors also need to be considered. In the GIRFT questionnaire, providers were asked how many injections, on average, they perform per session. Responses ranged from 4 to 30 – with a single outlier performing 40 injections, on average in a four-hour session (Fig 7). The mean number of cases managed in a four-hour session was 15.9 (this includes a pro rata calculation for providers who use 3.5-hour sessions).

Figure 7: Average number of intravitreal injections delivered in a 4-hour session, by provider



³⁷ See www.macularsociety.org/age-related-macular-degeneration-0

³⁸ NICE Guideline (NG82) – Age-related macular degeneration (published January 2018) www.nice.org.uk/guidance/ng82

³⁹ See https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/466895/Elective_care_main_document_final.pdf

A similar question was asked in research for *The Way Forward*, which found “the number of injections performed per session varied from <10 to 40.”

It seems reasonable to suggest that providers below the national mean should be able to increase the number of cases to at least the national mean level. However, as *The Way Forward* noted, the number of injections conducted “was hugely dependent on local circumstances, space and support.”

A second crucial step in increasing access to injections is increasing the physical space available to perform injections. Intravitreal injections must be conducted in a clean environment and were originally carried out in operating theatres. However, this meant they were effectively competing with surgical cases for theatre time. To address this, the majority of providers have developed clean rooms – dedicated facilities for non-surgical procedures – which can be used for injections. This frees up theatre time, so that a higher volume of injections does not affect surgical capacity.

Clean rooms need to be specifically developed to fulfil certain criteria, but they can be set up at any suitable out-patient or community setting as well as, or instead of, at the main ophthalmology unit. They can therefore be more accessible for patients.

In practice: community eye clinics in Manchester

To increase its capacity to treat wet AMD, Manchester Royal Eye Hospital has set up three community eye clinics – one in a shopping centre to the north of the city centre, one in a community centre in the southern suburbs and a third at a small general hospital to the west of the city. Each location is well served by public transport. The clinics are equipped with a range of assessment equipment and have clean rooms for intravitreal injections. They are staffed by teams from the main hospital, including consultants and optometrists as well as nurse injectors.

Because they were wholly designed with AMD and macular services in mind, appointments are generally efficient – averaging an hour from arrival to departure. Despite initial uncertainty from some patients who were accustomed to attending the main hospital, the clinics have quickly become extremely popular with patients, with Friends and Family Test scores consistently over 95%. Overall, the three additional sites have helped the provider to deliver the capacity it needs and to increase choice, including around appointment times. It is now planned to offer glaucoma services at one of the sites too.

A further option, first introduced by Frimley Park Hospital but now also deployed by others, is to invest in a mobile clean room. This is a dedicated unit, fully equipped for basic monitoring and with a suite for injections. It travels to multiple locations served by the provider, making services more accessible. This is particularly important for patients who cannot drive and whose mobility is restricted.

As well as injections, the other aspect of AMD provision is ongoing monitoring and support for patients. As with glaucoma, virtual clinics can play an important part in providing such monitoring and support cost-effectively, for ‘stabilised’ wet AMD patients. They free up capacity and space in the hospital while providing essential diagnostic assessment for patients.

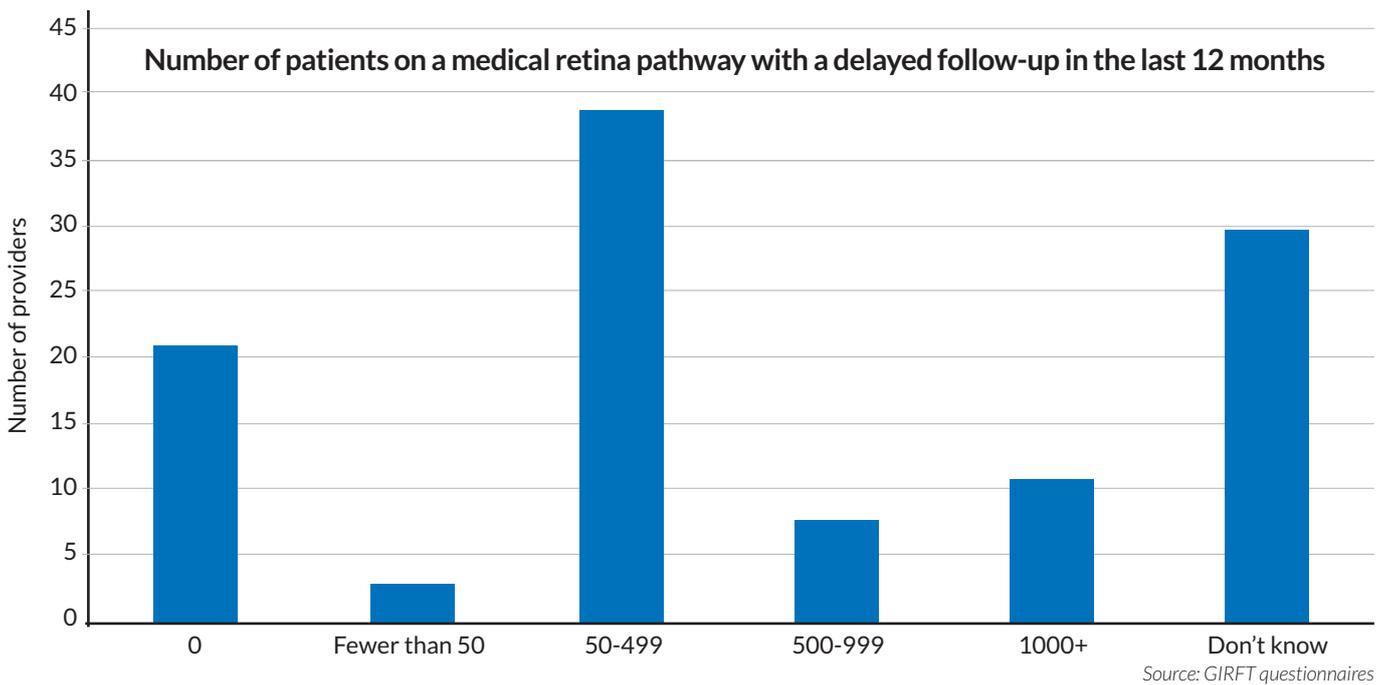
The approaches set out here to help increase capacity for AMD provision echo the recommendations made in *The Way Forward* around AMD pathways. However, as GIRFT deep dive visits highlighted that many providers have not yet adopted these recommendations, the approach is being recommended again, backed by further case studies.

To assess progress against the recommendations of *The Way Forward* and in particular around how effectively providers are adhering to injection timetables (and avoiding delays), improved data collection is required.

Delayed follow-up for medical retina patients

As with glaucoma, it has long been recognised that there are issues with delayed follow-up appointments for medical retina patients – with the risk that the patient’s vision deteriorates avoidably before they receive necessary care. To get a picture of the current state, providers were asked in the GIRFT questionnaire if any medical retina patients’ appointments had been delayed during the past 12 months. 77% of providers indicated that they had delays, with 17% reporting delays affecting more than 500 patients.

Figure 8: Frequency of delayed follow-up for medical retina patients in preceding 12 months



Again, this underlines the lack of capacity to meet the current demand and the need for more co-ordinated and managed follow-up, supported by failsafe processes and officers. For maximum efficacy, anti-VEGF treatment should be commenced within two weeks of the decision being made to treat and follow up protocols strictly adhered to. Delayed follow-up can mean the optimum care is not delivered and a late injection (at over £500 for the drug alone) is a wasted injection.

A recent Healthcare Quality Improvement Partnership (HQIP) audit indicated that electronic patient record (EPR) systems can be of real use as a tool for maintaining a schedule for intravitreal injections.⁴⁰

Wet AMD: Patient and provider anti-VEGF treatment strategy

Wet AMD is a sight-threatening condition in which abnormal blood vessels grow and leak fluid under the macula. The macula is a small, but important area located at the back of the eye and is responsible for central, detailed vision such as reading and recognising faces. If left undiagnosed and untreated, wet AMD can lead to rapid complete central vision loss in a couple of months. There are about 26,000 new cases of wet AMD in the UK each year and the condition affects women and men. The condition usually affects people who are over 50 years old and the risk increases significantly with age.

Treatment strategies for wet AMD

Anti-VEGF drugs – namely Eylea (whose international non-proprietary name, INN, is Aflibercept), Lucentis (INN Ranibizumab) and Avastin (INN Bevacizumab) – are routinely used by ophthalmologists across Europe and the US to treat wet AMD patients.

Aflibercept, Bevacizumab and Ranibizumab each have different molecular configurations, where Bevacizumab and Ranibizumab are derived from the same antibody.

Anti-VEGF treatment reduces the number of abnormal blood vessels in the eye and thus slows any leakage from blood vessels. The drug is injected into the eye with a fine needle i.e. intravitreal injection. In the UK, intravitreal injections of anti-VEGF drugs are standard therapy to treat wet AMD.⁴¹

Aflibercept and Ranibizumab are licensed for the treatment of wet AMD and other ophthalmology indications. However, Bevacizumab is not licensed for wet AMD or other ophthalmic use. Licensing of Aflibercept, Bevacizumab and Ranibizumab is further discussed below under 'Marketing authorisation for wet AMD'.

Bevacizumab was not originally intended for wet AMD treatment and is approved to treat various forms of cancer by infusion, in Europe by the European Medicines Agency and in the US by the Food and Drug Administration. Based on Bevacizumab's ability to inhibit abnormal blood vessels, ophthalmologists started using Bevacizumab "off label" to treat wet AMD, although it does not hold a marketing authorisation for that use.

Some wet AMD patients do not respond (or may respond sub-optimally) to one drug, but achieve the desired outcomes with another. This provides ophthalmologists the flexibility to prescribe treatment as clinically appropriate, thereby providing the best care for their patients.

Marketing authorisation for wet AMD

The Medicines and Healthcare products Regulatory Agency (MHRA) has produced guidance on marketing authorisation for medicines. This states: "By law, before a medicine can be placed on the market, it must be given a marketing authorisation (product licence) by a medicines regulator (either the UK medicines regulator, the MHRA, or the European Medicines Agency). The UK regulator is the Medicines and Healthcare products Regulatory Agency (MHRA). A specially trained panel of medicines assessors reviews all the available evidence arising out of the pre-clinical research and clinical trials. Manufacturers may also be asked to supply additional information."⁴²

It also has a section on off label prescribing, which says: "Sometimes doctors find that a licensed medicine works well for a certain condition, age group, or at a dose for which it has not been licensed by the regulator. They prescribe it, based on their own and their colleagues' experience, published studies, and findings presented at professional meetings. This is called "off label" prescribing."⁴³

Similarly, sometimes doctors use unlicensed medicines to treat patients where this is in the patient's best interest and meets the patient's clinical need.

For Aflibercept, Bayer holds a marketing authorisation (previously known as a product licence) which is specific to wet AMD and other ophthalmic use. Both Bevacizumab and Ranibizumab were developed by Genentech, which is currently owned by Roche. Novartis holds a marketing authorisation for Ranibizumab outside the US, which is specific for wet AMD and other ophthalmic use. Roche holds a marketing authorisation for Bevacizumab which is specific for various uses, excluding ophthalmic use and wet AMD.

Guidelines for wet AMD

Several organisations, including regulatory bodies, have provided wet AMD guidance and comments. These include:

NICE

Ranibizumab: www.nice.org.uk/guidance/ta155

Aflibercept: www.nice.org.uk/guidance/ta294

Bevacizumab: www.nice.org.uk/guidance/ng82/chapter/recommendations

In the latter – the NICE guideline on Age-related macular degeneration – a footnote states: "At the time of publication (January 2018), bevacizumab did not have a UK marketing authorisation for, and is considered by the Medicines and Healthcare products Regulatory Agency (MHRA) to be an unlicensed medication in this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the prescribing decision. Informed consent would need to be obtained and documented. See the General Medical Council's Prescribing guidance: prescribing unlicensed medicines, and the MHRA's guidance on the Supply of unlicensed medicinal products (specials), for further information. The guideline may inform any decision on the use of bevacizumab outside its UK marketing authorisation but does not amount to an approval of or a recommendation for such use."

⁴¹ See *Br J Ophthalmol*. 2017 Dec;101(12):1683-1688. doi: 10.1136/bjophthalmol-2016-309818. Epub 2017 May 6. UK AMD/DR EMR REPORT IX: comparative effectiveness of predominantly as needed (PRN) ranibizumab versus continuous aflibercept in UK clinical practice. Lee AY, Lee CS, Egan CA, Bailey C, Johnston RL, Natha S, Hamilton R, Khan R, Al-Husainy S, Brand C, Akerele T, Mckibbin M, Downey L, Tufail A.

⁴² See www.mhra.gov.uk/home/groups/comms-ic/documents/websitesresources/con025908.pdf

⁴³ *ibid*

A second footnote states: "Given the guideline committee's view that there is equivalent clinical effectiveness and safety of different anti-VEGF agents (aflibercept, bevacizumab and ranibizumab), comparable regimens will be more cost effective if the agent has lower net acquisition, administration and monitoring costs."

MEDICINES AND HEALTHCARE PRODUCTS REGULATORY AGENCY

www.gov.uk/drug-safety-update/off-label-or-unlicensed-use-of-medicines-prescribers-responsibilities#examples-of-off-label-use-of-medicines

ROYAL COLLEGE OF OPHTHALMOLOGISTS

www.rcophth.ac.uk/2018/09/the-royal-college-of-ophthalmologists-is-delighted-that-the-high-court-has-found-in-favour-of-the-use-of-Bevacizumab-for-wet-amd/
www.rcophth.ac.uk/2017/10/the-royal-college-of-ophthalmologists-welcomes-the-eu-court-of-justice-advocate-generals-new-opinion-on-the-use-of-off-label-drug-Bevacizumab/

GENERAL MEDICAL COUNCIL

www.gmc-uk.org/news/news-archive/gmc-welcomes-high-court-clarity-on-Bevacizumab
www.gmc-uk.org/-/media/documents/gmc-response-to-doh-ni-nice-ng-82-age-related-macular-degeneration-consultation-21022018_-74742965.pdf
www.gmc-uk.org/ethical-guidance/ethical-guidance-for-doctors/prescribing-and-managing-medicines-and-devices/prescribing-unlicensed-medicines

GENERAL PHARMACEUTICAL COUNCIL

www.pharmacyregulation.org/news/gphc-statement-Bevacizumab

Wet AMD studies

Many studies have evaluated the efficacy and safety of Aflibercept, Bevacizumab and Ranibizumab as treatments for wet AMD treatment. Currently, these include multi-centre trials world-wide namely: CATT⁴⁴, IVAN⁴⁵, MARINA⁴⁶, ANCHOR, MANTA⁴⁷, GEFAL⁴⁸, VIEW 1 and 2⁴⁹ and UK AMD/DR EMR REPORT IX⁵⁰.

It should be noted that the outcomes of wet AMD in the real world i.e. real world evidence, may not always reflect those obtained in randomised clinical trials. The increased use of electronic medical records is being used to address this, greatly improving the assessment of real world outcomes, and further emphasising the benefits of early detection and treatment of patients with wet AMD.⁵¹

Unmet clinical need: AMD patient groups with limited treatment options based on NICE criteria

There are two licensed products, Ranibizumab and Aflibercept. The licensed indications for these are for the treatment of wet AMD and other ophthalmology uses i.e. treatment of visual impairment due to choroidal neovascularisation (CNV), diabetic macular oedema (DME) and macular oedema secondary to retinal vein occlusion (RVO). NICE has recommended criteria for use of Ranibizumab and Aflibercept in wet AMD, one of which requires that a patient's visual acuity falls within a given range although no restriction is included in the licensed indications. NICE has also stated that it is clinically effective to treat patients with anti-VEGFs (including Ranibizumab and Aflibercept) when patients have visual acuity better than this, but that it is not cost effective to use the licensed products in these cases.

Patients outside the range set by NICE which may include those with early onset of the disease, or non/poor responders to Ranibizumab and Aflibercept will have limited/not widely available treatment options and be at risk of sight loss if not treated. Based on clinical judgement, clinical trials and real world evidence, ophthalmologists consider Bevacizumab a sensible treatment option for this group of patients. However, Bevacizumab is not currently recommended by NICE and EU and UK law prohibits the commercial supply of a medicine to treat a condition not covered by its licence, unless an exemption applies, such as a special clinical need.

There is a legal case currently ongoing which may have implications for how medicines for wet AMD are safely prescribed, prepared and supplied. Trusts should therefore apply caution until the issues in the case become clearer and further guidance will be issued when appropriate.

⁴⁴ Comparison of Age-related Macular Degeneration Treatments Trials: Lucentis-Avastin Trial CATT 2011 [published and unpublished data] [accessed 20 December 2011]; Comparison of Age-related macular degeneration Treatment Trials. www.med.upenn.edu/cpob/studies/documents/CATTEligibilityCriteria.pdf. For full details, see Appendix A

⁴⁵ Inhibition of VEGF in Age-related choroidal Neovascularisation IVAN 2013 [published and unpublished data] [accessed 4 April 2014]; A randomised controlled trial of alternative treatments to Inhibit VEGF in Age-related choroidal Neovascularisation. www.ivan-trial.co.uk/Default.aspx For full details, see Appendix A

⁴⁶ This refers to two Phase III trials, known as MARINA and ANCHOR, which have frequently been studied together. For full details, see Appendix A.

⁴⁷ MANTA 2013 [published and unpublished data] Krebs I, Schmetterer L, Boltz A, Told R, Vécsei-Marlovits V, Egger S, et al. A randomised double-masked trial comparing the visual outcome after treatment with ranibizumab or bevacizumab in patients with neovascular age-related macular degeneration. *British Journal of Ophthalmology*. 2013;97(3):266–71.

⁴⁸ GEFAL 2013 [published and unpublished data] Kodjikian L, Souied EH, Mimoun G, Mauget-Faysses M, Behar-Cohen F, Decullier E, et al. Ranibizumab versus bevacizumab for neovascular age-related macular degeneration: Results from the GEFAL noninferiority randomized trial. *Ophthalmology*. 2013;120(11):2300–9.

⁴⁹ <https://www.nice.org.uk/guidance/ta294/chapter/3-The-manufacturers-submission>

⁵⁰ *Br J Ophthalmol*. 2017 Dec;101(12):1683–1688. doi: 10.1136/bjophthalmol-2016-309818. Epub 2017 May 6. UK AMD/DR EMR REPORT IX: comparative effectiveness of predominantly as needed (PRN) ranibizumab versus continuous aflibercept in UK clinical practice. Lee AY, Lee CS, Egan CA, Bailey C, Johnston RL, Natha S, Hamilton R, Khan R, Al-Husainy S, Brand C, Akerele T, Mckibbin M, Downey L, Tufail A.⁵¹ Ying GS, Huang J, Maguire MG, et al. Baseline predictors for one-year visual outcomes with ranibizumab or bevacizumab for neovascular age-related macular degeneration. *Ophthalmology*. 2013;120(1):122–129.

⁵¹ Ying GS, Huang J, Maguire MG, et al. Baseline predictors for one-year visual outcomes with ranibizumab or bevacizumab for neovascular age-related macular degeneration. *Ophthalmology*. 2013;120(1):122–129.

Next steps

We will continue to engage with stakeholders in order to facilitate the use of available treatments for the management of all wet AMD patient groups. We are hopeful that all stakeholders will participate constructively in these discussions.

Recommendation	Actions	Timescale
7 Develop a national standardised referral pathway for suspected diabetic maculopathy that includes the use of OCT as a form of referral refinement to reduce unnecessary referrals from screening services.	7A GIRFT to work with NHSE and the screening programme provider to develop the national standardised referral pathway.	Within 2 years from publication
	7B Providers and commissioners to manage referrals in line with the pathway and any accompanying guidance.	Upon completion of 7A
8 Increase the capacity and productivity of wet AMD pathways, through more extensive use of virtual clinics for stable patient monitoring and clean rooms for intravitreal injections, while training more members of the non-medical HCP team to carry out injections.	8A Providers to review their wet AMD pathways to identify opportunities to use virtual clinics to reduce the number of face-to-face outpatient appointments. The CCEHC frameworks, including SAFE-AMD, may be of use in this review.	Reviews to be completed 6 months from publication
	8B Providers to consider business case to add clean rooms to minimise theatre usage and use trained non-consultant staff to conduct a greater proportion of injections.	Within 6 months from publication
	8C GIRFT, working with NHS Improvement, to develop/collect business cases to demonstrate cost benefits of clean rooms and training more staff to conduct injections.	Concurrent to 8B
	8D GIRFT to work with RCOphth, CoOptom, BIOS and RCN to consider whether there are any additional training needs.	For immediate consideration
9 Continue to engage with stakeholders in order to facilitate the use of available treatments for the management of all wet AMD patient groups as well as the use of new treatments as they are developed.		Ongoing

Paediatric ophthalmology services

In this first GIRFT review of ophthalmology, the focus has been on adult services, because these are recognised as the areas facing the greatest pressures in terms of demographic change. However, it is recognised that there is a shortage of paediatric ophthalmologists, nationally and internationally, which is putting pressure on children's ophthalmology services.

The GIRFT process looked at two specific aspects of paediatric care:

- the national 4-5 year old vision screening programme
- strabismus care and surgery.

Vision screening

Vision screening of all 4-5 year olds was recommended in the 1989 report of the Third Joint Working Party on Child Health Surveillance *Health for All Children*. It is now part of the Public Health England (PHE) healthy child programme and the primary aim is to detect strabismus and amblyopia at an early age, so that children can receive effective treatment.

Though recommended, the programme is not mandatory and responsibility for delivery of the screening rests with local authorities. Many choose to run the programme via schools, which are then linked with hospital services. Delivery is supported by a suite of resources including a service specification, screening pathway, professional competencies, teacher information sheets and a parent leaflet and letter templates.⁵² PHE is developing standards for local screening services and an e-learning module to support people delivering child vision screening. This module will be available in 2019.

The focus of the GIRFT question was simply to identify whether hospitals were aware of screening provision in their area. 80% of hospital eye services confirmed that screening is provided in their area; 9% said it is not (11% did not respond.)

Amongst those who confirmed screening is provided in their area, many confirmed it was done through schools. However, several providers reported that there were concerns about future funding for the screening programme, with some areas stating that funding has already been withdrawn. A lack of screening means that conditions that affect a child's visual development may not be recognised and risks children not receiving treatment during the 'critical period' i.e. at the time when they will respond to, and benefit from, that treatment. Visual development for children takes place up until the age of 7-8 years of age.

It is important to underline that a lack of universal 4-5 year old screening has the greatest negative effect on children living in deprived areas, who do not have local access to, or may be less likely to, attend a primary care optometrist.

Strabismus care

Strabismus surgery is one of the most common surgical procedures conducted on children – although numbers have decreased in recent years as, amongst other things, non-surgical treatment methods are introduced earlier.

During GIRFT deep dive visits, providers were asked about the pathway for strabismus surgery. Their responses indicated considerable variation in approaches to post-operative care, with different emphasis placed on community or hospital care. For instance, in some areas, children are reviewed by orthoptists only; in others, they may have two or more scheduled follow-up appointments with the surgeon. There was no obvious reason for this variation, beyond the preference and practice of each department.

With concerns in some areas about long waiting times and shortages of paediatric ophthalmologists, it would seem beneficial for providers to share approaches and best practice and explore opportunities to evolve their pathways.

Recommendation	Actions	Timescale
<p>10 Review the delivery of the national 4-5 year old children's vision screening programme and consider the possibility of making it mandatory to help reduce unwarranted variation in implementation around the country.</p>	<p>10A GIRFT to review the delivery of the national 4-5 year old children's vision screening programme, collaboratively with PHE, NHSE and UKSNC as appropriate, examining issues including:</p> <ul style="list-style-type: none"> • the quality of this screening service where it is available; • who carries out the screening, audit etc; • uptake of screening; • outcomes; and • costs, both to the local authorities who commission it, and the resultant upstream NHS cost of managing referrals from screening. 	<p>Within 2 years from publication</p>
	<p>10B Based on the review outcomes, GIRFT and PHE to consider the possibility of making vision screening mandatory to help reduce unwarranted variation in implementation around the country.</p>	
	<p>10C Providers, supported by BIOS and British & Irish Paediatric Ophthalmology & Strabismus Association (BIPOSA), to review pathways used post paediatric strabismus surgery to understand the approaches taken and assess whether there are opportunities to increase consistency or make better use of community provision.</p>	<p>Within 18 months from publication</p>
	<p>10D GIRFT to examine audit results with NHSE CRG to assess whether there is any unwarranted variation.</p>	<p>On completion of provider review</p>

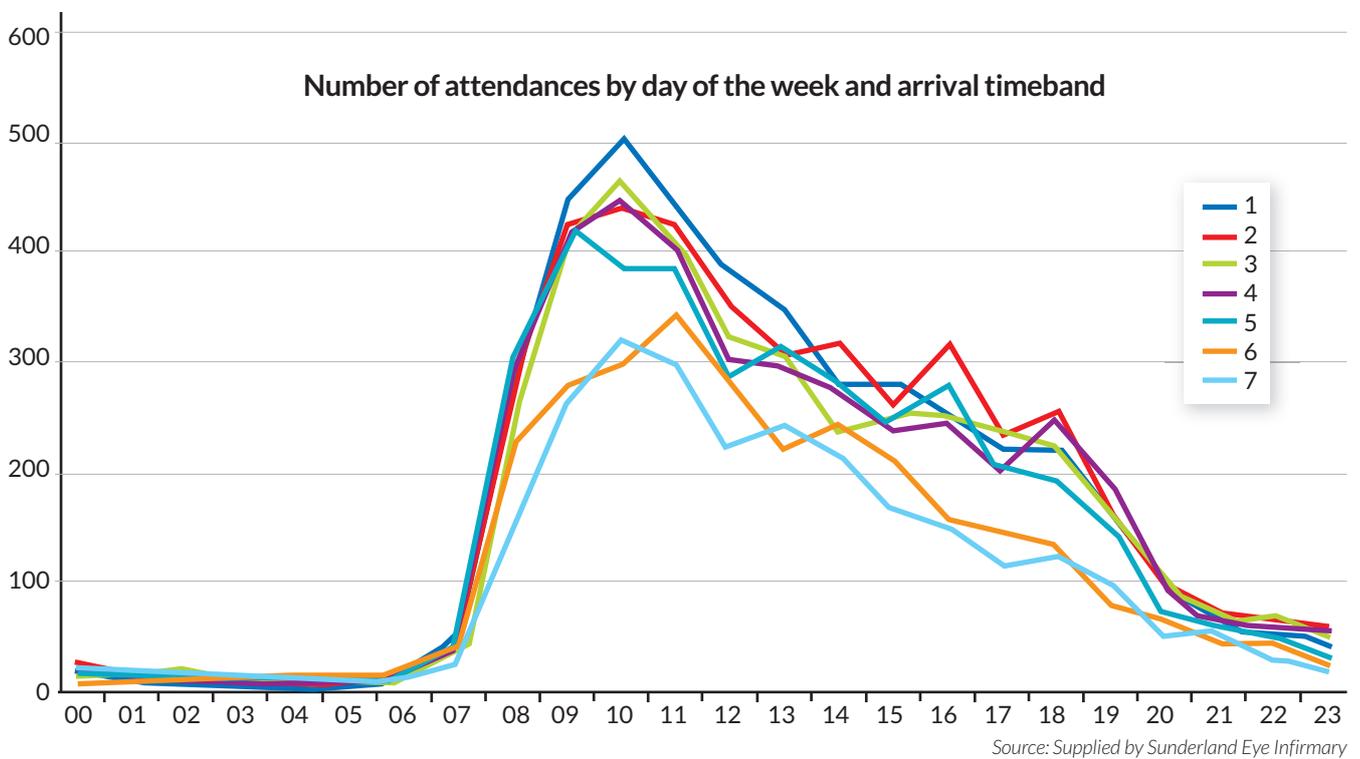
Emergency care

Securing effective out-of-hours emergency provision

Ophthalmology emergency care is required to deal with a variety of conditions including sudden loss of vision, infections and trauma. There is evidence that the volume of emergency cases presenting outside the hours of 7am to 10pm is generally low.

For example, at Manchester Royal Eye Hospital, around 150 emergency patients are treated every day (between 7.30am and 8pm), compared to around 15 overnight. From 8pm until 7.30am, patients are typically diverted to the main emergency department, which has on-call trainee ophthalmologists. Data supplied to the GIRFT team by Moorfields Eye Hospital showed that in a one-month period, no more than two casualties an hour arrived between midnight and 6am, with numbers peaking in mid-morning. Similar patterns were seen at Sunderland Eye Infirmary over a three-month period.

Figure 9: Emergency arrivals at Sunderland Eye Infirmary by day and hour, Jan-Nov 2017



Reflecting this pattern, while some form of emergency care service is provided at 95 trusts (79% of all providers), an increasing number of hospital eye services offer out-of-hours emergency eye care for a restricted number of hours only. Some choose to do so in partnership with other local providers, reducing the out-of-hours demands on staff and providing additional support to the first on-call tier (often a single junior ophthalmologist, with or without specialist nursing support). For example, several London hospitals have introduced a shared on-call rota of all trainees. This means that when on-call, trainees are likely to have a higher workload, covering incidents across a broad area, and so gain experience dealing with a wider range of injuries.

However, discussions during GIRFT deep dive visits identified some concerns about the arrangements made for out-of-hours provision. A small number of providers were unable to offer any details about the arrangements they had in place for out-of-hours provision. In some areas arrangements to cover out-of-hours care exist with other local providers, but they are not formalised; 26 providers acknowledged there was no Service Level Agreement (SLA) in place with their partners, meaning there were no clearly defined expectations from the referring provider, nor the receiving one, regarding communication about treatment plans or follow up arrangements for patients. Emergency departments and patients wishing to access emergency services were also unsure of the arrangements.

In practice: SLA for emergency care at Peterborough City Hospital and Addenbrooke's Hospital

Peterborough City Hospital, part of the newly merged North West Anglia Foundation Trust, was struggling to staff a two-tier emergency eye service 24x7 – especially the first on-call tier. Instead, it relied on agency cover or ad hoc support from neighbouring trusts. In 2015, it therefore sought to place this support on a more formal basis and after discussions with Addenbrooke's a suitable SLA was agreed. Peterborough continues to provide a limited out-of-hours emergency eye service. The SLA supports telephone advice and the referral of patients requiring specialist eye care out of hours to the much larger team at Addenbrooke's when the emergency out-of-hours eye service at Peterborough stops. Addenbrooke's does not have SLAs with any of the other surrounding trusts.

While the absence of an SLA does not necessarily affect the quality of emergency care provided to the patient in the first instance thanks to the commitment of the on-call team, it can cause issues where there is no clear destination for or feedback about the patient.

Further issues can arise if providers are unable to access relevant clinical information. For example, a patient may be admitted as an emergency due to an acute exacerbation of a chronic disease or a complication following an operation; information about the procedure or the disease would be valuable to inform emergency treatment decisions.

Similar problems can occur following emergency treatment, where arrangements for follow-up, or ongoing, care can be hampered by a lack of definitive information sharing protocols between the out-of-hours emergency provider and other hospitals. Incomplete data flow can also lead to duplication of effort and breakdown in continuity when the emergency out-of-hours provider returns patients to a local eye department.

The most effective solution is to introduce detailed SLAs between providers to address expectations and requirements of both referring and receiving providers. Appropriate issues for consideration within an SLA include:

- details of the opening times of emergency eye services of both providers;
- confirmation of the circumstances and times when a (general) emergency department should refer a patient to an out-of-hours specialist ophthalmologist at another provider;
- relevant contact and communication details;
- requirements for patient information sharing before and after emergency care is provided, including providing adequate handover information relating to any ophthalmology inpatients;
- inpatient care arrangements, including visiting;
- reporting arrangements, including data to confirm how many referrals were then seen by the out-of-hours provider;
- repatriation arrangements; and
- financial arrangements.

This should all be collected into a Standard Operating Procedure (SOP) agreed by all parties so that staff working in the service are clear as to their roles and responsibilities.

Guidance exists to support the introduction of SLAs and SOPs. This includes:

- RCOphth's Ophthalmic Service Guidance (OSG) on *Emergency eye care in hospital eye units and secondary care*⁵³.
- CCEHC SAFE – Urgent and Emergency Care Service System⁵⁴.

⁵³ RCOphth (2017) *Emergency eye care in hospital eye units and secondary care* <https://www.rcophth.ac.uk/wp-content/uploads/2017/08/Emergency-eye-care-in-hospital-eye-units-and-secondary-care.pdf>

⁵⁴ Available at <https://www.college-optometrists.org/the-college/ccehc/safe-systems-assurance-framework-for-eye-health.html>

Supporting emergency departments

The first port of call in an ocular emergency will often be the emergency department, rather than the ophthalmology department. Regardless of the existence of documented pathways, it should always be possible for emergency departments to have access to specialist advice on eye conditions. The basic principle at all providers should be that emergency departments have face-to-face access to an on-call ophthalmologist, or clinician trained in ophthalmic emergencies who can provide a definitive plan.

To facilitate this, it is essential that on-call arrangements within ophthalmology are also shared with emergency departments, so that they can contact the right professional as quickly as possible.

In practice: Managing demand for emergency eye care: Mid Yorkshire

When Mid Yorkshire Hospitals NHS Trust (Mid Yorks) conducted an audit of its emergency cases, it found that it was frequently trying to squeeze 40 patients into just 24 slots. Some patients were then not seen in time; others were recalled, because the emergency treatment had not solved the problem.

It decided to rethink its approach and introduced a daily consultant-led emergency clinic, plus a thrice-weekly optometrist-led acute macular clinic. To help manage demand, a new e-mail referral system was put in place for GPs and opticians. If they email Mid Yorks with details of a potential emergency case, a consultant will review the details within an hour, and can invite the patient in that day or make an appointment (including with the optometrist) within the week.

The approach has meant that emergency care is now more manageable, with true emergencies prioritised. A higher proportion of patients are now seen within target times, and clinicians are able to spend more time with them – meaning more receive effective treatment immediately. This in turn reduces the need for follow up appointments.

Recommendation	Actions	Timescale
11 Develop a clear pathway for out-of-hours emergency eye care, implemented locally and regionally and agreed among all providers, supported by contractual arrangements and SLAs.	11A Commissioners and providers to agree pathways to deliver this, drawing on best practice outlined in RCOphth OSG, SAFE and other CCEHC frameworks.	Within 2 years from publication
	11B Commissioners and providers to ensure that agreed pathways are reflected in clinical agreements and financial SLAs for all out-of-hours services in their area.	Within 2 years from publication

Specialised commissioning in ophthalmology

NHS Commissioning has defined a range of specialised services, the full list of which is set out in the specification for specialised ophthalmology. There are specifications for both adults and children.⁵⁵ Providers must be accredited to offer specialised services and are commissioned and funded by four regional teams, rather than locally.

Not all ophthalmology providers will offer specialised services and, instead, will work with partners on a 'hub and spoke' network basis, where one unit acts as the hub, providing one or more specialised services, to where the others in the network refer patients. Typically, a hub will be a larger hospital, with greater resources and higher staff numbers. However, some smaller units which have a long-established expertise in a particular condition – often reflecting individual consultants' interests and knowledge – may act as the hub for a specific condition.

As part of the GIRFT questionnaire, all providers were asked about whether they offer specialised services. In total, 105 said they do. We understand that a variation exists in the number of providers commissioned to provide specialised adult and paediatric ophthalmology services. This itself supports our recommendation 12 below that work is needed to improve the measurement of activity and outcomes under the banner of specialised services.

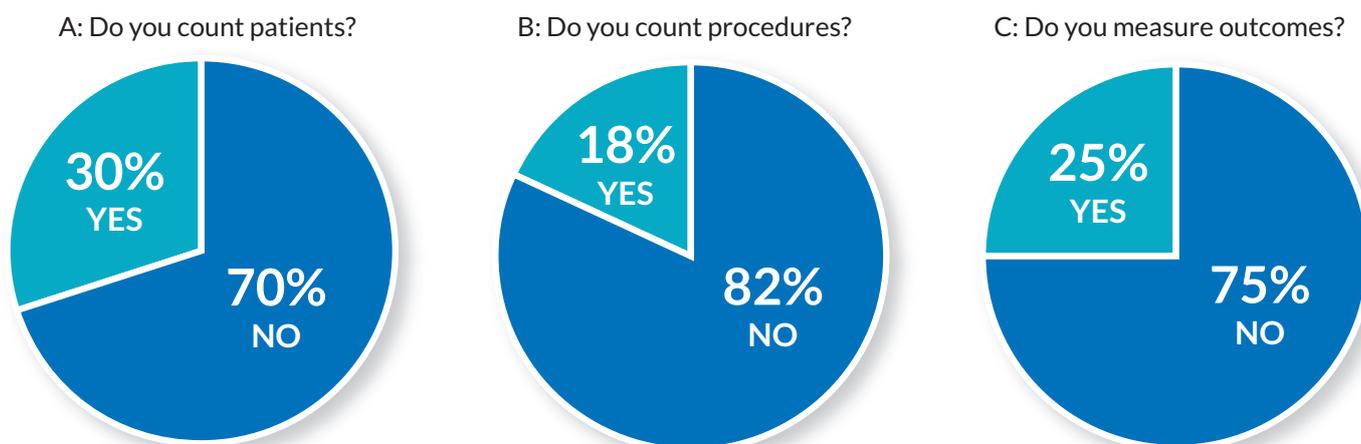
The issue was then explored during the deep dive visits. During discussions, providers were asked about the data they have on the specialised services they claimed to offer, including details of patient numbers, procedure numbers and what outcomes they measured.

Some 66% of providers were unable to supply the GIRFT team with details of patient numbers and 78% could not provide procedure numbers. Only 23% of providers who said they are delivering specialised services could identify outcome measures.

This indicates that they were not complying with the terms of the standard contract, which stipulates this data must be recorded – suggesting that they may not be commissioned to provide specialised services. However, when some of these providers described the conditions they were treating, it was apparent that they effectively do meet other requirements of the specification but may not be receiving the remuneration from NHSE.

To illustrate this, 57 providers stated that they deliver specialised glaucoma care. However, the majority could not provide data about the key issues (figure 10).

Figure 10: Data collection around specialised glaucoma services amongst providers that stated they offer these services

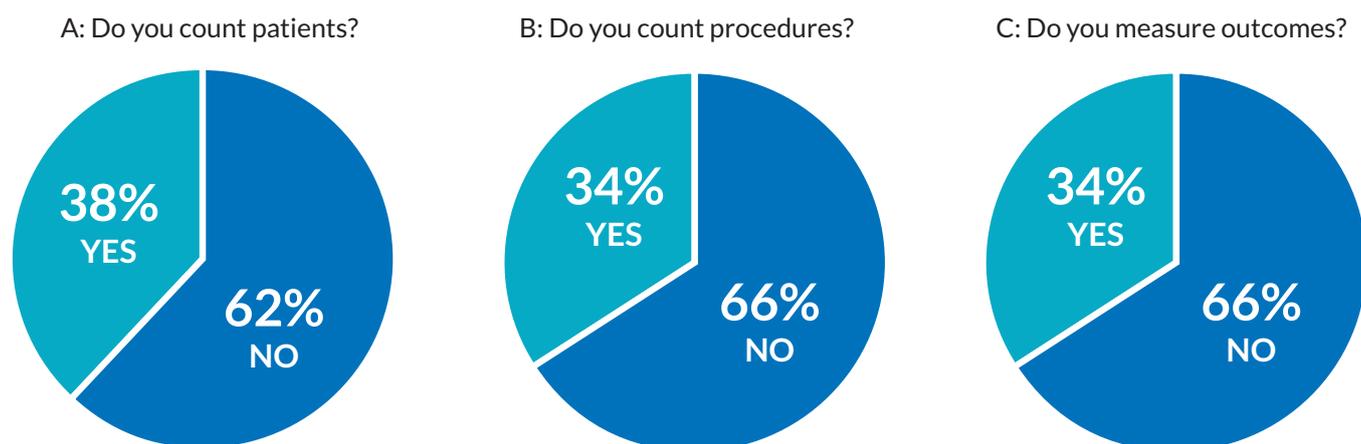


Source: GIRFT questionnaires

⁵⁵ See the specification at www.england.nhs.uk/wp-content/uploads/2013/06/d12-spec-ophthalmo-ad.pdf

Compared to glaucoma, a greater proportion of providers who said they offer the specialised service of paediatric anterior segment surgery⁵⁶ were able to confirm they provide data about the service. However, this was only just over a third of providers, amongst a smaller number of trusts who said they deliver the service (29, compared to 57 who said they provide specialised glaucoma services) and smaller number of patients overall.

Figure 11: Data collection about paediatric anterior segment services, amongst providers that stated they offer these services



Source: GIRFT questionnaires

While there is no indication that a failure to gather data has a direct impact on the quality of care that individual patients receive, it is important for several reasons that data issues are addressed.

Firstly, it is critical that patients have equitable access to treatment, including specialised treatment: for this to happen, the information available about specialised services should be accurate to refer patients to a provider of specialised services wherever necessary.

Secondly, the funding for specialised services should be distributed equitably to those who provide such services.

Thirdly, poor or unreliable data at a local level affects the national picture and understanding. At present, data relating to outcomes is not being routinely collected and discussed between providers and regional specialised commissioning teams. This means valuable insights into the effectiveness of often innovative treatments cannot be gleaned.

The responsibility for addressing this lies in part with providers, particularly in terms of data gathering around specialised services. However, there is also a primary role for NHSE Specialised Commissioning in terms of information provision and monitoring adherence with the standard contract.

Recommendation	Actions	Timescale
12 Review delivery of specialised services to ensure all aspects of the service specification, including data collection, are being met.	12A Providers and NHS Specialised Commissioning to improve their processes for recording data around specialised services, in particular around procedure numbers and outcomes.	Within 1 year from publication
	12B Regional specialised commissioning teams to review the commissioning of specialised services in their region, and in particular to focus on moving to a hub and spoke model.	Within 2-3 years from publication
	12C NHS England and NHS Specialised Commissioning to use the data collected by GIRFT to inform the forthcoming review of the service specification and development of the dashboard for specialised services in ophthalmology.	Ongoing – working group to commence 2019-20

⁵⁶ This term includes corneal surgery, corneal transplant and cataract surgery in children under the age of 2.

Workforce and workspace

Developing the ophthalmology workforce

Over the preceding sections, there has been repeated emphasis on the fact that the demand for ophthalmology services is growing faster than the workforce. There is a recognised shortage of sufficient staff to meet current demand. In its 2018 Workforce Census, RCOphth identified that *“an extra 230 consultant posts are required to meet the rising demand for ophthalmology services over the next two years.”* Many trusts are currently spending large sums on locums as well as scheduling additional work outside job plans. Yet still there are long delays for both outpatient and surgical work.

We have not sought to make our own calculations for the workforce numbers required – others have already made the case effectively. However, we share the fundamental view that the workforce needs to grow – not only in terms of consultants, but in all roles. This is based on the widespread evidence of long patient delays for outpatient review appointments and of providers regularly scheduling additional clinics and theatre slots in evenings and weekends beyond routine job planning.

At the same time, there are opportunities to assist with changing patterns of demand – and changing approaches to care – through developing the current workforce. In particular, roles across the wider team can evolve to reduce the pressure on consultant-delivered services.

Many of the recommendations made in this report and exemplars cited specifically refer to how members of the multidisciplinary team (MDT) – orthoptists, ophthalmic nurses, optometrists, pharmacists, vision scientists and technicians – have taken on additional roles and responsibilities within ophthalmic patient pathways.

We believe there would be significant benefit from encouraging greater specialisation, particularly in relation to nursing roles: as well as performing injections and diagnostic testing, specialist ophthalmic nurses bring greater experience and skills to every patient interaction. We would like to see the establishment of specialist MDTs, especially for managing high-volume cataract surgery as outlined earlier in the report: the evidence from trusts that routinely deliver high-volume lists is that such specialisation is key.

The value of additional specialisation and MDT working is well recognised by providers and is being implemented in many departments, with large numbers of trusts advertising for specialist ophthalmic nurses. In deep dive visits, many of the providers that do not currently recruit specialist ophthalmic nurses told us that they wished they could. The approach is also in line with the direction of travel set out in the NHS Long Term Plan, which emphasises the need for investment in the NHS workforce and in particular in nursing.

We also saw evidence of a real desire amongst team members to take on additional responsibilities; opportunities for career development are welcomed and can help reduce staff attrition. However, at present there are no standards of education for the developing clinical roles that are proving essential to deliver hospital-based ophthalmic care.

Furthermore, there is a lack of funding for training – even though the potential returns on such training would be of immediate benefit to providers and patients. This was raised repeatedly in deep dive discussions, where many providers told us that they struggled to find enough time or resource to train willing team members to develop these new skills.

Where provided, training is typically ad hoc and commonly reliant on senior clinicians giving their time outside of their core duties. In busy departments, such opportunities are rare. The lack of national educational programmes beyond the CoOptom higher qualifications framework and recognised training programmes for the non-medical ophthalmic workforce has been a major concern.

To help address this, relevant professional bodies – the RCOphth, CoOptom, RCN, BIOS and AHPO – have come together to produce the Ophthalmology Common Clinical Competency Framework (OCCCF),⁵⁷ which sets out agreed standards of knowledge and skills for a variety of roles for all non-medical ophthalmic graduate professionals working in the hospital eye services. This builds on the principles of Health Education England’s Multi-Professional Advanced Clinical Practice Framework⁵⁸, applying them to the context of ophthalmology. The curriculum is available and the required in-house training support is being developed by HEE in conjunction with local education training boards in England.

To enable the changes recommended in this report, it is now imperative that the curriculum from this framework is used within ophthalmology departments to build workforce skills as a vital step to addressing capacity and safety issues. In practice, this means supporting staff training, so care can be provided safely by a consistently trained and assessed workforce.

⁵⁷ See <https://www.rcophth.ac.uk/professional-resources/new-common-clinical-competency-framework-to-standardise-competences-for-ophthalmic-non-medical-healthcare-professionals/>

⁵⁸ See www.hee.nhs.uk/sites/default/files/documents/Multi-professional%20framework%20for%20advanced%20clinical%20practice%20in%20England.pdf

Such support is needed not only for conventional professional development, but also for shorter modular online education and supported local clinical training. This would reduce the training burden on local ophthalmologists and improve the quality and consistency of care for patients. In addition, there should be opportunities to use the existing apprenticeship schemes for those who wish to attain Advanced Care Practitioner status.

This support refers not only to funding but also time; both need to be allocated, within existing job plans, for both trainers and trainees to carry out essential clinical training, workplace-based assessments and joint learning.

The OCCCCF is focused specifically on graduate non-medical eye health care professionals (orthoptists, optometrists and ophthalmic nurses); similar approaches may be required to raise the standards of training for other members of the ophthalmology workforce.⁵⁹

Considering physical space in hospital eye services

During initial deep dive visits, several providers commented that one of the challenges they faced in meeting demand was a lack of space within ophthalmic units to deliver care effectively. Providers indicated they did not have enough consulting or treatment rooms to offer the number of appointments they would like (and need). In some hospitals, the size of waiting areas was viewed as a constraint: patients commonly need to attend accompanied.

The number of patients attending is a key factor in space becoming a constraint. Over the last decade, the number of outpatient appointments has increased by 40%, with a year-on-year increase in surgical activity requirements. Most departments were built, and space allocated, for significantly lower numbers of patients and fewer staff, based on a more traditional method of delivering care.

To help overcome this within existing space and facilities, 34% of providers told GIRFT that they offer extra clinics and longer hours outside job plans (98% of those who answered the question). Any work outside job plans places additional demands on staff.

Providers were also asked “Is space a limiting factor for the delivery of care to meet demand via new ways of working?” and “Does your layout lead to inefficiencies in levels of activity?” 49 of the 52 (96%) providers who answered these questions said that they felt lack of space in their department was a limiting factor for the delivery of care.

With patient numbers continuing to rise and some new ways of delivering care creating additional demands on space even as they address constraints on consultant time, it is important that issues around space are considered now, because solutions involving additional construction or capital investment will take time to complete, even if they do not need to be complex.

However, the first step in considering space requirements should be a review of care pathways, with a view to identifying whether any existing pathways are creating demands on space that could be met in different ways. This reflects the direction of travel set out in the NHS Long Term Plan, which aims to reduce substantially the proportion of care provided in the outpatient setting by making greater use of primary and community care and of digital technology. Several of the earlier recommendations in this report can assist. These include using primary care optometrists to review patients following routine cataract surgery (recommendation 3), discharging patients when they no longer need regular hospital care (recommendations 5 and 6) and utilising community facilities (mobile or fixed space) with IT connectivity to provide assessment and treatment protocols currently performed in the hospital eye service (recommendation 8).

While virtual clinics in ophthalmology offer the advantage of freeing up consultant time, they will not necessarily free up space in hospital eye services. The patient is still likely to be required to attend in person for assessments that are conducted by other members of the MDT; the virtual element refers only to the consultant’s interaction with the patient, reviewing the results. Virtual clinics allow consultants to make decisions about more patients, but they increase the demand on space as high volumes of patients are assessed in shorter times by a larger team. However, developing virtual diagnostic hubs in the community would both reduce the need for clinical face-to-face consultations and the need for additional space in the hospital setting.

There is also an emerging opportunity to use artificial intelligence (AI) to support virtual diagnosis in ophthalmology. This involves computers comparing new retina scans with a database of thousands of historic scans to provisionally identify more than 50 eye diseases. A detailed study conducted by Moorfields Eye Hospital NHS Foundation Trust and the University College London Institute of Ophthalmology has found that the highly specialised computers can accurately identify the disease in over 94% of cases.⁶⁰

Where the computer finds a match with the historic scans, the patient can be prioritised for further investigation or treatment. The advantage of using AI in this way is that computers can complete the task of reviewing the growing number of scans far more quickly than if we rely on human experts. It also frees up those human experts – busy consultants – to focus on treating patients rather than interpreting scans.

In general, the principle of providing appropriate aspects of care in other locations such as high street optometrists, community clinics and smaller, peripheral or community hospitals will serve to reduce the rate of increase in pressure on space in the main hospital eye service. Further opportunities include introducing mobile units, consisting of lorries or trailers with dedicated treatment rooms (such as the well-recognised example of Frimley Park Hospital) and establishing high street clinics, in existing community facilities or shopping centres (as in Manchester).

As well as reducing pressure on space, these approaches make ophthalmology services more accessible to some patients, reducing the distance they need to travel for appointments.

However, this too requires careful consideration and balance, as having too many small units, equipped with specialist equipment, is unlikely to be financially viable or clinically efficient. The optimal use of space will depend on patient numbers, the available space both in main hospital departments and other units, and on the efficiency of pathways. Innovative thinking is required, and the overall approach taken should be patient-centric, rather than based purely around the views of those delivering the service.

While some of the approaches considered in this report could help reduce pressure on space in hospital eye services, the reality remains that ophthalmology, with its workload heavily focused on the management of long-term conditions, will continue to require regular interactions with large numbers of outpatients. Therefore, a further step in considering pathways is to look at how appointments in hospital can become more efficient – particularly in terms of reducing waiting times at various stages – e.g. between arrival and diagnostic testing, between tests and meeting the clinician or between arrival and a procedure starting. Apart from the frustration of long waits for the patient, they also mean that providers have to dedicate large amounts of space in the department to waiting areas – space that could potentially be better used as additional assessment/treatment rooms.

Providers across the country are acutely aware of the issues and are adopting a range of approaches and solutions to make best use of available staff and space. It is important that commissioners and providers work together to identify how and where best to provide the right care to the right patients in the right place.

⁶⁰For more details of the programme and evaluation to date, see www.moorfields.nhs.uk/landing-page/deepmind-health-research-partnership

Recommendation	Actions	Timescale
13 Implement specialised ophthalmic MDTs across all units.	13A Providers to establish specialised ophthalmic theatre teams.	Within a year from publication
	13B GIRFT to work with Health Education England (HEE), RCOphth, CoOptom, BIOS, RCN and AHPO to develop consistent national frameworks for specialist roles in ophthalmology.	Within 2-3 years from publication
14 Implement the structured training curriculum which has been developed for non-medical ophthalmology health care professionals (HCPs) based on the Ophthalmology Common Clinical Competency Framework (OCCCF).	14A GIRFT to work with HEE, RCOphth, CoOptom, BIOS, RCN and AHPO to ensure that training arrangements reflect OCCCF.	Within 2-3 years from publication
	14B Training providers to implement agreed programme locally.	On completion of 14A
	14C Providers to put in place training strategies with clear timelines for non-medical staff.	On completion of 14B
15 Undertake a detailed assessment of patient pathways to identify needs for more space to offer patient-centred care in different settings.	15A Providers and commissioners to assess pathways and identify any areas where space may be a constraint on their overall capacity or their ability to deliver patient-centred care.	Within 1 year from publication
	15B GIRFT to work with NHS Improvement to examine options and gather case studies for increasing space, which may be in a community setting and include virtual service delivery.	Within 1 year from publication
	15C Providers to determine if space is a constraint on delivery of ophthalmology pathways locally and, with commissioners, consider options to provide increased space or rethink care settings.	Concurrent to 15B

Independent sector provision

Use of the independent sector to provide some NHS services is well established, helping to increase patient choice and providing additional capacity to meet waiting time standards. The Long Term Plan gave a commitment that the NHS will continue to provide patients with a wide range of options for elective care, including making use of available independent sector capacity.⁶¹ The GIRFT programme recognises this commitment, and is developing a programme of deep dives for the independent sector accordingly. Our work to assist the independent sector has started in orthopaedics, and we plan to extend the project to cover independent sector providers of ophthalmology.

It is important that arrangements are in place to ensure high quality, sustainable and efficient NHS-funded care, whether that care is provided by the NHS or by independent sector providers. During our deep dive visits at NHS providers – in common with findings from the GIRFT workstreams on orthopaedics and spinal surgery – the following issues were raised relating to independent sector provision in ophthalmology:

Costs

There are concerns that the current pricing arrangements for ophthalmology services do not sufficiently reflect the different case and activity mix that providers undertake. Ophthalmic units commented that some providers choose to focus on high-volume, low-risk procedures. Moreover, it was suggested that NHS providers typically cover a broader range of ophthalmic care, meaning they carry out a greater proportion of more time-consuming and higher cost procedures with typically more frequent follow-up. This does not mean to imply that independent providers do not perform any complex procedures. However, ophthalmic units were of the view that for common procedures, such as cataracts, some providers have a simpler case mix. The increase in data submission to NOD by both NHS and Independent Sector providers is one way in which data can be collected to clarify this point.

In addition there are also concerns that costs associated with work which arises when a provider deals with complications following procedures carried out by another provider are not routinely collected. If all units, including independent sector units, submit data to NOD then this will also provide an additional source of information relating to complications and their management.

We are of the view that further work is needed to review pricing and contractual arrangements relating to case mix, as well as to improve understanding of costs associated with complications. When undertaking this work, it would be important to acknowledge that the concerns we are reporting need to be thoroughly tested with data. In summary, we see a need for analysis to investigate potential cost issues related to activity and case mix issues. This reflects points raised in our NHS visits about independent sector provision, but would be aimed at improving pricing and contracting as appropriate.

As such, GIRFT will commission analysis to understand how far current national tariff prices⁶² (which apply equally to NHS and independent sector providers) are sensitive to case and activity mix and how this affects resourcing for different types of services. For context, the *fair playing field review* recognised that basing the tariff on the actual costs of provision could help address comments raised in that review regarding differences about services provided by the independent sector. It also noted that commissioners have scope to specify case mix in contracts, but that commissioners rarely use this flexibility.⁶³ Our proposed analysis should help identify the necessary practical steps to implement the recommendation of the *fair playing field review*, both through potential changes in national pricing and through potential local commissioning options identified in the review. This analysis would be based principally on data about patient-level costs. Importantly, independent sector providers are now also beginning to submit data to NOD for cataract surgery⁶⁴. As NOD data is adjusted to accurately reflect clinical risk and complexity for cataract surgery this may also provide data to inform our understanding of case mix. We expect GIRFT's deep dive visits in the independent sector will provide insight relevant to this work.

Depending on the results of our analysis, we would expect this work to enable more accurate resourcing of care. Improving the fairness of payment should also help providers deliver some of the other recommendations in this report, including increasing the average number of cases per cataract surgery list.

⁶¹ NHS (2019) *The NHS Long Term Plan*, page 74, available via: <https://www.longtermplan.nhs.uk/wp-content/uploads/2019/01/nhs-long-term-plan.pdf>

⁶² Pricing conditions, including compliance with the National Tariff, apply to all Provider Licence holders, regardless of sector, Monitor (2013) *The New Provider Licence*, available via: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/285008/ToPublishLicenceDoc14February.pdf

⁶³ Monitor (2013) *A fair playing field for the benefit of NHS patients: Monitor's Independent Review for the Secretary of State for Health*, page 31, available via: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/284634/The_Fair_Playing_Field_Review_FINAL.pdf

⁶⁴ *National Ophthalmology Database audit (2018) National Ophthalmology Database audit: Year 3 Annual Report – The Second Prospective Report of the National Ophthalmology Database Audit*, available via: <https://www.nodaudit.org.uk/u/docs/20/avusuryktz/NOD%20Audit%20Annual%20Report%202018.pdf>

Training

There are concerns that, in planning and commissioning ophthalmic services, there can be insufficient attention to the impact on training arrangements⁶⁵. For instance, there are cases where trainees have been removed from NHS units because the unit does not carry out enough low-risk procedures (eg; routine cataract operations) to enable them to complete the required number within the training period. We consider that further work is needed to consider how best to provide the right training opportunities, taking into account the different case mix of different providers.

These concerns can be addressed by working with Health Education England (HEE) to support commissioners to assess the impact of commissioning decisions on training, and providing suitable arrangements for trainees. This was also recommended in the fair playing field review. GIRFT would seek to work with the independent sector in considering and addressing any issues related to training.

Governance

We have heard concerns about clinical governance and information sharing in relation to some services provided by independent providers. In one case, a trust reported that the local independent provider had only started providing data relating to cataract activity more than ten years after the relevant services had begun. While this was an extreme example, we have heard widespread concerns about lack of information sharing.

There is a clear need for all parties to establish standard protocols around the sharing of patient information before and after treatment to ensure continuity of care and avoid duplication of effort. Where information sharing is not well coordinated, this can result in disjointed follow-up of patients following treatment or surgery, as well as duplication of work and investigations when patients are referred on to NHS hospital eye services, either as an emergency following complications or electively because their condition is not suitable for treatment by an independent sector provider. Some important action on information sharing is already underway, including the development of a Consultant Oversight Framework, led by Sir Bruce Keogh, which will establish an approach for overseeing consultant practice in the independent sector⁶⁶. As discussed, independent sector submission to NOD is also welcome. GIRFT would hope to offer further advice and assistance in these issues, in its future work with the independent sector in ophthalmology.

There are also concerns about governance issues where there is an unexpected withdrawal of independent sector services. There needs to be greater clarity and transparency, including in commissioning contracts, as to the responsibilities of the exiting independent provider in these circumstances. Again, GIRFT would seek to work with the independent sector in exploring any issues like these.

Recommendation	Actions	Timescale
16 Consider changes to pricing arrangements that better reflect costs associated with different case mix and types of activity.	16A GIRFT to commission costing and pricing analysis to investigate the payment system's effect on providers with differing case mix and types of activity, involving stakeholders below.	Within 1 year from publication
	16B Discuss results with NHS England/NHS Improvement, relevant professional bodies and other stakeholders, including the United Kingdom Ophthalmology Alliance and Independent Hospital Providers Network to agree next steps.	On completion of 19A
17 Improve arrangements for training, taking into account the different skill mix of different providers.	17A GIRFT to work with HEE to support commissioners in assessing the impact of commissioning decisions on training and providing suitable arrangements for trainees.	For continual action
18 Improve clinical governance and information sharing arrangements in relation to services provided by independent sector providers.	18A GIRFT to provide advice on clinical governance and information sharing as part of its work with the independent sector, cognisant of work already underway in this area. All providers should also discuss and resolve governance issues locally.	For further consideration from October 2019

⁶⁵ These concerns are reflected in Royal College of Ophthalmologists *The Way Forward* (2017): *Options to help meet demand for the current and future care of patients with eye disease (Cataract Report)*, pg 18, and academic literature studying impact of independent provision on training in Ophthalmology.

⁶⁶ As described by Independent Healthcare Providers Network (2018) *Sir Bruce Keogh to develop framework on the oversight of consultants in independent hospitals*, available via: <https://www.ihpn.org.uk/news/sir-bruce-keogh-to-develop-framework-on-the-oversight-of-consultants-in-independent-hospitals/>

Improving the quality and use of data

Throughout this report, we have repeatedly discussed two fundamental issues relating to data:

- the need to share individual patient data more effectively – whether within a hospital, between secondary providers, or across the primary/secondary care interface;
- the need to improve the central recording of data relating to ophthalmology services, such as patient and procedure numbers, treatment choices and outcomes.

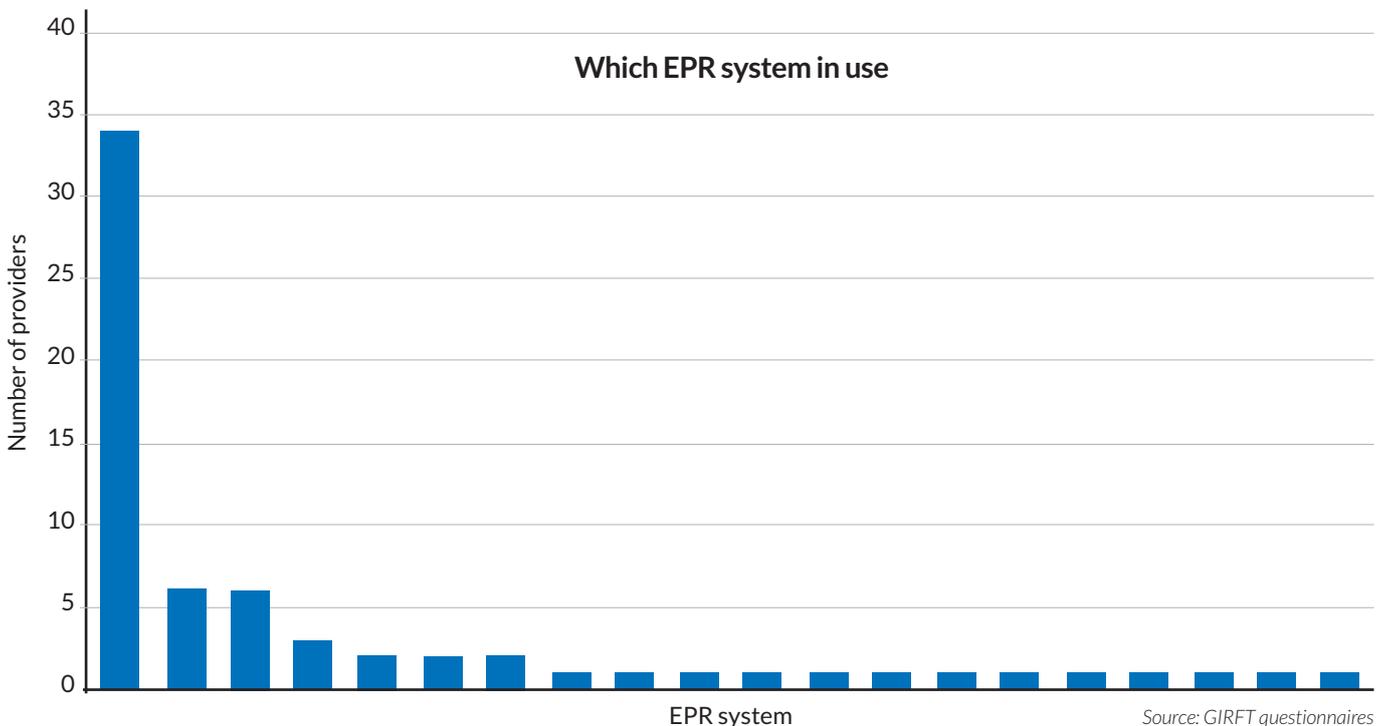
The first of these is essential to enabling effective, timely care on an individual level. The second helps us understand the specialty and identify opportunities for improvement. There are, at present, notable gaps in both areas.

Sharing information effectively

The need for better information sharing across the NHS is well-documented and there is a commitment to introduce a comprehensive electronic patient record (EPR) system by 2020. While concerns have been voiced about whether the full roll-out can be achieved by that target date, many hospitals have invested in some form of EPR or a more basic patient administration system (PAS). Some of the EPR systems are implemented hospital-wide; others have been introduced on a departmental basis, to meet the specific demands of managing clinical data in that department.

As part of the questionnaire, the GIRFT team asked each ophthalmology department if they had an EPR system: 63% responded 'yes'. The questionnaire also ascertained the type of EPR in use. Responses indicated that 20 different systems are in use within ophthalmology, with one system being used in half of the units that have EPR. However, of these 20 systems cited, 13 were used by one provider only. Two systems were developed in house, so are also effectively unique (though it is likely they are used by all specialties within the trust).

Figure 12: Responses to GIRFT questionnaire about which EPR system providers use



It became apparent during deep dive discussions that some of the tools in use are very limited in their capabilities. While they may provide facilities such as digital scanning and archiving, some had very little capacity to perform clinical audit and to share information with other systems. In particular, older PAS platforms do not interface effectively with clinical EPRs.

Based on this, the GIRFT team has concerns that some of the tools described by providers as EPRs will not assist ophthalmology services in addressing the wider challenges identified in this report, such as assisting in identifying timely follow-up for patients with chronic conditions and fulfilling the need for national reporting to improve patient care.

Several providers also told us that their EPR systems do not interface with other essential patient information systems that are unique to ophthalmology, such as visual field machines and retinal imaging. In practical terms, this means medical staff need to spend additional time viewing the results from scans – possibly in a different location – and then spending time entering the results on the EPR. More modern software, fully integrated into hospital IT networks (or into ICS-wide networks) should address these issues and so save time for the medical staff.

These issues point to some of the core criteria that providers should consider when selecting an EPR system:

- an ability to be networked so that information can be shared with other systems, including other EPRs;
- tools for tracking patients to ensure timely follow-up; and
- capacity to support clinical audit.

Further recommended criteria are set out in the RCOphth publication *Electronic Medical Records – Standards for UK Ophthalmology Services*, which also includes advice on preparing for the introduction of an EPR.⁶⁷

There are now numerous EPR systems available off the shelf which can meet the recommended standards and facilitate effective joint working.

Enabling continual quality improvement

EPR can also assist with monitoring outcomes of treatments given – both individually, and to provide valuable data to determine best practice. For example, EPR systems would be expected to hold details of when a patient has received intravitreal injections along with records of their visual acuity. At an individual level, this can be used to monitor the effectiveness of the treatment; it could lead to a decision to switch to an alternative anti-VEGF medication if the patient is not responding.

On a national level, this same data can feed into analysis of outcomes and into future decisions about pathways. For instance, consolidated data could reveal that most patients with a specific co-morbidity responded sub-optimally to a certain medication, but better to an alternative.

This is significant both at an individual level and a national one. The cumulative cost of such injections was calculated by NICE to be over £450 million a year: at present, there is little data about the outcomes, which restricts discussions of improvements to the approach. It is important to audit the outcomes of such treatments so that pathways and budgets can be considered accordingly, and unnecessary injections, which carry risks to patients as well as waste of resource, are avoided.

But while EPR can generate the data to enable such analysis, it is only part of the picture. There also needs to be a means of gathering the data into a single place. For our specialty, there are currently very few national datasets. Because much of the care provided is in an outpatient setting, ophthalmology is not well covered by Hospital Episode Statistics. While the National Ophthalmology Database (NOD) provides a central registry for cataract surgery, with detailed clinical, surgical and outcome data being collected about all cataract operations in England, there are no parallel standards or data collection mechanisms for the management or outcomes of either AMD or glaucoma – vital to help define best practice.

Use of the NOD

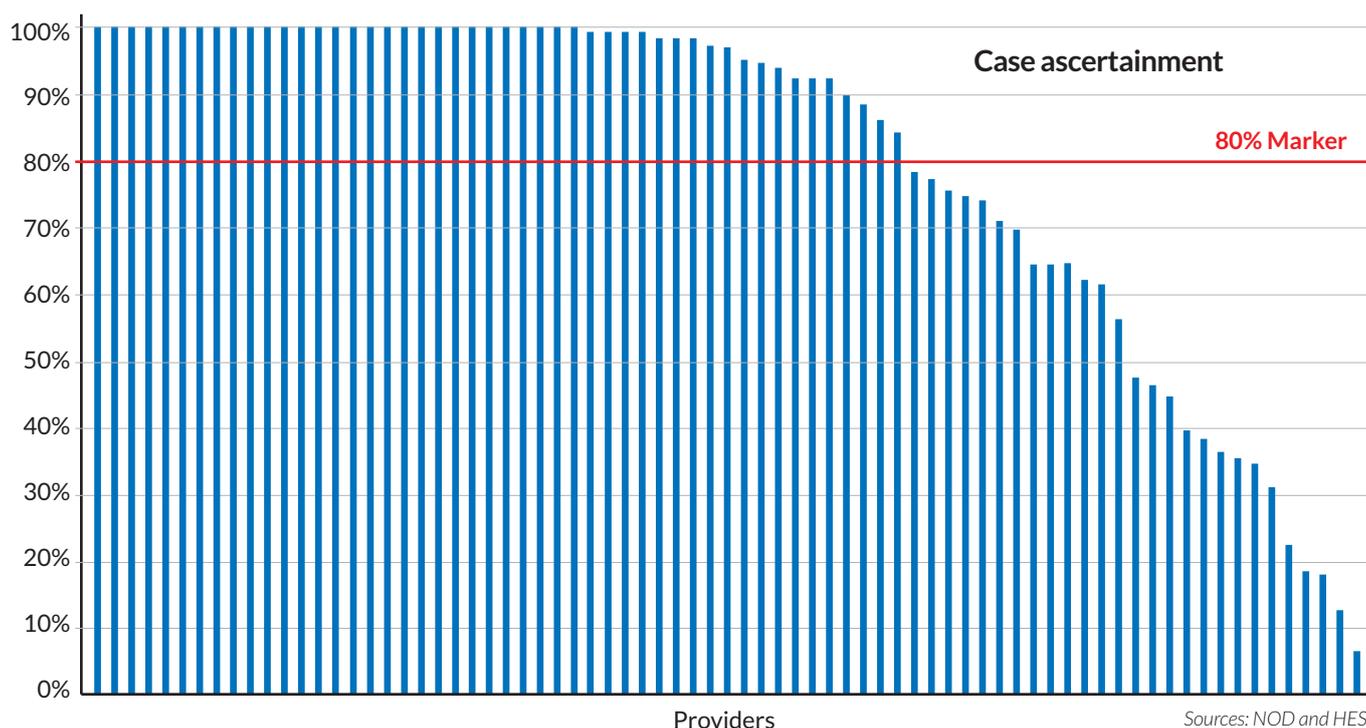
The NOD has become increasingly recognised as an important tool that provides quality assurance of the most frequently performed surgical procedure undertaken on the NHS. The NOD uses posterior capsule rupture (PCR) rate as the index complication for cataract surgery and since the NOD began, PCR rate has been reduced by over 30%.

Since 2014, the NOD has been part of the National Clinical Audit and Patient Outcomes Programme (NCAPOP) and submission of data is mandatory through the NHS Standard Contract. Despite this, submission rates vary greatly between providers; some providers do not submit data at all. According to the 2018 NOD audit report, 54 providers recorded case ascertainment in more than 80% of cataract surgery procedures. The total number of operations analysed was over 100,000 higher than the previous year, indicating a positive trend in terms of data collection and submission.

⁶⁷ RCOphth (2018) - *Electronic Medical Records – Standards for UK Ophthalmology Services* <https://www.rcophth.ac.uk/wp-content/uploads/2018/06/Electronic-Medical-Records-Standards-for-UK-Ophthalmology-Services.pdf> *Electronic Medical Records (EMR) is an alternative term for Electronic Patient Record (EPR).*

Nonetheless, there remain concerns about the completeness of the data. We compared the case ascertainment data about cataract surgery between 1 September 2016 and 31 August 2017 submitted to the NOD (the number of phacoemulsification procedures) with the number of cataract surgery procedures recorded in HES over the same period. Figure 13 below shows the results.

Figure 13: Case ascertainment for cataract surgery in the NOD compared to HES, by provider, 1 September 2016-31 August 2017



The chart demonstrates that more than half of providers are reporting consistently to both the NOD and HES. However, 16 providers are reporting the same data consistently in under 50% of cases with four doing so in under 20%.

This indicates that some providers are not routinely reporting case ascertainment, leading to a gap in our overall understanding of the decision-making criteria used for cataract surgery across providers. This needs to change. Further, without effective ascertainment information, outcome measures (where reported) become less useful.

During deep dive visits, several providers highlighted that to fulfil NOD reporting requirements – which they wanted to do – clinicians had to use a separate system, in addition to their existing PAS or EPR platform, which did not co-ordinate with the NOD. This meant they effectively had to enter data twice. This reinforces our view that networked EPR, that facilitates reporting to national registries, is crucial to avoid creating additional work for clinicians: data should only have to be entered once.

The NOD now holds data on hundreds of thousands of cataract procedures, so can play a vital role in monitoring patient outcomes. However, its future funding is not secure. Further, because it is focused solely on cataract surgery, the NOD is not currently able to meet all of the specialty’s reporting requirements; for instance, there is at present no routine national data collection around intravitreal injections for wet AMD.

Our proposal: a single national ophthalmology data registry

Our view is that there is a pressing need for a national ophthalmology registry of some form; one that is mandatory, including for the independent sector, and that collates outcome data across all the most common sight-threatening conditions – not only cataract, but also glaucoma and wet AMD. Submission of data should be straightforward, ideally reflecting what is collected by the most commonly used EPR systems, and providers should only need to submit data to one place.

Such a registry would be invaluable for many reasons. It would provide a more accurate picture of the specialty's workload. It would facilitate analysis and improvement, for example by allowing us to compare outcomes of different approaches to the same condition. It would also potentially offer benefits in terms of patient safety; for example, if an unexpected issue emerged in relation to a particular type of intraocular lens, a comprehensive registry would make it easier to identify which patients had received that type of lens.

Given that the NOD is already well-known, and part of the NCAPOP, there is a strong logic to extending it, using existing requirements as the basis for a broader registry that also covered the other most common sight-threatening conditions. We believe it is therefore important to secure medium-term funding to maintain it and explore sustainable funding models for it, such as the subscription model used by the National Joint Registry. We have been able to benefit from the status of the GIRFT programme to raise this issue with numerous NHS and professional bodies and discussions about long-term funding are underway.

However, we recognise that extending the NOD may not be the only viable long-term solution and would welcome innovative ways to achieve the underlying goal: to establish a single national registry for the collection of relevant data covering the whole of our specialty, and for data collection to be recognised as an integral part of routine care.

Recommendation	Actions	Timescale
19 Facilitate joint working within providers, between providers and with primary care to continue the rollout of networked EPR in ophthalmology.	19A Trusts to consider using the RCOphth Electronic Medical Records – Standards to inform any EPR procurement exercise and make capability for information sharing a key criterion.	For consideration as part of existing EPR rollout
	19B Providers to explore feasibility of using existing EPR systems to support joint working and information sharing.	For consideration as part of existing EPR rollout
20 Improve the quality, depth and accuracy of data collected nationally about ophthalmology services and clinical outcomes, without adding to provider workloads.	20A Providers, including independent sector providers, to increase case ascertainment for cataract surgery in the NOD to at least 85% of cases.	For immediate action
	20B GIRFT to work with RCOphth and NHS England to consider the introduction of, and develop requirements for, a national audit for glaucoma interventions (laser and surgery), based on the feasibility study undertaken by HQIP, including measuring clinical outcomes.	For immediate action
	20C GIRFT to work with NHSE to consider the introduction of, and commission a pilot for, a national AMD audit based on the feasibility study undertaken by HQIP.	Within 6 months from publication
	20D Trusts to submit data to all these national data collections as required.	
	20E GIRFT to explore with NHS England, HQIP, the RCOphth and others the sustainability of national outcomes collections to maximise data sharing and reduce duplication in collections.	For ongoing discussion

Reducing procurement costs

Ophthalmology is a specialty that relies on high-cost, high-technology equipment and devices for both its diagnostics and interventions. Some of the most common eye conditions, such as glaucoma and AMD, are chronic conditions and require repeat diagnostics. With cataract surgery and intravitreal injections being amongst the most common procedures in the NHS, volumes are significant.

Working with the UK Ophthalmology Alliance (UKOA), the review team sought to analyse the variation in procurement costs across trusts to identify opportunities for savings. Data gathered showed there is significant variation in products used and prices paid, and many trusts were relatively unaware of comparable products and costs across the NHS.

Procedure packs

An intravitreal injection for wet AMD involves injecting a drug into the posterior segment of the eye under sterile conditions. Even though this procedure is one of the simplest carried out across the NHS, there appear to be well over 100 combinations of intravitreal procedure packs. It is not uncommon for those who carry out the injections to have their own specially designed packs which may contain 14 or more items. This level of variation is unnecessary and unwarranted. The UKOA and review team also uncovered many instances where half of the pack contents were routinely discarded un-used.

Given this variation, it is almost impossible to compare quality and cost across the NHS, so the UKOA is working on a programme to develop just two standard packs (one with drape, one without) rationalising down to a core of just eight items for a drape pack. The story is the same for cataract surgery procedure packs and the UKOA is establishing a similar programme to help the NHS reduce its range.

Intraocular lenses

Data from NHSI's Purchase Price Index and Benchmarking (PPIB) database reveals there is significant variation in the brands used and prices paid for intraocular lenses across trusts. The NHS spent around £14.5m on lenses in 2017-18. Some 45 different brands were bought from 16 companies across the service, with some trusts using as many as 12 brands within their hospitals. We know from other specialty reports that this level of fragmentation not only leads to higher prices but also more costly supply chains, as inventories must be held for the different brands.

The top 10 brands account for 80% of the £14.5m, leaving 35 brands for the remaining 20%. 88% of the spend is with just five companies, leaving 12% for the remaining 11 companies.

Some of the 35 are likely to be for very specific needs or conditions, such as very high myopia or a congenital cataract: these will be used in lower volumes but are likely to have higher prices. The need for these will remain.

However, we also understand that there is variation in the use of the less specialist lenses and it is here that we question whether this is necessary. Efficiencies could be gained by rationalising the number of brands and suppliers used for common lenses across the service.

There is also a significant price variation not only between suppliers and brands, but also with the same brand from the same supplier. This variation is only loosely correlated to the size of a trust and the volumes it buys (see figure 14 below). However, this data needs to be treated with caution as there may be underlying reasons for the differences, such as linked deals to equipment.

Figure 14 – Intraocular lens (mono-focal) price range by provider

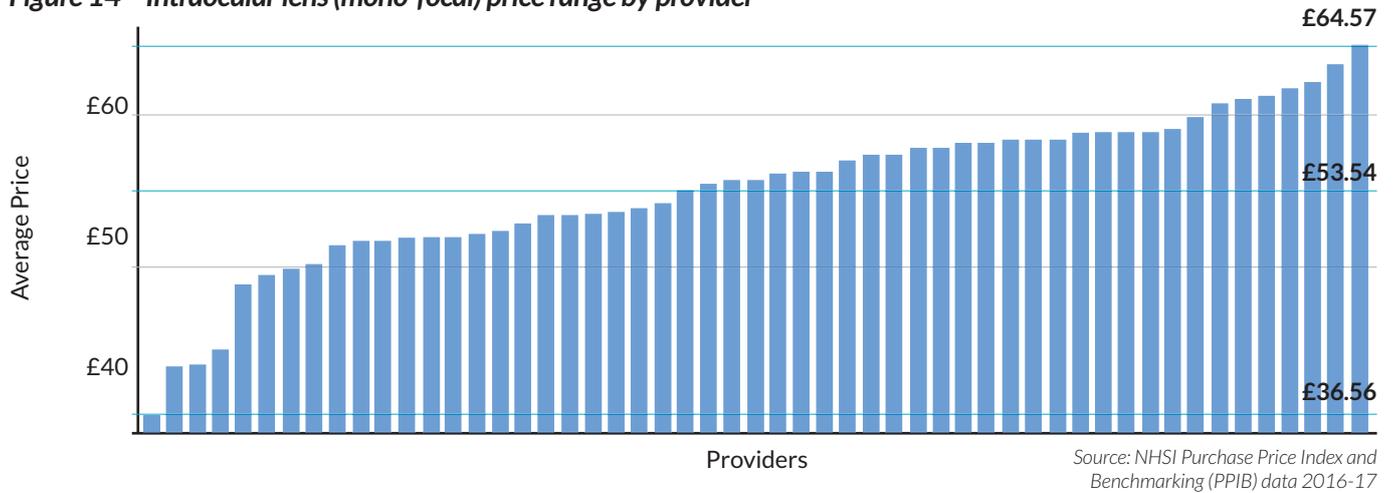
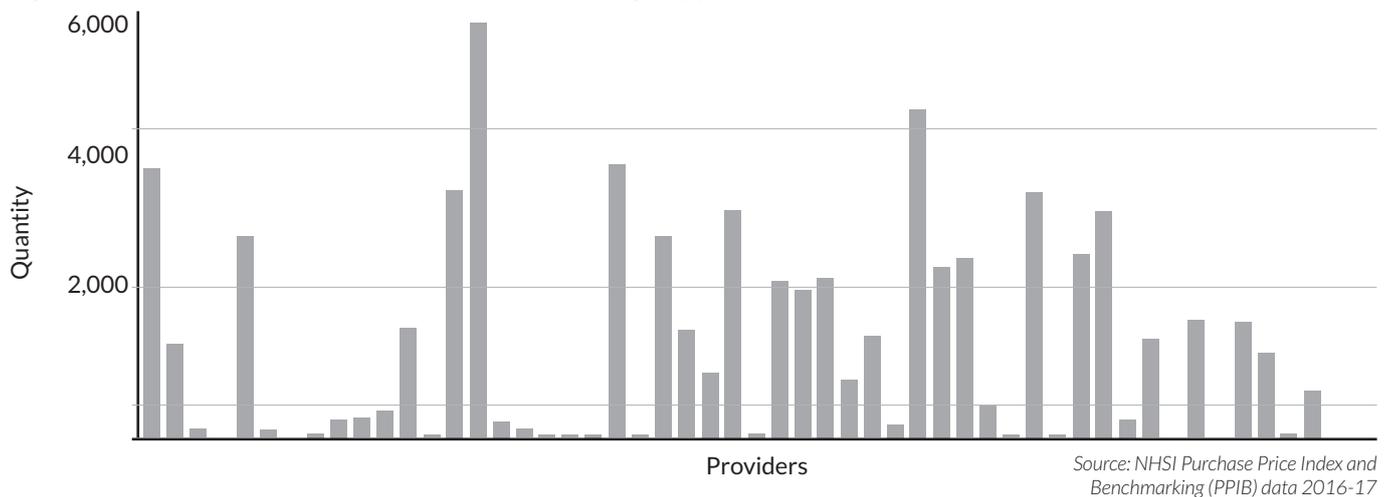


Figure 15 – Intraocular lens (mono-focal) quantity range by provider



Even allowing for the caveats such as underlying linked deals to equipment, this suggests there is an opportunity to save up to £1.5m on the £14.5m, just by securing some of the better prices achieved by trusts. Further, this does not even consider the efficiencies that could be gained by rationalising the number of products and brands used across the NHS. Currently only around 30% of lenses are contracted through NHS Supply Chain; with the new operating model for NHS procurement recently developed, there is a significant opportunity for the new Category Tower to increase its national influence and help the NHS with a coordinated rationalisation programme to lower costs across the service.

Product level outcome registries

There is no routinely collected national clinical outcome data by which products and brands can be judged for quality and effectiveness, so choices tend to be made by clinicians, balancing their own perceptions of quality and cost. It should be possible to measure product performance through clinical outcomes. For example, for cataract surgery, it would be valuable to track posterior capsule opacification (PCO) rates of development and subsequent corrective Nd:YAG laser treatment for different intraocular lenses. However, as yet such data is not collected nationally. The UKOA is currently developing national quality criteria with expert consensus and the NOD could be expanded to capture PCO and YAG rates so that clinicians and buyers can make more informed choices in future.

The UKOA is also examining instrument sets and devices and the GIRFT team will be working closely with the UKOA, RCOphth and the new Category Towers to support rationalisation and standardisation across the NHS.

National Clinical Technology Advisory Panel (NCTAP)

Within GIRFT, a National Clinical Technology Advisory Panel (NCTAP) will be introduced to provide national guidance on device specification, evidence and safety. NCTAP will also work to enable product-level outcome registries, as well as review procurement opportunities and best value.

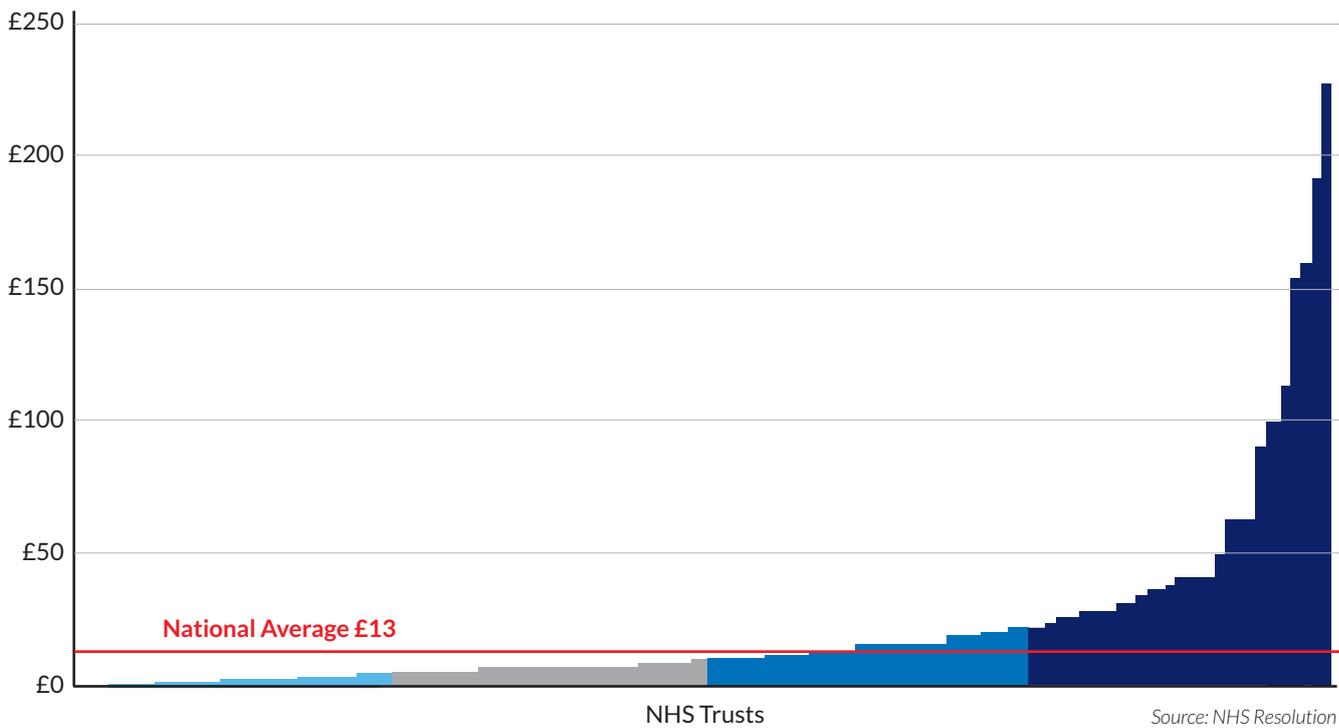
Recommendation	Actions	Timescale
21 Enable improved procurement of equipment and devices through: <ul style="list-style-type: none"> • cost and pricing transparency; • aggregation and consolidation; • the spreading of best practice; • encouraging trusts to purchase all of their lenses through NHS Supply Chain; and • reducing the unwarranted variation in procedure and instrument packs across the NHS. 	21A GIRFT to work closely with sources of procurement data such as PPIB and PLICS and use relevant clinical data to identify optimum value for money procurement choices, considering both outcomes and cost/price.	January 2019
	21B GIRFT to identify short and long-term opportunities for improved value for money, including the development of benchmarks and specifications, and locate sources of best practice and procurement excellence, identifying factors that lead to the most favourable procurement outcomes.	February 2019
	21C GIRFT to work with the UKOA and the new Category Towers to rationalise and standardise procedure and instrument packs across the NHS to reduce variation.	March 2019
	21D Trusts and STPs to work with GIRFT and the new Category Towers, to benchmark and evaluate their products and seek to rationalise and aggregate demand with other trusts to secure lower prices and supply chain costs.	March 2020
	21E GIRFT, UKOA and Category Towers to develop standard specifications for procedure packs to enable cost comparison, building on the work already commenced by UKOA.	March 2021
	21F GIRFT to work with RCOphth, the NOD and the UKOA to develop and collect outcome measures to better inform procurement of intraocular lenses	TBC
	21G GIRFT to establish an ophthalmology National Clinical Technology Advisory Panel (NCTAP) to review national specifications, device safety and efficacy as well as provide guidance on best value.	TBC

Reducing the impact of litigation

As well as addressing variation in clinical practice, each of the GIRFT programme teams has been asked to examine the impact and causes of litigation in their field, with a view to reducing the frequency of litigation and more importantly reducing the incidents that lead to it. By giving clinical staff the opportunity to learn from claims, complaints, serious untoward incidents (SUIs), serious incidents (SIs) and inquests, patient care should improve, and costs should reduce, both in terms of avoiding litigation in the first instance and through reduced costs for managing the complications from incidents.

Data obtained from NHS Resolution shows that clinical negligence claims in ophthalmology as a whole were estimated to cost between £25.3 and £52.1 million per year over the last five years. This equates to an estimated mean cost of litigation per admission or outpatient procedure was £13. There are vast differences between providers, with some reporting an average cost per admission or procedure of £0, while at the other end of the scale, one provider generated an estimated average of £228 in litigation costs per admission or outpatient procedure.

Figure 16: Variation in England between trusts in estimated litigation costs for Ophthalmology per admission or outpatient procedure. (Denominator includes outpatient procedures or day case, elective and emergency admissions for ophthalmology and paediatric ophthalmology, for patients of all ages.)



Over the five-year period under review, there has been an increase in both total number of claims and the estimated costs (Table 2).

Table 2: Number and cost of medical negligence claims against ophthalmology notified to NHS Resolution 2012/13 to 2016/17

Year	Number of claims	% change in claims number	Total costs (£m) (including estimated and reserve values)	% change in total costs
2012/13	207	-	£27.4m	-
2013/14	244	17.87	£25.3m	-7.70
2014/15	230	-5.74	£31.8m	25.52
2015/16	255	10.87	£31.3m	-1.57
2016/17	272	6.67	£52.1m	66.61
Total	1208	-	£168.0m	-

Source data: NHS Resolution 2012/13 to 2016/17

The most common causes for claims were 'judgement/timing' (597 claims, 49.42%), 'interpretation of results/clinical picture' (254 claims, 21.03%), 'unsatisfactory outcome to surgery' (245 claims, 20.28%), 'failure to make follow-up arrangements' (85 claims, 7.04%) and 'fail to warn/informed consent' (64 claims, 5.30%). The impact of informed consent on surgical claims is more significant than the 64 claims which were directly identified. Lack of fully informed consent has played a role in many of the claims which were attributed to 'unsatisfactory outcome of surgery'. Many of these claims are clearly avoidable through an adequate consenting process in which an informed patient is involved in shared decision making.

Every effort should be made to learn from clinical negligence claims, to improve the safety and quality of patient care, and to reduce the costs of litigation. Effective learning from claims allows good practice to be shared and has the potential to reduce claims and to ensure that resources are not unnecessarily diverted from frontline care. Most importantly, this learning means more patients receive the right care first time, with fewer failed or ineffective treatments and less care packages needed by patients suffering complications.

It is generally recognised that some of the more common causes of claims are preventable. Issues around judgement and timing could be deemed to relate to surgical experience and decision-making: there are potentially opportunities to address these through education and training.

However, arguably the key contributory factor in claims associated with judgement and timing, and in claims for 'failure to make follow up arrangements', is the specialty's capacity to meet the growing demand for activity – a central theme of this report. Over the five-year period, 293 claims related to loss of vision. This is equivalent to 24.25% of all the claims received against ophthalmology and amounted to a total cost to the specialty of £71 million. The number of claims is broadly in line with the findings of studies such as the 2017 BOSU report, that in the UK about 20 people a month lose their vision due to delays in receiving follow-up care.

This report has examined some ways to address this, both by freeing up capacity in hospital eye services and through the introduction of failsafe or validation officers, who are responsible for ensuring patients are seen in a clinically safe time. This role addresses a known issue, where the lack of targets for outpatient reviews – compared to targets for initial treatment – can lead to outpatients becoming a lower priority.

Also, there is evidence that in some cases claims may not be effectively defended because the provider lacks the documentary evidence to demonstrate correct processes have been followed and patient's interests considered.

It was clear during GIRFT visits that many providers had little knowledge of the claims against them. This includes some with high litigation costs per admission as well as those at the low end. As a consequence, very few lessons have been learnt from the claims to inform future practice. Further work is needed at both a local and national level to analyse claims to maximise this opportunity to improve patient care. A practical first step towards this is for trusts to register all claims as serious incidents (SIs) or serious untoward incidents (SUIs). Trusts have rigorous, well-established processes for investigating and, where appropriate, learning from SIs/SUIs; these same processes will not only ensure the providers are aware of the claims made but also provide a robust framework for examining them.

Recommendation	Actions	Timescale
<p>22 Reduce litigation costs by application of the GIRFT Programme's five-point plan.</p>	<p>22A Clinicians and trust management to assess their benchmarked position compared to the national average when reviewing the estimated litigation cost per activity. Trusts will have received an updated version of this for ophthalmology in the GIRFT 'Litigation in surgical specialties data pack'.</p>	<p>For immediate action</p>
	<p>22B Clinicians and trust management to discuss with the legal department or claims handler the claims submitted to NHS Resolution included in the data set to confirm correct coding to that department. Inform NHS Resolution of any claims which are not coded correctly to the appropriate specialty via CNST.Helpline@resolution.nhs.uk</p>	<p>Upon completion of 20A</p>
	<p>22C Once claims have been verified clinicians and trust management to further review claims in detail including expert witness statements, panel firm reports and counsel advice as well as medical records to determine where patient care or documentation could be improved. If the legal department or claims handler needs additional assistance with this, each trusts panel firm should be able to provide support.</p>	<p>Upon completion of 20B</p>
	<p>22D Claims should be triangulated with learning themes from complaints, inquests, SUIs and SIs; where a claim has not already been reviewed as a SI/SUI, this should be carried out to ensure no opportunity for learning is missed.</p>	<p>Upon completion of 20C</p>
	<p>22E Where trusts are outside the top quartile of trusts for litigation costs per activity GIRFT we will be asking national clinical leads and regional hub directors to follow up and support trusts in the steps taken to learn from claims. They will also be able to share with trusts examples of good practice where it would be of benefit.</p>	<p>For continual action throughout GIRFT programme.</p>

Notional financial impact

This report has set out a series of recommendations to improve the delivery of NHS ophthalmology services using the existing resources available to the specialty. Taken together, these recommendations would serve to:

- free up capacity, enabling more patients to be seen and treated effectively in a timely way;
- reduce reliance on consultant-delivered care, making greater use of the wider team to monitor patients whose conditions are stable;
- reduce the risk of avoidable sight loss and help protect people's vision for longer.

In this extremely busy specialty, where patient numbers are growing fast, progress in all of these areas would be invaluable to patients and providers alike.

The specific impact in some areas is hard to measure. But in others, there is a clear tangible benefit that could be realised. The GIRFT team has sought to calculate this, providing a compelling case for change in commissioning and service provision.

Notional financial opportunity

Considering just three of the changes this report recommends, GIRFT analysis has calculated there is a notional financial opportunity of between £38m and £63m a year for ophthalmology, through:

- improving conversion rates for cataract surgery;
- increasing the average number of cataract procedures performed on a four-hour surgical list; and
- increasing the average number of intravitreal injections for wet AMD performed in a four-hour session.

These opportunities are notional, putting an estimated value on all providers achieving at least the average or best quartile performance. The figures are gross sums, based on historic activity levels: as they rely on process change and productivity improvements, they are not necessarily cash-releasing and do not represent a comprehensive set of all opportunities discussed in the report. Nonetheless, they provide an indication of what may be possible.

Each opportunity would also bring with it benefits to patients. For example, they could mean more than 100,000 patients are not required to attend hospital unnecessarily to discuss cataract surgery when they do not want or need it. Those 100,000 appointments could then be re-allocated to other patients.

There are further cost savings that could be realised through streamlining procurement – calculated at a cash-releasing saving of £1.5 million for the specialty – and reducing the costs resulting from litigation. As the previous section of the report showed, over a five-year period there was a total spend of £168m on litigation in ophthalmology. By implementing the GIRFT Programme's five-point plan, these costs should reduce and more importantly still, patient safety should improve.

Summary of notional financial opportunities

The opportunity values shown are for illustration only. Individual providers and clinicians should assess their own services to determine the unwarranted variation that exists and the associated opportunity in the area. Their assessment will help them to prioritise the service changes that they wish to deliver. Individual providers may also have other opportunities that are not included here.

Improvement <i>(opportunities are per annum)</i>	National mean average or better			Top quartile* or better		
	Target	Activity opportunity	Gross notional financial opportunity	Target	Activity opportunity	Gross notional financial opportunity
Improve conversion rates for patients referred for cataract surgery Opportunity = Reduction in outpatient first attendances * target rate of 85% used instead of top quartile Cost estimated at average outpatient consultant led first attendance, 16/17 reference costs	71% or below	123,000 first outpatient attendances	£14.52 million	85% or below	161,000 first outpatient attendances	£19 million
Increase average number of cataracts per theatre list Opportunity = increase theatre throughput and efficiency * target rate of 8 cases / 4-hour theatre session Cost estimated at average cost of £20 per theatre minute (NHS Institute for Innovation and Improvement report "Improving quality and efficiency in the operating theatre")	average of 7 cases per list	755,000 theatre minutes	£15.1 million	average of 8 cases per list	1,590,000 theatre minutes	£31.8 million
Increase average number of AMD injections delivered in 4-hour session Opportunity = increase theatre throughput and efficiency Cost estimated at average cost of £10 per minute (using total cost / injection used by NICE in their resource impact calculations)	average of 15.9 cases per session	850,000 minutes	£8.5 million	average of 18 cases per session	1,240,000 minutes	£12.4 million
Reducing procurement costs Opportunity is based on the sum identified for securing better prices for intraocular lenses, as an example only	-	-	£1.5 million	-	-	£1.5 million
Total			£39.62 million			£64.7 million

The GIRFT programme

Getting It Right First Time (GIRFT) is a national programme designed to improve clinical care within the NHS. Funded by the Department of Health and Social Care and overseen by NHS Improvement, it combines wide-ranging data analysis with the input and professional knowledge of senior clinicians to examine how things are currently being done and how they could be improved.

Working to the principle that a patient should expect to receive equally timely and effective investigations, treatment and outcomes wherever care is delivered, irrespective of who delivers that care, GIRFT aims to identify approaches from across the NHS that improve outcomes and patient experience, without the need for radical change or additional investment. While the gains for each patient or procedure may appear marginal, they can, when multiplied across an entire trust – and even more so across the NHS as a whole – deliver substantial cumulative benefits.

The programme was first conceived and developed by Professor Tim Briggs to review elective orthopaedic surgery and address a range of observed and undesirable variations in orthopaedics. In the 12 months after the pilot programme, it delivered an estimated £30m-£50m savings in orthopaedic care – predominantly through changes that reduced average length of stay and improved procurement.

The same model is now being applied in more than 30 different areas of medical practice. It consists of four key strands:

- a broad data gathering and analysis exercise, performed by health data analysts, which generates a detailed picture of current national practice, outcomes and other related factors;
- a series of discussions between clinical specialists and individual hospital trusts, which are based on the data – providing an unprecedented opportunity to examine individual trust behaviour and performance in the relevant area of practice, in the context of the national picture. This then enables the trust to understand where it is performing well and what it could do better – drawing on the input of senior clinicians;
- a final report, which draws on both the data analysis and the discussions with the hospital trusts to identify opportunities for NHS-wide improvement; and
- an implementation phase where the GIRFT team supports providers to deliver the improvements recommended after the clinical specialist visits.

The programme relies on engagement by NHS trusts and foundation trusts. At the outset of the programme, letters are sent from the GIRFT clinical lead for each area of practice to the chief executive, the medical director and the heads of service for the relevant specialty, of all NHS trusts and foundation trusts in England. This letter calls on the provider to engage with the programme, and to date providers have responded well to this call.

GIRFT and other improvement initiatives

The GIRFT programme is founded on using data to understand unexplained variation and provide an opportunity for standardisation and improvement.

It also reflects experience in the NHS and internationally accepted best practice that the most effective initiatives to improve quality, productivity and efficiency are clinically led. As well as support from the Department of Health and NHS Improvement, it has the backing of Royal Colleges and professional associations.

GIRFT is the delivery vehicle for one of several recommendations made by Lord Carter in his February 2016 review of operational efficiency in acute trusts across England.

GIRFT has a significant and growing presence on the Model Hospital portal, with its data-rich approach providing the evidence for hospitals to benchmark against expected standards of service and efficiency. The programme will also work with a number of wider NHS programmes and initiatives which are seeking to improve standards while delivering savings and efficiencies, such as the Elective Care Transformation Programme, acute care collaborations (ACCs), and sustainability and transformation partnerships (STPs). NICE guidance, which reflects evidence-based cost-effective care, is embedded within and throughout the report.

It also seeks to draw on, add to and promote best practice from relevant professional bodies.

Data analysis

The data analysis exercise brings together a wealth of existing NHS data in an innovative way to paint a comprehensive picture of this aspect of medical practice. It includes Hospital Episode Statistics (HES), relevant registry or professional body data, mortality data, demographic information and patient survey data. Alongside this, a specific questionnaire is sent out to all trusts that have agreed to participate. Questions are developed based on current clinical practice and refined through pilot visits. Their aim is not purely to generate data for the report, but to serve as a catalyst for conversation regarding qualitative service improvement.

The output of the analysis is a data pack consisting of standard and novel metrics, covering input, activity, process and outcomes. For example, it will typically address issues such as:

- quality of care – using indicators such as mortality and readmission rates;
- factors linked to outcomes – including adoption of best practice, low volumes of procedures, and time to surgery;
- access – e.g. standardised activity per 100,000 population;
- efficiency – length of stay and costs; and
- patient experience.

The resulting data pack provides a detailed, data-led view of the way this area of practice is currently delivered across the country. It shows where there is variation in both provision and outcomes, and helps identify patterns which could indicate opportunities to improve care or deliver efficiencies.

The data sources are selected and the metrics for each area of practice are developed in partnership with GIRFT programme clinical leads for that area, thus ensuring they are relevant to the decisions a senior clinician in that field may have to make. The core sources used to analyse ophthalmology are data from the National Ophthalmology Database (NOD), the RCOphth annual workforce report and the GIRFT questionnaire. These were backed by core NHS sources such as Hospital Episode Statistics (HES), trust reference costs and NHS Resolution data.

The deep dive visits

With the national picture clear, the data analysis team then generates individual reports for each hospital trust that is participating in the programme. These reports compare the trust's performance with the national data, enabling the trust to see how its activity levels, commissioning decisions, costs and patient outcomes for different procedures measure up to those of its peers.

These individual reports are not designed for wider publication but rather to give the trust an insight into this area of practice. They are issued to the trust in advance of a scheduled meeting between clinical leads appointed by the GIRFT programme and senior staff at the trust. At the meeting – known as a deep dive visit – the clinical leads discuss the individual report with the trust, with a particular focus on the areas where the data show variation between national norms and the trust's performance. Where the data indicate the trust may be underperforming in some way, this is explored in more detail to see whether there is an alternative explanation; where appropriate, the trust can then draw on the expertise of senior clinicians in the field as they discuss specific challenges they face and consider potential changes to practice.

Conversely, where the data indicate the trust is outperforming its peers, clinical leads seek to understand what the trust is doing differently and how its approach could be adopted by others to improve performance across the NHS.

Feedback from trusts has been uniformly positive and, in every case, actionable steps have been identified to improve aspects of local provision.

The report

The Orthopaedic GIRFT pilot project identified that, following about 30 trust reviews, the problems and potential solutions identified were the same across all subsequent trust visits. After all the visits have been completed the clinical lead oversees the creation of a national GIRFT report into their specialty. The report provides an overview of the way this area of practice is delivered across the country, examples of best practice and recommendations for potential improvements at the national level. This is one such report.

Implementation

NHS Improvement reviews the report and recommendations from each practice area examined by the GIRFT programme. It then asks the GIRFT team to co-ordinate an implementation programme designed to help trusts address the issues raised and improve quality. Some recommendations require national action; NHS Improvement identifies the most appropriate body or programme to lead on these recommendations. This will range from working with the Royal Colleges and national professional associations and societies on best practice guidance, to working with NHS England and the Care Quality Commission to ensure that GIRFT recommendations are reflected in any future evolution to regulation or national guidelines.

Where responsibility for implementation rests with individual trusts, NHS Improvement and in particular the GIRFT programme team will ensure there is a range of ongoing support available to help individual providers implement these recommendations locally.

GIRFT regional hubs have been established so that clinical and project delivery leads can visit trusts and local stakeholders in each region on a regular basis. They will be able to advise on how to reflect the national recommendations into local practice and support efforts to deliver any trust-specific recommendations emerging from the GIRFT visits. These teams will also help to disseminate best practice across the country, matching up trusts which might benefit from collaborating in selected areas of clinical practice.

Importantly, GIRFT will be working closely with other NHS programmes working at regional and trust level, such as RightCare and STPs, to ensure a complementary approach and to streamline requests to providers.

Through all our efforts, local or national, GIRFT will strive to embody the 'shoulder to shoulder' ethos which has become GIRFT's hallmark, supporting clinicians nationwide to deliver continuous quality improvement for the benefit of their patients.

Glossary

AMD

Age-related macular degeneration. A condition that affects the centre of the retina (the macula) leading to blurred and distorted vision, or gaps. It is believed to affect over 600,000 people in the UK. There are two types: dry AMD and wet AMD. Only wet AMD is currently treatable.

anti-VEGF

Anti-vascular endothelial growth factor (anti-VEGF) drugs can stop blood vessels growing under the macula. They are injected directly into the eye as a treatment for wet AMD.

Cataract

A clouding of the lens of the eye. This typically develops over a long period and can lead to reduced vision.

EPR

Electronic Patient Record.

Glaucoma

A condition where the optic nerve is damaged. It generally develops slowly and is often initially asymptomatic. In a proportion of patients, it can lead to irreversible blindness.

Intraocular

Inside the eye – describing the tissues and compartments within the eye

Intra-ocular pressure (IOP)

The pressure inside the eye which, when elevated, is a major risk factor for the development of glaucoma. This is routinely measured as part an eye examination.

Intravitreal

Inside the vitreous humour, the gel-like substance that lies between the lens and the retina. It is where anti-VEGF drugs are injected.

Macula

The central area of the retina that is responsible for detailed vision, such as the ability to see written material for reading and determining facial features.

Optical coherence tomography (OCT)

A method of retinal imaging which produces 3D images. Used in ophthalmology to identify fluid accumulation in, or between, layers of the retina, particularly for patients with AMD or suspected diabetic retinopathy. Also used

in glaucoma to identify loss of tissue at or around the optic nerve head, enabling the detection of deterioration of the disease over time.

Ophthalmology

The branch of medicine dealing with the diagnosis, treatment and prevention of diseases of the eye and visual system. An ophthalmologist is a trained doctor, who specialises in this field.

Optometrist

Previously known as ophthalmic opticians, optometrists are primary health care specialists trained to examine the eyes to detect defects in vision, signs of injury, ocular diseases or abnormality and problems with general health.

Orthoptist

Orthoptists investigate, diagnose and manage eye conditions related to eye movements and misalignment. They are not doctors.

Retina

The light-sensitive layer of tissue at the back of the eye.

Retinopathy

Disease of the retina – may be due to a variety of different causes.

Strabismus

A condition in which the eyes are misaligned.

Tonometry

The procedure used to measure intraocular pressure (IOP). The most commonly used method is Goldmann tonometry.

Visual acuity

The clarity and quality of a person's vision, as measured in the centre of the visual field. Typically tested with a letter chart.

Visual field

The term used to define the peripheral extent and sensitivity of a patient's vision in each eye. This is the part of vision that gets gradually and irreversibly damaged in glaucoma.

Professional bodies and NHS terminology

Association of Health Professions in Ophthalmology (AHPO)

Provides training and education for ophthalmic support workers.

British and Irish Orthoptic Society (BIOS)

The professional membership body for orthoptists.

British Ophthalmic Surveillance Unit (BOSU)

Run by the Royal College of Ophthalmologists, BOSU carries out observational studies on rare eye diseases.

Clinical Council for Eye Health Commissioning (CCEHC)

An independent advisory body providing evidence-based national clinical leadership, advice and guidance to policy makers in health, social care and public health, and those commissioning and providing eye health services in England.

College of Optometrists (CoOptom)

The professional membership body for optometrists.

Elective Care Transformation Programme (ECTP)

An NHS programme aiming to redesign patient pathways for non-emergency care.

High Impact Intervention (HII)

Part of the Elective Care Transformation programme, High Impact Interventions are targeted approaches to improving aspects of NHS care. They are based on a “care bundle” approach, which links evidence, a measuring tool and a strategy for improving the clinical process to deliver evidence-based practice. The first use of them was to reduce infection, in response to the Saving Lives white paper (2010).

National Ophthalmology Database (NOD)

The NOD is hosted by the RCOphth.

Ophthalmology Common Clinical Competency Framework (OCCCF)

Provides standards and guidance for the knowledge and skills required for non-medical eye healthcare professionals to deliver patient care.

The Royal College of Ophthalmologists (RCOphth)

The professional membership body for ophthalmologists.

Systems and Assurance Framework for Eye health (SAFE)

Developed by the CCEHC (2018), SAFE provides the basis for commissioners, provider organisations and clinicians to adopt a high level, strategic, systems-based approach for the planning, provision and commissioning of eye health and care services, covering whole pathways and operating across traditional service footprints.

APPENDIX A - References for clinical trials and real world evidence

In the discussion of Wet AMD: Patient and provider anti-VEGF treatment strategy (pg 46-48), reference was made to a number of clinical trials and various studies and real world evidence.

Some of the bibliographic references were too long to fit as footnotes and instead are included here.

Comparison of Age-related Macular Degeneration Treatments Trials: Lucentis-Avastin Trial (footnote 44)

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