NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Health and social care directorate

Quality standards and indicators

Briefing paper

Quality standard topic: Serious eye disorders
Output: Prioritised quality improvement areas for development.
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Contents

1 Introduction

This briefing paper presents a structured overview of potential quality improvement areas for serious eye disorders. It provides the committee with a basis for discussing and prioritising quality improvement areas for development into draft quality statements and measures for public consultation.

1.1 Structure

This briefing paper includes a brief description of the topic, a summary of each of the suggested quality improvement areas and supporting information.

If relevant, recommendations selected from the key development source below are included to help the committee in considering potential statements and measures.

1.2 Development sources

The key development sources referenced in this briefing paper are:

Cataracts in adults: management (2017) NICE guideline NG77

Glaucoma: diagnosis and management (2017) NICE guideline NG81

Age-related macular degeneration (2018) NICE guideline NG82

2 Overview

2.1 Focus of quality standard

This quality standard will cover the diagnosis and management of serious eye conditions in adults including cataracts, glaucoma and macular degeneration. It will also cover preventing sight loss in adults.

This quality standard will replace the existing NICE quality standard for Glaucoma in adults (QS7). The topic was identified for update following the annual review of quality standards in 2017. The NICE guideline (CG85) on glaucoma was updated and replaced by Glaucoma: diagnosis and management (NG81) published in November 2017. It was also decided that serious eye disorders should be included within one quality standard.

2.2 Definitions[1]

Cataracts

A cataract is when the lens, a small transparent disc inside the eye, develops cloudy patches.[2] It can affect one or both eyes. Symptoms may include blurred vision, difficulty seeing at night, sensitivity to light or glare, seeing 'halos' around lights and double vision in one eye.

Glaucoma

Glaucoma is a common eye condition where the optic nerve, which connects the eye to the brain, becomes damaged. It's usually caused by fluid building up in the front of the eye, which increases pressure inside the eye. [3] Ocular hypertension (OHT) is consistently or recurrently elevated intraocular pressure without clinical evidence of optic nerve damage or visual field defect.

Age-related macular degeneration (AMD)

Age-related macular degeneration (AMD) is the most common form of macular degeneration and is the term given to ageing changes in the eye without any other obvious cause. It's characterised by irreversible damage to the central part of the retina (the macula) resulting in progressive loss of central vision. Peripheral vision isn't affected, so people with AMD retain some useful vision.

AMD is usually classified as early, intermediate or late according to the stage of disease progression. Late AMD can be further classified as either 'wet' (neovascular) AMD or 'dry' AMD (advanced geographic atrophy).

2.3 Incidence and prevalence

Cataracts

Cataracts usually affect adults as a result of ageing (age-related cataracts). Around 390,000 cataract operations were carried out in England during 2015-16.[4] Most cataracts are progressive, but decline in vision may vary and be unpredictable. This impairment is linked with decreased quality of life because it may limit the person's ability to carry out daily activities and live independently, while increasing the risk of accidents and falls.

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[1] Unless stated otherwise in this paper, the source of information are the relevant source guidance (full or NICE guideline).
[2] NHS Choices (2017) Age-related cataracts [online; accessed 13 February 2018]
[3] NHS Choices (2017) Glaucoma [online; accessed 13 February 2018]
[4] Donachie PH and Sparrow JM (2017) National Ophthalmology Database Audit: year 2 annual report Healthcare Quality Improvement Partnership, p. 6

Glaucoma

Glaucoma is a common condition, affecting around 2% of the UK population. Around 10% of registrations for blindness and sight loss are recorded as being primarily due to glaucoma. Chronic open-angle glaucoma (COAG) is the most common form of glaucoma in the UK. Around 480,000 people have COAG in England. The International Glaucoma Association has estimated that around half of cases in the UK are undiagnosed.[5] Because of changes in population demographics, the number of people affected by glaucoma is expected to rise.

Prevalence increases with age. COAG affects around 2% of the over 40s and almost 10% of the over 75s. Ocular hypertension (OHT) is a major risk factor and is found in around 5% of the over 40s. Once diagnosed, people with glaucoma need lifelong monitoring for disease control and to find possible progression of visual damage. Management of patients with glaucoma is a major part of ophthalmologists' workload, accounting for more than 1 million outpatient visits per year.

Age-related Macular Degeneration (AMD)

AMD is a leading cause of sight loss. It's estimated that 250,000 older adults in the UK suffer from blindness due to AMD[6]. The prevalence of late AMD in the UK among people aged 50 years or over is 2.4% (from UK 2007–09 population data). This increases to 5% in people aged 65 years or over, and 12% in people aged 80 years or over.

It's a painless eye condition that generally leads to the gradual impairment of vision, but can sometimes cause a rapid reduction in vision. Significant loss of independence may occur. Loss of vision has an impact on emotional well-being, and individuals are likely to suffer depression, anxiety and reduced independence.

There has been a significant increase in hospital activity in England for treatment and monitoring people with a primary diagnosis of AMD from fewer than 10,000 visits in 2005−2006 to over 75,000 visits in 2013−2014 (Hospital Episode Statistics).[7]

The RNIB estimates that the number of people with sight loss in the UK will reach 2.7 million by 2030. By 2050, this figure is anticipated to increase, to nearly 4

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[5] National Institute for Health and Clinical Excellence (2017) Resource impact report: Glaucoma: diagnosis and management. NICE guideline (NG81) citing: International Glaucoma Association (IAG) (n.d.) Prevalence [last accessed 6 February 2018].
[6] National Institute for Health and Clinical Excellence (2018) Resource impact report: age-related macular degeneration: diagnosis and management. NICE guideline (NG82), section 2.1.
[7] National Institute for Health and Clinical Excellence (2018) Age-related macular degeneration: diagnosis and management. NICE guideline (NG82): Resource impact report (section 2).

million.[8] NHS England has stated that it is 'estimated that partial sight and blindness in adults costs the UK economy around £22 billion per year'.[9]

2.4 Management

Cataracts

Diagnosis of cataracts is usually based on self-reported symptoms and a series of tests performed by an optometrist, normally based in the community. In adults with early age-related cataracts, non-surgical management may include prescription of spectacles. Alternatively, adults with age-related cataracts may be referred for surgery by an optometrist or a GP.

Cataract surgery is the most commonly performed elective surgery in the UK.

Glaucoma

Individuals with early-to-moderate chronic glaucoma usually have no symptoms and are unaware of any damage to their vision. Once vision loss becomes apparent, up to 90% of optic nerve fibres may have been irrecoverably damaged. Early detection and effective treatment by healthcare professionals are key elements in avoiding permanent blindness.

Cases of glaucoma and glaucoma-related conditions are usually found through examination by a community optometrist at a routine sight test.

The only known effective treatment for glaucoma is lowering eye pressure, even when pressure is 'normal' to begin with. Treatment may take the form of eye drops, laser procedures, oral medicines or drainage surgery, either alone or in combination. COAG is a lifelong condition with a variable course. Treatment is aimed at achieving stability.

Regular reassessment or monitoring is needed to establish whether stability or disease control is achieved and which is the best treatment regime to provide this.

See appendix 2 for algorithms from NICE clinical guideline 81.

Age-related Macular Degeneration (AMD)

Normal macular ageing changes are a common incidental finding on a routine visit to the optometrist. AMD may also be detected this way before it's symptomatic, or

[8] RNIB (last updated 1 February 2018) Key information and statistics on sight loss in the UK [online; accessed 6 February 2018]
[9] NHS England (12 June 2014 – news item: 'Improving eye health and reducing sight loss, 'A call to action') [online; accessed 6 February 2018]

people may present with difficulty in performing daily activities such as driving, reading and recognising faces.

Management varies according to the classification of the disease. Non-pharmacological strategies for early and indeterminate AMD include slowing disease progression, optimising existing visual performance, laser treatment of drusen and physiological therapies. Interventions for late geographic atrophy (late ‘dry’ AMD) include psychological therapies and reablement services. Treatment of late AMD (wet active) was transformed by the introduction of anti-vascular endothelial growth factor (VEGF) agents in the mid-2000s. Anti-VEGF agents are suitable for all subtypes of late AMD (wet active) and on average improve vision, at least in the first 2 years after starting therapy.

3 Summary of suggestions

3.1 Responses

In total 27 stakeholders responded to the 5-week engagement exercise 15/12/2017-18/01/2018.

Stakeholders were asked to suggest up to 5 areas for quality improvement. Specialist committee members were also invited to provide suggestions. The responses have been merged and summarised in table 1 for further consideration by the committee.

NHS Improvement's patient safety division submitted a link to a patient safety report for this topic, which is presented alongside this document and submitted comments, which are summarised in this paper and can be found in full in appendix 1.

Full details of all the suggestions provided are given in appendices 5 and 6 for information.

3.2 Identification of current practice evidence

Bibliographic databases were searched to identify examples of current practice in UK health and social care settings; 1683 papers were identified for cataracts, glaucoma, AMD and prevention of sight loss. In addition, 199 papers were suggested by stakeholders at topic engagement and 40 papers internally at project scoping.

Of these papers, 16 have been included in this report and are included in the current practice sections where relevant. Appendix 3 outlines the search process.

Table 1 Suggested improvement areas

Suggested area for improvement	
Prevention of sight loss	
• Preventing sight loss	APL, CO, IVG, Novartis
Referral	
• Referral for cataract surgery	ABHI, AECUK, IVG, NHSE, Novartis, SCM
• Glaucoma case-finding	RCOphth, IVG, NHSE, Novartis, OC, SCM
• ECLO referral	CO, RNIB, TPT
• Urgent referral for suspected late AMD (wet active)	Bayer PLC, IVG, MS, Novartis, OC, SCM
Treatment	
• Before cataract surgery	AECUK, IVG, Novartis, RCOphth, SCM
• Treatment of glaucoma and AMD	Bayer PLC, IVG, Novartis, RCOphth, RNIB, SCM
Follow-up/reassessment	
• Post-operative care	OC, SCM
• Follow-up: glaucoma and AMD	Bayer PLC, CO, IGA, IVG, MS, NHSI, Novartis, OC, RCOphth, RNIB, SCM
Support for people with eye disorders	
• Signposting to other sources of support	IGA, MS, SCM
• Certificate of Vision Impairment (CVI)	MS, RNIB
Additional areas	
• Audits and registries	ABHI, AECUK, LTHT, Novartis, RCOphth, SCM
• Choroidal naevi	SCM
• Concomitant surgical management of primary open angle glaucoma with cataract surgery	ABHI, AECUK
• Delivering services in different ways	SCM, MS
• Diabetic macular oedema and diabetic retinopathy	LTHT, IVG, PolyPhotonix
• Dry eye meibomian gland dysfunction	ABHI
• Idiopathic intracranial tension	BIOS
• Minimally invasive glaucoma surgery/glaucoma surgery	ABHI, AECUK, IVG
• Orthoptic aspects of stroke management	BIOS
• Pathways across health and social care	IGA, TPT
• Patient Activation Measures	Novartis
• Patient Reported Outcomes (PROMS)	IGA
• Regulatory matters	BIOS, SCM

Suggested area for improvement	
Additional areas (cont.d) • Retinal vein occlusion • Retinitis pigmentosa • Temporal arteritis • Thyroid eye disease • Training • Use of IT to deliver care / service delivery • Uveitis	 LTHT TPT RCGP BIOS IVG, Novartis, SCM IGA, SCM RCGP
ABHI, Association of British Healthcare Industries AECUK, Alcon Eye Care UK APL, Alliance Pharmaceuticals Ltd Bayer, Bayer PLC BIOS, British & Irish Orthoptic Society CO, College of Optometrists IGA, International Glaucoma Association IVG, The Industry Vision Group LTHT, Leeds Teaching Hospitals NHS Trust MS, Macular Society NHSE, NHS England - NCD for Older People and Person Centred Integrated Care NHSI, NHS Improvement Novartis, Novartis Pharmaceuticals Ltd OC, Optical Confederation PolyPhotonix RCGP, Royal College of General Practitioners Royal College of Nursing - no comments RCOphth, Royal College of Ophthalmologists RNIB, Royal National Institute of Blind People SCM, Specialist Committee Member TPT, Thomas Pocklington Trust	

4 Suggested improvement areas

4.1 Prevention of sight loss

4.1.1 Summary of suggestions

Preventing sight loss

Stakeholders suggested encouraging people to look after their eye health and raising awareness of the need for regular eye tests as an area for quality improvement. Stakeholders also highlighted the importance of identifying AMD early by considering risk factors associated with its development or progression; these involved smoking cessation, weight management, healthy diet (to include carotenoids), UV protection when outdoors and reducing alcohol consumption.

4.1.2 Selected recommendations from development source

Table 2 below highlights recommendations that have been provisionally selected from the development sources that may support potential statement development. The relevant sections of these are presented after table 2 to help inform the committee's discussion.

Table 2 Specific areas for quality improvement

Suggested quality improvement area	Suggested source guidance recommendations
Preventing sight loss	**Information and support** NICE NG82 Recommendation 1.2.2 **Risk factors** NICE NG82 Recommendation 1.3.1

AMD: Information and support

NICE NG82 Recommendation 1.2.2

Provide opportunities to discuss AMD with the person. Topics to cover should include:

- stopping smoking and other lifestyle advice

AMD: Risk factors

NICE NG82 Recommendation 1.3.1

If you suspect AMD, recognise that the following risk factors make it more likely that the person has AMD:

- smoking
- hypertension
- BMI of 30 kg/m^2 or higher
- diet low in omega 3 and 6, vitamins, carotenoid and minerals
- diet high in fat
- lack of exercise.

4.1.3 Current UK practice

General

Around 13 million NHS-funded sight tests were carried out in England during 2016-17.[10]

Nearly half of eye tests carried out in 2016-17 were provided to people age 60 years and over. Using earlier statistics (2013-14), an RNIB report states that around 10 million over 60s were eligible for a free NHS sight test in England and Wales, but fewer than half (around 6 million) of them were claimed.[11]

AMD risk factors

A cross-sectional survey of UK optometrists and ophthalmologists investigated (July – September 2012) aspects of advice given to people with or at risk from AMD about smoking and other lifestyle modifications.[12] 1,468 responses were received, 96% of which were from optometrists. A major limitation of the study was a low response rate (16% for optometrists and 6% for ophthalmologists).

Findings were:

- Smoking

[10] NHS Digital (2017) General Ophthalmic Services activity statistics - England, year ending 31 March 2017: Report (link to web page, from which the report is available) [online; last accessed 18 June 2018]
[11] RNIB (2015) People with sight loss in later life: RNIB evidence-based review - people in later life. London: RNIB [online accessed 4 June 2018].
[12] Lawrenson JG and Evans JR (2013) Advice about diet and smoking for people with or at risk of age-related macular degeneration: a cross-sectional survey of eye care professionals in the UK. BMC Public Health 13: 564 [online; accessed 14 February 2018]

- 32% of respondents reported they regularly took a smoking history of people newly diagnosed with AMD, and 21% of those under review
- 34% advised smokers to quit smoking

  49% informed people of the link between smoking and AMD.

- Dietary advice
  - 68% reported they gave dietary advice to people with established AMD
  - 54% gave advice to those at risk of AMD.

4.1.4 Resource impact

This area is not included in the resource impact report for age-related macular degeneration: diagnosis and management guideline (NG82). It was not identified as an area of the guideline that would be likely to have a significant resource impact (>£1m in England each year).

4.2 Referral

4.2.1 Summary of suggestions

Referral for cataract surgery

Stakeholders suggested visual acuity should not be the only criteria considered when referring people for cataract surgery. Stakeholders suggested specific, tailored approaches were needed to optimise assessment for people with disabilities and older people with frailty. It was also highlighted that people with serious comorbidity or lacking social support should be offered a review if initially they had been found ineligible for surgery.

Glaucoma case-finding

Stakeholders highlighted the importance of accurate case-finding prior to referral to hospital eye services for suspected OHT and COAG. Inaccurate intraocular pressure (IOP) measurements and false-positive tests were highlighted as causes of unnecessary referrals. Stakeholders suggested that older adults are an important group to focus on, highlighting those with frailty, cognitive impairment or mental health disorders.

ECLO referral

Stakeholders highlighted that eye clinic liaison officers (ECLO) play a key role in referring people to other services, such as low vision services and support services.

Urgent referral for suspected late AMD (wet active)

Stakeholders highlighted that there should be provision for an urgent referral to a hospital eye service once late AMD (wet) is suspected.4.2.2

4.2.2 Selected recommendations from development source

Table 3 below highlights recommendations that have been provisionally selected from the development sources that may support potential statement development. The relevant sections of these are presented after table 3 to help inform the committee's discussion.

Table 3 Specific areas for quality improvement

Suggested quality improvement area	Suggested source guidance recommendations
Referral for cataract surgery	**Referral for cataract surgery** NICE NG 77 Recommendations 1.2.1, 1.2.2

Glaucoma case-finding	**Case-finding** NICE NG81 Recommendations 1.1.1, 1.1.2, 1.1.5
ECLO referral	**Providing information** NICE NG81 Recommendation 1.7.1
Urgent referral for suspected late AMD (wet active)	**Late AMD (wet active)** NICE NG82 Recommendations 1.4.6

Referral for cataract surgery

NICE NG77 Recommendation 1.2.1

Base the decision to refer a person with a cataract for surgery on a discussion with them (and their family members or carers, as appropriate) that includes:

- how the cataract affects the person's vision and quality of life
- whether 1 or both eyes are affected
- what cataract surgery involves, including possible risks and benefits
- how the person's quality of life may be affected if they choose not to have cataract surgery
- whether the person wants to have cataract surgery.

NICE NG77 Recommendation 1.2.2

Do not restrict access to cataract surgery on the basis of visual acuity.

Case-finding

NICE NG81 – Recommendation 1.1.1

Before referral for further investigation and diagnosis of COAG and related conditions, offer all of the following tests:

- central visual field assessment using standard automated perimetry (full threshold or supra-threshold)
- optic nerve assessment and fundus examination using stereoscopic slit lamp biomicroscopy (with pupil dilatation if necessary), and optical coherence tomography (OCT) or optic nerve head image if available
- intraocular pressure (IOP) measurement using Goldmann-type applanation tonometry
- peripheral anterior chamber configuration and depth assessments using gonioscopy or, if not available or the patient prefers, the van Herick test or OCT. [2017]

NICE NG81 – Recommendation 1.1.2

Do not base a decision to refer solely on IOP measurement using non-contact tonometry. [2017]

NICE NG81 – Recommendation 1.1.5

Refer for further investigation and diagnosis of COAG and related conditions, after considering repeat measures as in recommendation 1.1.4, if:

- there is optic nerve head damage on stereoscopic slit lamp biomicroscopy or
- there is a visual field defect consistent with glaucoma or
- IOP is 24 mmHg or more using Goldmann-type applanation tonometry. [2017]

Providing information

NICE NG81 – Recommendation 1.7.1

Offer people the opportunity to discuss their diagnosis, referral, prognosis, treatment and discharge, and provide them with relevant information in an accessible format at initial and subsequent visits. This may include information on the following:

- the eye clinic liaison officer (ECLO)

Late AMD (wet active)

NICE NG82 – Recommendation 1.4.6

Make an urgent referral for people with suspected late AMD (wet active) to a macula service, whether or not they report any visual impairment. The referral should normally be made within 1 working day but does not need emergency referral.

4.2.3 Current UK practice

Referral for cataract surgery

The National Ophthalmology Database Audit (2017) reports on cataract operations carried out in England and Wales in 56 centres.[13] One of the issues it reports on is pre-operative visual acuity. Pre-operative visual acuity is used as a proxy measure for variation in access to surgery.

[13] Royal College of Ophthalmologists/HQIP (2017) National Ophthalmology Database Audit – Year 2 annual report. London: HQIP [online; accessed 6 June 2017]

Of 120,722 eligible cataract operations, it was reported that first eye surgery was performed for 60% (71,970) operations, and 40% (48,458) were second-eye operations. The report noted 'variability' of pre-operative visual acuity among contributing centres.

Limitations of this audit are that it covers fewer than half of NHS Trusts and overall, around 30% of all NHS-funded cataract operations. Pre-operative visual acuity data was collected for 81% of eyes but only 57% of operations had both pre- and post-operative data.

A survey carried out by the Royal College of Ophthalmologists (2017) investigated thresholds for cataract surgery. 87 out of 140 ophthalmic clinical leads responded, reporting that around one third of eye units had no restriction. [14]

Glaucoma case-finding

Accuracy of referrals

A study published in 2015 assessed the importance of community management of glaucoma with online supervision by specialists in 3 centres in south-west England.[15] It was in relation to agreement between optometrists and specialists to determine whether supervision by specialists provided an additional benefit to community-based optometrist assessment. Of 24,257 glaucoma reviews, 13% of diagnoses were amended by specialists and the number of reviews was reduced by 2%. 13 cases were identified as high risk by the specialist but not the optometrist. 7% of 12,892 people the optometrist had identified as 'low risk' were found by the specialist to be 'unstable', and required a review in 6 weeks.

Case-finding tests

UK optometrists surveyed in 2013 reported on current and anticipated use of specialist equipment and IT in community optometric practices.[16] 416 eligible optometrists responded. The study reported variation in the use of Goldmann/Perkins tonometry, although regularity of use was not investigated.

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[14] Royal College of Ophthalmologists (2017) Cataract surgery: current limitations to patients accessing treatment - summary. London: Royal College of Ophthalmologists. Moderate visual acuity is defined as Snellen 6/18 or 6/24 or worse in this report [online; accessed 21 February 2018]. The current minimum standard for driving is 6/12 (General note: the source states data have been rounded up)

[15] Heathcote RW and Diamond, JP (2015) Service innovation in glaucoma management: using a web-based electronic patient record to facilitate virtual specialist supervision of a shared care glaucoma programme British Journal of Ophthalmology 99, 313-7 [online; accessed 15 February 2018]

[16] Dabasia PL et al. (2014) A survey of current and anticipated use of standard and specialist equipment by UK optometrists. Ophthalmic Physiological Optics 34: 592–613 doi: 10.1111/opo.12150 [online; accessed 5 June 2018]

ECLO referral

The RNIB maps access to an RNIB-qualified ECLOs to NHS hospital trusts. Data for 2017 shows that just over half of 148 of these trusts had access to an ECLO. Around 40% reported they had no access.[17]

Late AMD (wet active)

The RNIB published a campaign report in 2013 on the patient journey for AMD using data collected from 95 patients, 68 carers, clinicians and commissioners and other healthcare professionals, who were mainly working in England.[18] It reported variation in the number of days it took to receive a diagnosis from a specialist following first contact with a primary care professional (shown below):

Time to diagnosis from first contact with a primary care professional (days)	% of respondents
Within 7	31%
8-14	9%
15-30	26%
31-60	19%
>60	15%

The report also highlighted a lack of awareness of rapid referral procedures for wet AMD among optometrists and GPs. The study also reported that 'time to diagnosis was not affected by where the patient first presented'.

Another study highlighted that 48% of UK optometrists surveyed in 2013 offered a fast-track referral service for wet AMD.[19]

[17] RNIB Sight loss data tool v3.6 (various dates) [online; last accessed 21 June 2018].
[18] RNIB (2013) Don't lose sight! Don't delay! Perspectives on the wet Age-related Macular Degeneration (wet AMD) patient journey RNIB campaign report. London: RNIB [online; accessed 5 June 2018].
[19] Dabasia PL et al. (2014) A survey of current and anticipated use of standard and specialist equipment by UK optometrists. Ophthalmic Physiological Optics 34: 592–613 doi: 10.1111/opo.12150 [online; accessed 5 June 2018]

4.2.4 Resource impact

NG77 recommendation 1.2.2 to not restrict access to cataract surgery on the basis of visual acuity was identified in the resource impact report as having a potentially significant impact (>£1m in England each year). Providing additional cataract operations for people who may have previously been denied access because of visual acuity or being a second-eye may result in additional costs in the shorter term. These operations are likely to have been carried out anyway, but it is now recommended that they happen sooner in the pathway. Due to significant local variation the national impact could not be estimated.

NG81 recommendations 1.1.1 and 1.1.5 both indicate measuring intraocular pressure using Goldmann-type applanation tonometry. The resource impact report for this guideline highlights that some community optometrists already have Goldmann-type applanation tonometry equipment, but there may be some upfront acquisition costs where it is not currently available. Commissioners should work with community optometrists to ensure that funding is available to enable the appropriate investment. There may be offsetting savings from more accurate measurements and fewer referrals to secondary care. Due to significant local variation the national impact could not be estimated.

4.3 Treatment

4.3.1 Summary of suggestions

Before cataract surgery

A stakeholder highlighted that people undergoing cataract surgery should participate in shared decision-making regarding choice of intraocular lens (IOL). Stakeholders highlighted refractive outcome, and what to do/expect (quality of life, visual outcome for example) after surgery as key topics for discussion.

Stakeholders highlighted that surgical checklists should be used and that incorrect IOL implants are classed as a 'never event'.

Treatment of glaucoma and AMD

Stakeholders suggested that the risks and benefits of treatment should be explained to patients in order to develop a treatment plan.

Stakeholders suggested that treatment for late AMD (wet active) should be started within 14 days of referral to the hospital eye service.

4.3.2 Selected recommendations from development source

Table 4 below highlights recommendations that have been provisionally selected from the development sources that may support potential statement development. The relevant sections of these are presented after table 4 to help inform the committee's discussion.

Table 4 Specific areas for quality improvement

Suggested quality improvement area	Selected source guidance recommendations
Before cataract surgery	**Before cataract surgery** NICE NG77 Recommendation 1.1.3 **Preventing wrong lens implant errors – before cataract surgery** NICE NG77 Recommendation 1.5.3 **On the day of the cataract surgery** NICE NG77 Recommendation 1.5.5
Treatment of glaucoma and AMD	**Providing information** NICE NG81 Recommendation 1.7.1 **Treatment for people with COAG** NICE NG81 Recommendations 1.5.13, 1.5.17 **Information and support** NICE NG82 Recommendation 1.2.2 **Late AMD (wet active)** NICE NG82 Recommendation 1.4.10

Before cataract surgery

NICE NG77 – Recommendation 1.1.3

At the preoperative outpatient appointment, review and expand on the topics in recommendation 1.1.2, and give people information about:

- the refractive implications of different intraocular lenses (see recommendation 1.5.3)
- types of anaesthesia
- the person's individual risk of complications during or after surgery (for example, the risk of postoperative retinal detachment in people with high myopia; also see recommendations 1.3.10 and 1.3.11)
- what to do and what to expect on the day of cataract surgery
- what to do and what to expect after cataract surgery
- what support might be needed after surgery
- medicines after surgery (for example, eye drops) and medicines that people may be already taking (for example, anticoagulants)
- the refractive implications after previous corneal refractive surgery, if appropriate (see recommendation 1.3.6)
- bilateral simultaneous cataract surgery, if appropriate (see recommendations 1.6.3 and 1.6.4).

Preventing wrong lens implant errors – before cataract surgery

NICE NG77 – Recommendation 1.5.3

At the preoperative assessment:

- discuss the refractive implications of different intraocular lenses with the person
- base the choice of intraocular lens on the person's chosen refractive outcome
- record the discussion and the person's choices in their medical notes.

On the day of the cataract surgery

NICE NG77 – Recommendation 1.5.5

Use a checklist based on the World Health Organization (WHO) surgical safety checklist, modified to include the following cataract surgery checks, to ensure that:

- the person's identity has been confirmed and matches information in:
    - the consent form
    - the biometry results **and**
    - the person's medical notes
- the eye to be operated on has been checked and clearly marked
- there is only 1 intraocular lens in the theatre, that matches the person's selected lens type and prescription
- at least 1 additional identical intraocular lens is in stock
- alternative intraocular lenses are in stock in case the selected lens needs to be changed if there are complications during surgery
- at least 2 members of the team, including the surgeon, have previously checked the appropriateness, accuracy and consistency of all:
    - formulas
    - calculations **and**
    - intraocular lens constants.

Treatment of glaucoma and AMD

Providing information

NICE NG81 – Recommendation 1.7.1

Offer people the opportunity to discuss their diagnosis, referral, prognosis, treatment and discharge, and provide them with relevant information in an accessible format at initial and subsequent visits. This may include information on the following:

- the different types of treatment options, including mode of action, frequency and severity of side effects, and risks and benefits of treatment, so that people are able to take an active part in decision-making

Treatment for people with COAG

NICE NG81 – Recommendation 1.5.13

Offer people with advanced COAG, surgery with pharmacological augmentation (MMC) as indicated. Offer them information on the risks and benefits associated with surgery. [2009, amended 2017]

NICE NG81 – Recommendation 1.5.17

Offer surgery with pharmacological augmentation (MMC) as indicated to people with COAG who are at risk of progressing to sight loss despite treatment. Offer them information on the risks and benefits associated with surgery. [2009, amended 2017]

Information and support

NICE NG82 – Recommendation 1.2.2

Provide opportunities to discuss AMD with the person. Topics to cover should include:

- treatment options, including possible benefits and risks

Late AMD (wet active)

NICE NG82 – Recommendation 1.4.10

For eyes with confirmed late AMD (wet active) for which antiangiogenic treatment is recommended (see section 1.5), offer treatment as soon as possible (within 14 days of referral to the macula service).

4.3.3 Current UK practice

Before cataract surgery

Between 1 April 2016 and 31 March 2017 there were 445 Never Events. Relevant to cataract surgery is the report of 21 wrong (IOL) lens implants.[20]

A report citing an RNIB study identified that inadequate information provision during pre-assessment can result in people feeling ill-equipped to fully participate in decision-making. The report did not, however, refer to decision-making for IOLs specifically.[21]

Members of the Royal College of Ophthalmologists were surveyed in 2012 to investigate use of checklists in cataract surgery. [22] 469 completed responses were received, 93% were from those working in the UK. The study reported that 54% use a checklist referring to correct selection of an intraocular lens.

94% reported supporting use of a checklist, with 85% stating they always use one before surgery. 4% reported that they never used a checklist, the main reasons being an established routine prior to surgery being in place, non-availability of a checklist, and existing pre-operative nursing checks. A limitation of the study is the low response rate (18%).

Treatment of glaucoma

No published current practice information regarding discussion of the risks and benefits of treatments for glaucoma were identified.

Treatment of AMD

The RNIB published a campaign report in 2013 on the patient journey for AMD using data collected from 95 people with AMD, 68 carers, clinicians and commissioners and other healthcare professionals, who were mainly working in England. [23] 18% (10) of people with wet AMD waited 15 days or more to start treatment. 3% waited more than 60 days.

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[20] NHS Improvement (2018) Never Events Data Summary 2016/17 - final data from 2016/17 [online; accessed 22 June 2018]

[21] RNIB [2017] Pre- and post-operative cataract services – ensuring patient-centred care: RNIB research briefing for roundtable discussion on 24 May 2017 [London: RNIB] [online; accessed 19 February 2018]. The paper cites RNIB (2016) Improving cataract care in England. Patient and health professional perspectives of the cataract patient pathway. However, this paper cannot be found online.

[22] Kelly SP, Steeples LR, Smith R et al (2013) Surgical checklist for cataract surgery: progress with the initiative by the Royal College of Ophthalmologists to improve patient safety. Eye 27(7): 878-82

[23] RNIB (2013) Don't lose sight! Don't delay! Perspectives on the wet Age-related Macular Degeneration (wet AMD) patient journey RNIB campaign report. London: RNIB [online; accessed 5 June 2018].

No current practice data relating to discussion of risks and benefits of treatment was identified.

4.3.4 Resource impact

This area is not included in the resource impact reports for the serious eye disorder guidelines (NG77, NG81 and NG82). They were not identified as areas of the guidelines that would be likely to have a significant resource impact (>£1m in England each year).

However, NG77 recommendations 1.5.3 and 1.5.5 to reduce the incidence of wrong lens implant errors is listed in the report as an area which has the potential to reduce the number of high cost wrong lens implants, which are NHS never events. The recommendations should be considered locally in the context of local current arrangements.

Also, NG82 recommendation 1.4.10 to offer treatment as soon as possible (within 14 days) for eyes with confirmed late AMD (wet active) for which antiangiogenic treatment is recommended was identified in the report. There will be no change in the number of people referred to the macula service, but some macular services will require additional resources and planning for demand and capacity to meet the recommended 14 days referral. Again, the recommendation should be considered locally in the context of local current arrangements.

4.4 Follow-up/reassessment

4.4.1 Summary of suggestions

Post-operative care

Stakeholders suggested that post-operative care following cataract surgery is an area for quality improvement and highlighted that it could be carried out in the community.

Follow-up: glaucoma and AMD

Stakeholders emphasised the importance of timely follow-up appointments to prevent avoidable sight loss. A suggestion specific to AMD was made in relation to using OCT in the community to monitor those in whom the condition is stable. It was highlighted that using OCT was becoming more prevalent in the community setting.

4.4.2 Selected recommendations from development source

Table 5 below highlights recommendations that have been provisionally selected from the development source(s) that may support potential statement development. These are presented in full after table 5 to help inform the committee's discussion.

Table 5 Specific areas for quality improvement

Suggested quality improvement area	Suggested source guidance recommendations
Post-operative care	**After cataract surgery** NG77 Recommendation 1.1.6
Follow-up: glaucoma and AMD	**When to reassess** NICE NG81 Recommendations, 1.4.9, 1.4.10
	Monitoring AMD NICE NG82 Recommendation 1.7.1 **Monitoring for late AMD (wet active)** NICE NG82 Recommendations 1.7.8, 1.7.9

After cataract surgery

NICE Recommendation NG 77 1.1.6

At the first appointment after cataract surgery, give people information about:

- eye drops
- what to do if their vision changes
- who to contact if they have concerns or queries

- when it is appropriate to get new spectacles and how to do so
- second-eye cataract surgery if there is a cataract in the non-operated eye
- arrangements for managing ocular comorbidities.

Follow-up: glaucoma and AMD

When to reassess

NICE Recommendation NG81 1.4.9

1.4.9 At each assessment, re-evaluate risk of conversion to COAG and risk of sight loss to set time to next assessment. [2017]

NICE Recommendation NG81 1.4.10

1.4.10 At each assessment, ask about general health and, if appropriate, factors affecting adherence to treatment, including cognitive impairment and any treatment side effects. [2017]

Monitoring AMD

NICE NG82 Recommendation 1.7.1

Do not routinely monitor people with early AMD or late AMD (dry) through hospital eye services.

Monitoring for late AMD (wet active)

NICE NG82 Recommendation 1.7.8

Offer people with late AMD (wet active) ongoing monitoring with OCT for both eyes.

NICE NG82 Recommendation 1.7.9

Offer fundus examination or colour photography if OCT appearances are stable, but:

- there is a decline in visual acuity or
- the person reports a decline in visual function.

4.4.3 Current UK practice

After cataract surgery

Data for the number of follow-up appointments for cataract surgery in the community was not identified.

A 2017 RNIB research briefing paper[24] cites data from The Way Forward: Cataract, a report about the delivery of the cataracts patient pathway.[25] It reported that 4 out of 39 UK ophthalmology departments (one third of those in the UK) surveyed carried out post-operative reviews in an ophthalmology department. More than a quarter reported discharging patients directly after surgery following uncomplicated surgery. 2 reported a hybrid arrangement where follow-up care differs according to whether the surgery was performed on the first or second eye: people who had first-eye operations see a nurse; people who had second-eye surgery are discharged to community optometrists.

AMD

The HQIP feasibility report for a National Electronic Age-related Macular Degeneration (AMD) Audit (2018), reported on 9,243 people with wet (neovascular) AMD diagnosed between 1 January 2012 and 31 December 2013 in 32 NHS centres.[26] Analysis was limited to one year of treatment due to increasing levels of loss to follow-up thereafter. Follow-up relates to monitoring and maintenance treatment which follows the first 3 injections (the initial 'loading phase') of anti-VEGF therapy.[27] The 3 injections are normally given monthly, from starting treatment and during this time, it's noted, visual acuity typically increases.

A few centres showed significant loss to follow up within a year; in 1 centre most people with AMD had been seen for less than a year and some not after their third injection.

Published current practice data regarding use of OCT in the community for follow-up monitoring appointments for AMD has not been identified.

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[24] RNIB (2017) Research Briefing: Pre-and post-operative cataract services – ensuring patient centred care. [London: RNIB] [online; accessed 16 February 2018]
[25] Royal College of Ophthalmologists (2016); The Way Forward: cataract. London: Royal College of Ophthalmologists, p. 12 [online; last accessed 22 June February 2018]. The figures were extrapolated to state, as a headline figure in the report, that 'approximately 100,000 appointments being released in the HES each year in the UK'
[26] HQIP/Royal College of Ophthalmologists (2018) National Electronic Age-related Macular Degeneration (AMD) Audit: Feasibility Report. London: HQIP [online; accessed 6 June 2018]
[27] Excludes people with AMD who received an injection of a drug which is not licensed for AMD (bevacizumab or dexamethasone)

Glaucoma

The National Electronic Glaucoma Surgery and Visual Field Preservation Audit: feasibility report (2018)[28] uses routinely-collected data and reports on the delivery of glaucoma services in 5 large glaucoma centres (all NHS Trusts). Relevant to follow-up are the interval between visual field testing. The median interval between visual field tests was 7 months, but the distribution of the length of time varied significantly between centres. 1 centre had longer median periods between testing but progression of visual field loss was not faster than in other centres.

A prospective UK-wide study of UK hospitals with an 'autonomous' ophthalmologist was carried out using data from March 2015 to February 2016. The analysis was based on 169 cases. 42% had glaucoma, 23% had AMD and 16% diabetic retinopathy. The cause of 80% of delays to receiving ophthalmic care was a follow-up appointment that occurred beyond the clinically recommended time.[29] Another study examined the health records of all patients lost to follow-up between July 2007 and November 2012. 12,316 cases (out of a total of 145,234 potential cases) were identified as requiring clinical follow-up.[30]

4.4.4 Resource impact

This area is not included in the resource impact reports for the serious eye disorder guidelines (NG77, NG81 and NG82). They were not identified as areas of the guidelines that would be likely to have a significant resource impact (>£1m in England each year).

However, NG82 recommendation 1.7.1 to not routinely monitor people with early AMD or late AMD (dry) through hospital eye services is listed in the report as an area which has the potential to free up secondary care services and lead to resource savings. The recommendation should be considered locally in the context of local current arrangements.

[28] HQIP/Royal College of Ophthalmologists (2018) The National Electronic Glaucoma Surgery and Visual Field Preservation Audit: feasibility report. London: HQIP [online; accessed 6 June 2018]
[29] Foot B and MacEwan C (2017) Surveillance of sight loss due to delay in ophthalmic treatment or review: frequency, cause and outcome. Eye 31: 771-75
[30] Davis A, Baldwin A, Hingorani M et al (2017) A review of 145,234 ophthalmic patient episodes lost to follow-up. Eye 31: 422-9

4.5 Support for people with eye disorders

4.5.1 Summary of suggestions

Signposting to other sources of support

Stakeholders highlighted the importance of understanding and responding to the emotional needs of people with a sight-threatening condition and the impact of sight loss. Sign-posting to support beyond the health or social care sectors was highlighted as a specific area for quality improvement.

Certificate of Vision Impairment (CVI)

A stakeholder highlighted that information about registration for a Certificate of Vision Impairment should not be left until treatment options have been exhausted. Certification is critical to initiating the process, which facilitates access to services.

4.5.2 Selected recommendations from development source

Table 6 below highlights recommendations that have been provisionally selected from the development source(s) that may support potential statement development. The relevant sections of these are presented after table 6 to help inform the committee's discussion.

Table 6 Specific areas for quality improvement

Suggested quality improvement area	Selected source guidance recommendations
Signposting to other sources of support	**Before cataract surgery** NICE NG 77 Recommendation 1.1.3 **Providing information** NICE NG81 Recommendation 1.7.1 **Information and support** NICE NG82 Recommendation 1.2.2
Certificate of Vision Impairment (CVI)	**Supporting people with AMD and visual impairment** NICE NG82 Recommendation 1.6.4

Before cataract surgery

NICE NG77 – Recommendation 1.1.3

At the preoperative outpatient appointment, review and expand on the topics in recommendation 1.1.2, and give people information about:

- what support might be needed after surgery

Providing information

NICE NG81 – Recommendation 1.7.1

Offer people the opportunity to discuss their diagnosis, referral, prognosis, treatment and discharge, and provide them with relevant information in an accessible format at initial and subsequent visits. This may include information on the following:

- support organisations and support groups
- compliance aids (such as dispensers) available from their GP or community pharmacist
- Letter of Vision Impairment (LVI), Referral of Vision Impairment (RVI) and Certificate of Vision Impairment (CVI), registration
- Driver and Vehicle Licensing Agency (DVLA) regulations. [2009, amended 2017]

Information and support

NG82 Recommendation 1.2.2

Provide opportunities to discuss AMD with the person. Topics to cover should include:

- who to contact for practical and emotional support
- the benefits and entitlements available through certification and registration when sight impaired or severely sight impaired
- when, where and how to seek help with vision changes (see section 1.7)
- signposting to other sources of information and support.

Supporting people with AMD and visual impairment

NG82 Recommendation 1.6.4

Offer certification of visual impairment to all people with AMD as soon as they become eligible, even if they are still receiving active treatment.

4.5.3 Current UK practice

Signposting to other sources of support – glaucoma and AMD

A study published in 2017 based on a nationwide survey of a cross-section of Macular Society members investigated aspects of experience at diagnosis for people with AMD, and whether a previous survey and Royal Ophthalmology management guidelines for AMD had led to improvements.[31]

The figures quoted below are derived from analysis of the 2013 survey and are relevant to sign-posting:

- 46% of people with AMD reported they were given appropriate support, help or advice in 1999, compared to 64% after 2009
- 15% of people with AMD reported they were given information about the Macular Society in 1999, compared to 32% after 2009
- 15% of people with AMD were given details of other contacts for help and support in 1999, compared to 20% after 2009.

A major limitation of the study is a low response rate for the 2013 survey.

No current practice data was identified for sign-posting in relation to glaucoma.

No current practice for CVI registration for AMD was identified.

4.5.4 Resource impact

This area is not included in the resource impact report for age-related macular degeneration: diagnosis and management guideline (NG82). It was not identified as an area of the guideline that would be likely to have a significant resource impact (>£1m in England each year).

[31] Boxell E, Amoaku W, Bradley C (2017) Healthcare experiences of patients with age related macular degeneration: have things improved? Cross-sectional survey responses of Macular Society members in 2013 compared with 1999 BMJ Open 7: e012790 doi:10.1136/bmjopen-2016-012790

4.6 Additional areas

Summary of suggestions

The improvement areas below were suggested as part of the stakeholder engagement exercise. However they were felt to be either unsuitable for development as quality statements, outside the remit of this particular quality standard referral or require further discussion by the committee to establish potential for statement development.

There will be an opportunity for the committee to discuss these areas at the end of the session on 05 July 2018.

Audits and registries

A number of stakeholders highlighted that some centres do not submit data to the National Cataract Audit. This suggestion has not been progressed. Participation in audit is a method by which quality improvement can be evidenced. Quality statements focus on actions that demonstrate high quality care or support, not the methods by which evidence is collated. However, audits and suggested methods of data collection may be referred to in the data sources for quality measures.

Choroidal naevi

It was highlighted by a stakeholder that variation in practice exists in the management of this condition and there is a need for a standard for referral and management. This condition is not referenced in the source guidance The suggestion, therefore, cannot be progressed.

Concomitant surgical management of primary open angle glaucoma with cataract surgery

It was highlighted that patients could be provided with information prior to cataract surgery concerning surgical treatment of primary open angle glaucoma during cataract surgery. There is no recommendation in the source guidance which would support progressing a statement about this.

Delivering services in different ways

Stakeholders suggested that variation in current practice for AMD could be tackled by developing remote surveillance clinics as a strategy for meeting increasing demand in the UK, and particularly, in England and Wales. The recommendations for AMD do not refer to such a service development. This suggestion, therefore, cannot be progressed.

Diabetic macular oedema and diabetic retinopathy

A stakeholder suggested that this quality standard should additionally cover macular oedema. Diabetic macular oedema is out of scope for this quality standard and the condition is not mentioned in the source guidance. The suggestion, therefore, cannot be progressed. Another stakeholder suggested that this quality standard should also cover diabetic retinopathy. There is a national Diabetic Eye Screening programme. All people with type 1 and type 2 diabetes aged 12 years and over are eligible.[32] Screening is outside of the remit of NICE quality standards.

Dry eye meibomian gland dysfunction

A stakeholder suggested that treatment for dry eye meibomian gland dysfunction as a key area for quality improvement. There is no recommendation about this condition in the source guidance. The suggestion, therefore, cannot be progressed.

Idiopathic intracranial tension

A stakeholder suggested that this quality standard additionally should cover idiopathic intracranial tension, because patients with this condition can experience visual field defects. The condition is not mentioned in the recommendations of NG81.

Minimally invasive glaucoma surgery (MIGS)/microsurgery

Minimally invasive glaucoma surgery (MIGS)/microsurgery. NG81 does not contain recommendations on this area and it therefore cannot be progressed.

Multifactorial falls risk assessment

Stakeholders highlighted the association between vision loss (naming AMD and cataracts specifically) and increased risk of falls. Stakeholders highlighted routine visual assessment as part of falls risk assessment for older people is a priority area for quality improvement, as identified in the NICE quality standard Falls in older people.

Orthoptic aspects of stroke management

A stakeholder highlighted that visual problems caused by stroke, including visual field defects, can often be missed and lead to problems with both rehabilitation and post-stroke outcomes. Specific conditions with associated vision problems should be addressed by the quality standard for the condition. The impact of vision problems are not prioritised in the Stroke in adults (2016) NICE quality standard.

[32] Public Health England (last updated 2017) Diabetic eye screening: programme overview [online; accessed 18 February 2018]

Pathways across health and social care

A stakeholder highlighted the importance of having referral pathways and their perception of a lack of integration between health and social care which puts patients at risk. Quality statements focus on actions that demonstrate high quality care or support, not the pathways that enable the actions to take place. However, having agreed pathways will be referred to in the measures and audience descriptors where relevant.

Patient Activation Measures (PAMs)

One stakeholder suggested that these could be delivered in eye units to empower patients to manage long-term eye conditions. PAMs were not mentioned in connection with any eye condition in the source guidance.

Patient Reported Outcome Measures (PROMS)

It was highlighted by a stakeholder that Patient Reported Outcome Measures could be used for treatment outcomes for serious eye disorders. There is no recommendation in the guidelines that supports progressing a statement about this.

Regulatory matters

Stakeholders highlighted that optometric practices are currently exempt from CQC regulation. Ambiguity regarding DVLA driving criteria was raised, concerning ‘adaptation’ to a patch or prism for people experiencing double-vision. These matters are beyond NICE’s remit and as a result cannot be progressed.

Retinal vein occlusion

It was stated by a stakeholder that retinal vein occlusion was a complication of intra-vitreal treatment. This condition is not mentioned in recommendations of AMD. This suggestion, therefore, cannot be progressed.

Retinitis pigmentosa

A stakeholder suggested this quality standard should additionally cover retinitis pigmentosa. The recommendations of the source guidance do not mention this condition. The suggestion, therefore, cannot be progressed.

Temporal arteritis

A stakeholder suggested this quality standard should additionally cover temporal arteritis. The recommendations of the source guidance do not mention this condition. The suggestion, therefore, cannot be progressed.

Thyroid eye disease

A stakeholder highlighted that people with thyroid eye disease experience reduction in visual field due to compression of the optic nerve. The recommendations of the source guidance do not mention this condition. The suggestion, therefore, cannot be progressed.

Training

A stakeholder highlighted the monitoring and treatment of people with OHT/suspected glaucoma or glaucoma should be provided by a trained healthcare professional who has a specialist qualification, relevant experience and the ability to detect a change in clinical status.

Quality statements focus on actions that demonstrate high quality care or support, not the training that enables the actions to take place.

The committee is therefore asked to consider which components of care and support would be improved by increased training. However, training may be referred to in the audience descriptors.

Use of IT to support care / service delivery

Stakeholders highlighted that the transfer of information between community and hospital eye services can avoid unnecessary duplication of tests. Stakeholders also suggested that investment in an electronic patient record system (but not one confined to transferring digital images) would enable people to access the appropriate point of care through availability of information relating to the health of their eyes.

Uveitis

A stakeholder suggested this quality standard should additionally cover uveitis. The recommendations of the source guidance do not mention this condition. The suggestion, therefore, cannot be progressed.

Appendix 1: NHS Patient Safety Report

Rapid Response Report published in June 2009. This report, and the accompanying supporting information document, focused on glaucoma.

http://www.nrls.npsa.nhs.uk/alerts/?entryid45=61908

Appendix 2: Additional information from NG81 (Guideline summary)

Figure 1: Referral algorithm

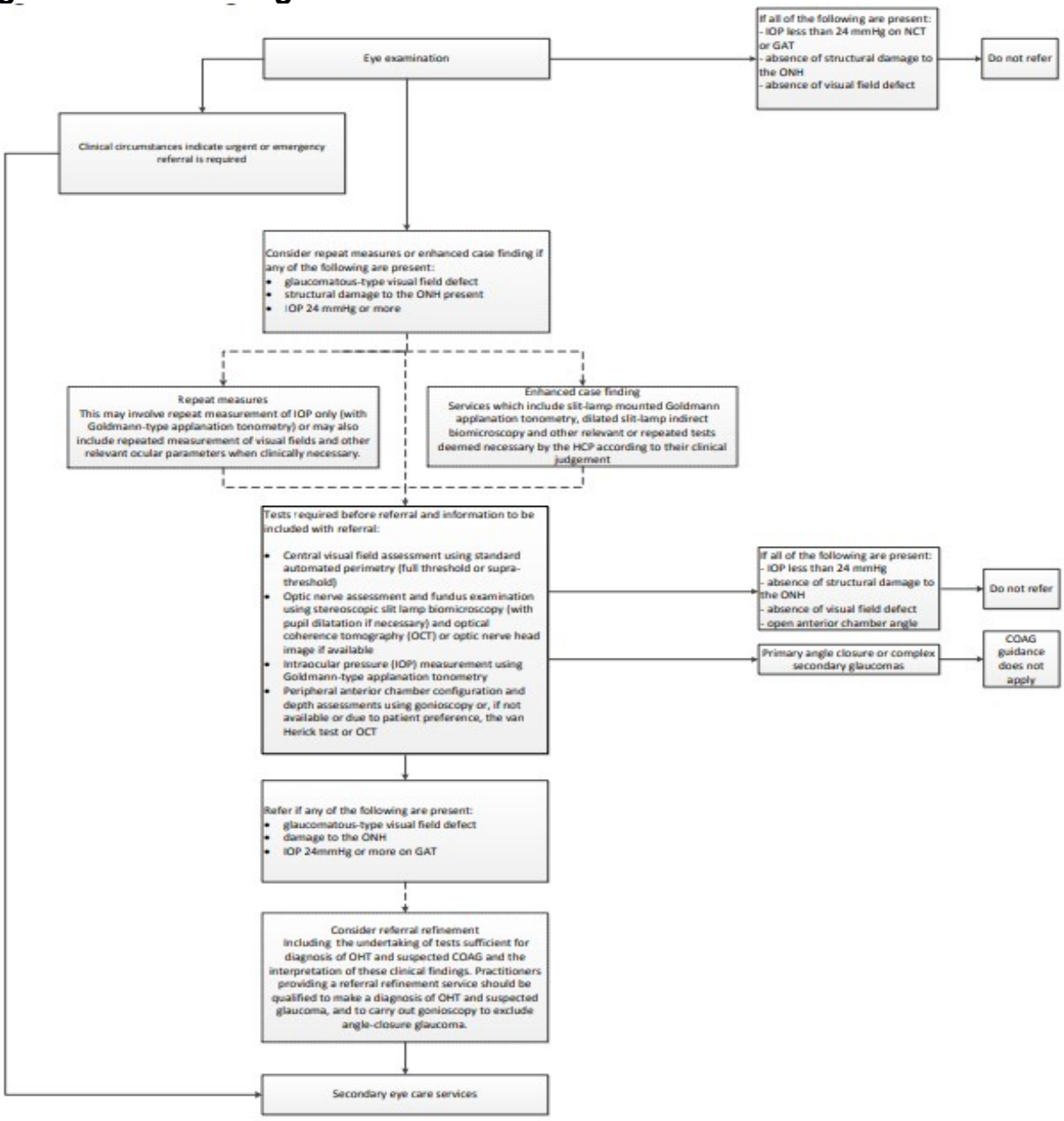


Figure 2: Diagnosis algorithm

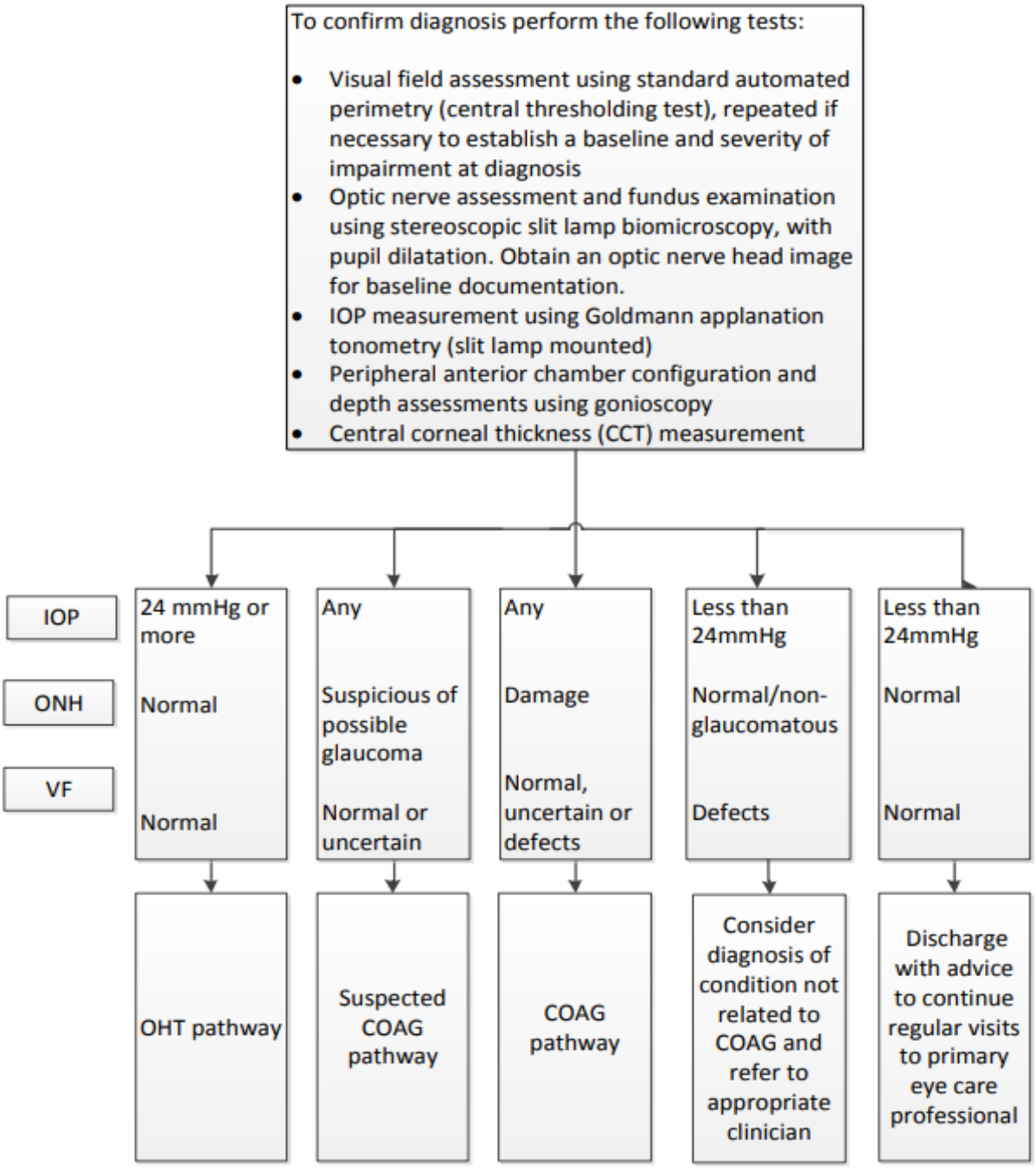
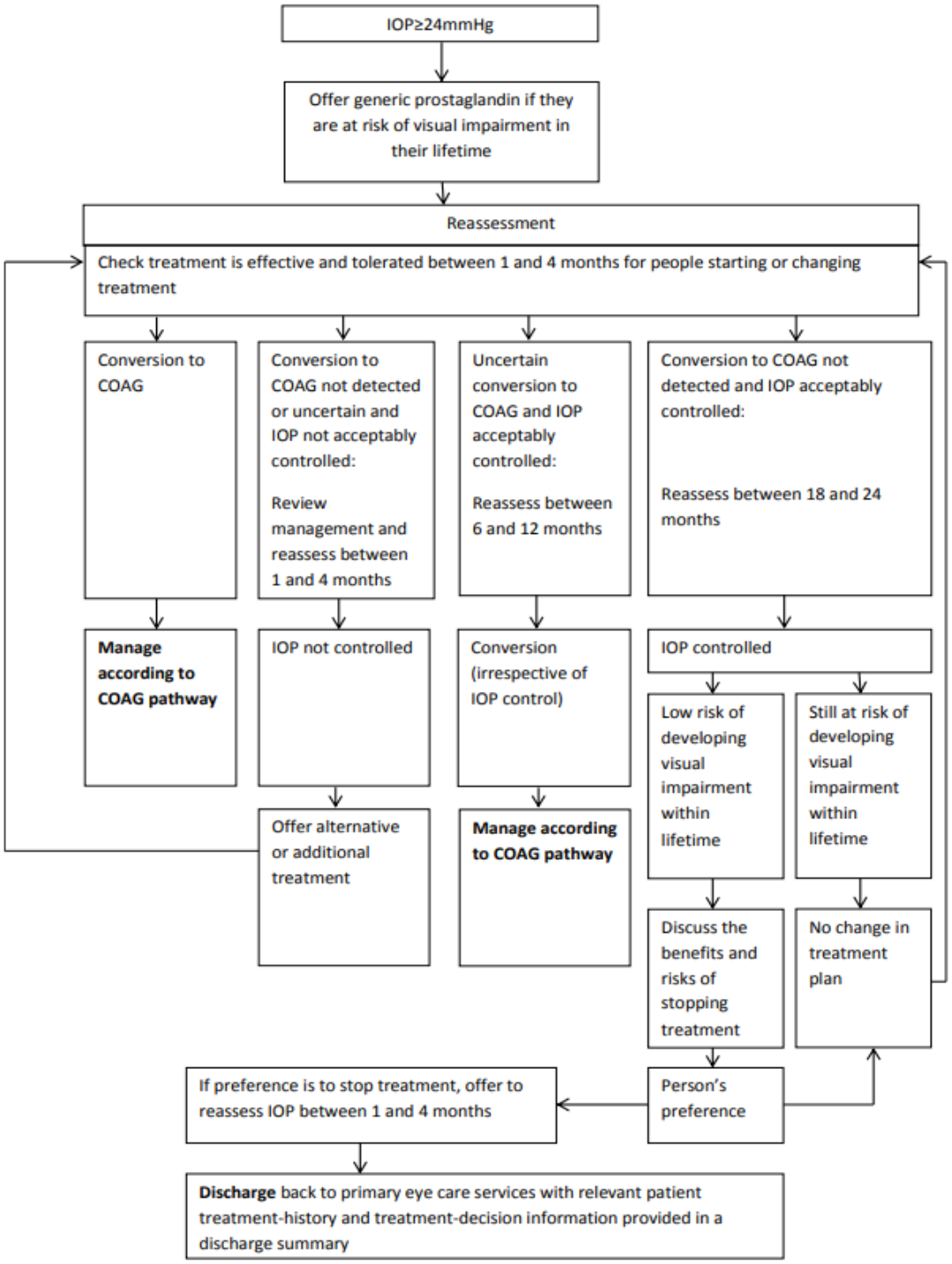
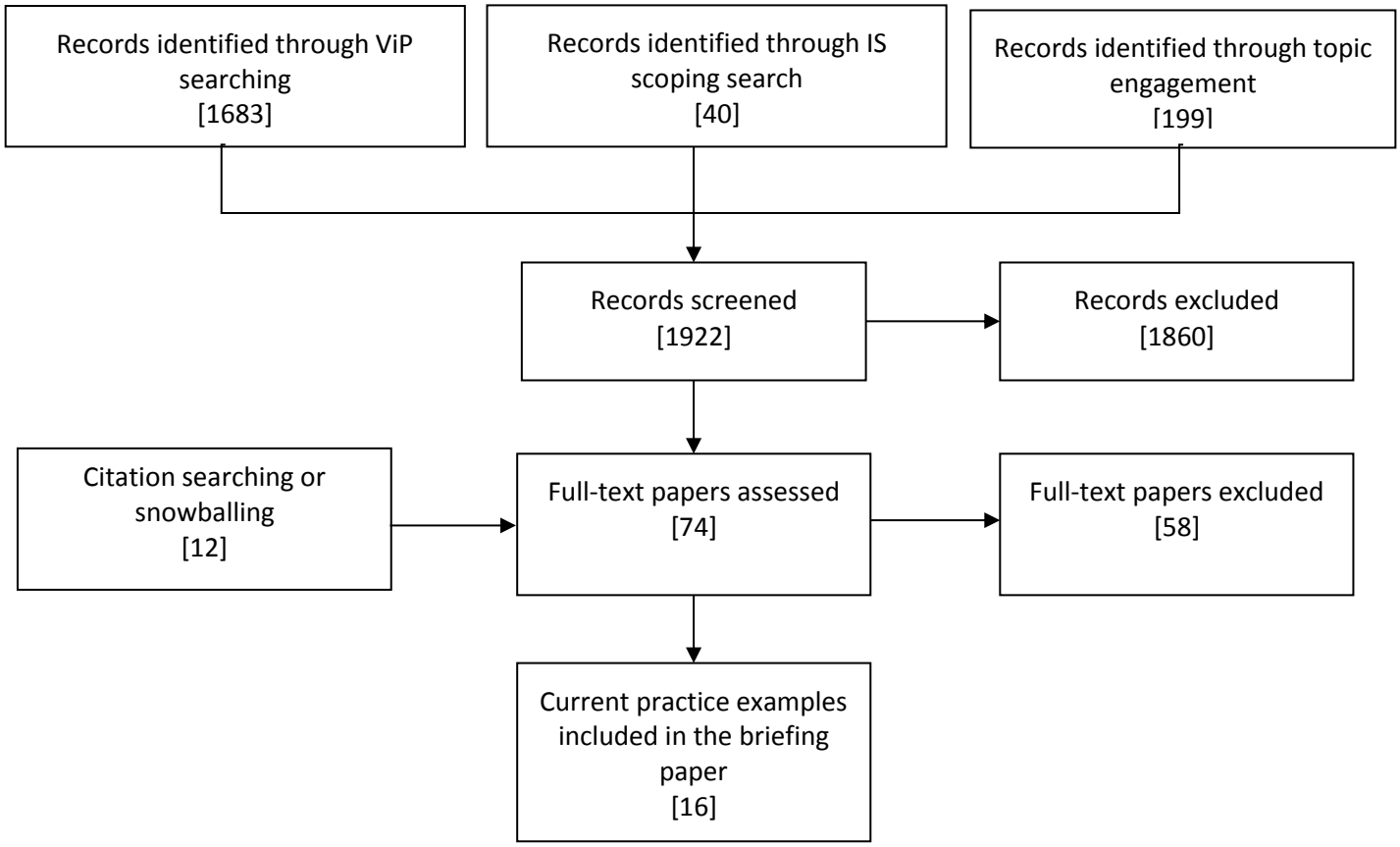


Figure 3: OHT management and reassessment algorithm



Appendix 3: Review flowchart



Appendix 4: Glossary

Anti-VEGF an antiangiogenic agent

Drusen (AMD) White or yellow deposits, of lipid rich material, in Bruch's membrane of the choroid under the retina. They are often associated with macular degeneration, and the presence of drusen increased a person's risk of developing AMD.

LogMAR scale (base 10 Log of the reciprocal of the visual angle). A normal LogMAR VA is 0.0 and the number increases as vision gets worse. LogMAR=0.3 would be at the boundary for driving a car and 1.0 would be at the level of registrable severe sight impairment. A postoperative VA of 0.3 or better is often used as a measure of a favourable outcome from surgery.[33]

OCT A class of optical tomographic techniques that allows high-quality micrometre-resolution images. It is a non-invasive test that involves use of light waves to take cross-sectional pictures of a person's retina. OCR has been applied for medical fields for diagnosis. Particularly, in ophthalmology, where OCT allows non-invasive images of the ocular structures.

Perimetry Measurement of field of vision.

Snellen Chart An eyechart commonly used to measure a person's visual acuity. It consists of a series of letters of decreasing size viewed at a distance of 6 metres. Normally a Snellen Chart has one large letter at the top down to a row of very small letters at the bottom. Although it is beginning to be superseded by similar but more reproducible and scientifically valid charts, it is still in common use in clinical practice and is the chart most people will have been asked to read when having their eyes and vision tested.

Visual acuity The clarity and sharpness with which objects are seen, in particular the ability to see fine details.

[33] Donachie PH and Sparrow JM (2017) National Ophthalmology Database Audit: year 2 annual report Healthcare Quality Improvement Partnership, Glossary, entry for VA

Appendix 5: Suggestions from stakeholder engagement exercise – registered stakeholders

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
1. General comments				
1	NHSE/NCD for older people	General	The relevant guidance (NG81, NG77) identifies key audiences of health professionals, commissioners and providers of eye care services and adults with serious eye disorders, their families and carers. With this in mind it is suggested that the proposed QS supports case finding for those older adults who may benefit but otherwise not get access to services focused on serious eye disorders, and those who are particularly vulnerable to the effects of sight loss including older adults with frailty, loneliness or isolation, cognitive impairment or mental health disorders. It is also suggested that the proposed QS reflects the particular needs of older adults with frailty or cognitive disorder when assessing suitability for, and planning delivery of ,surgical and other interventions for serious eye disorders.	
2	NHSE/NCD for older people	General	1) Routine visual assessment as part of falls risk assessment for older people living with moderate or severe frailty and considered to be at risk of falls in the community 2) Routine visual assessment for older people admitted to hospital and identified to be at risk of inpatient falls 3) Routine visual assessment for older people at risk of serious eye disorders who may otherwise not gain access to treatment as a result of cognitive impairment, living in isolation or experiencing loneliness, or residing in a care home 4) Assessment of the needs of older adults with frailty when assessing suitability for, and planning delivery of surgical and other interventions for serious eye disorders	

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
			5) Assessment of the needs of older adults with cognitive or mental health disorders when assessing suitability for, and planning delivery of surgical and other interventions for serious eye disorders	
3	NHSE/NCD for older people	General	Is there anything else happening in the topic area which you think may be of interest to the committee? The GMS Contract 2016/17 has promoted routine identification of severe frailty (and where clinically appropriate moderate frailty in adults aged 65 and over, together with routine annual falls risk identification (as per NICE CG 161) and medications review (as per NG56). https://www.england.nhs.uk/publication/supporting-routine-frailty-identification-and-frailty-through-the-gp-contract-20172018/ NHS England Hospital to Home programme has published a number of quick guides to support people in maker better use of community based care services. www.nhs.uk/quickguides The Enhanced Health care in Care Homes (EHCH) vanguards programme has published a framework setting out what good care homes care looks like including provision of rehabilitation and recovery. https://www.england.nhs.uk/ourwork/new-care-models/vanguards/care-models/care-homes-sites/ The Acute Frailty Network has published a series of case studies demonstrating quality improvement in acute frailty assessment and care. https://www.acutefrailtynetwork.org.uk/Members/Case-Studies Centre for Ageing Better Transitions in Later Life Pilot Projects Evaluation https://16881-presscdn-0-15-pagely.netdna-ssl.com/wp-content/uploads/2017/10/TILL-combined-full-report.pdf Royal College of OT Living Not Existing 2017 http://3clw1r2j0esn1tg2ng3xziww.wpengine.netdna-cdn.com/wp-content/uploads/2017/07/ILSM-Phase-II-England-16pp.pdf NIHR Advancing Care Themed Review 2017 http://www.dc.nihr.ac.uk/themed-reviews/advancing-care.htm http://www.dc.nihr.ac.uk/themed-reviews/Comprehensive-Care-final.pdf	

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
1. Preventing sight loss				
4	College of Optometrists	Prevention Encouraging people to look after their eye health and raising awareness of the need for regular eye tests.	It is important to stress that routine eye examinations pick up eye disease at the earliest stage and increase the chance that it can be treated effectively without sight loss occurring. We would stress the importance of interventions that encourage regular eye examinations with an optometrist as important healthy lifestyle behaviour. The vast majority of cases of sight-threatening, non communicable eye diseases are detected through eye examinations by optometrists and early detection is a key factor in improved patient outcomes.	Eye disease is a significant morbidity burden in the UK expected to grow as society ages1 but which could be significantly mitigated through better prevention, earlier identification and early intervention. A lack of awareness of increased risk and reduced uptake of eye care services means sight loss is more prevalent. The NHS recommends that most people should have an eye test every two year2. Yet over a quarter of UK adults have not done so, and eight per cent of people have never had an eye test3. Because people are concerned about sight loss4, there is considerable potential for reinforcing eye health messages to broader health promotion campaign, e.g. diabetes, smoking cessation, etc.
5	Industry Vision Group	Accurate definitive diagnosis	People referred to a specialist for a definitive diagnosis should receive all the tests stipulated by the relevant NICE guidance within a reasonable timeframe […] […]Timely and accurate diagnosis of cataracts can optimise vision and prevent avoidable visual disability […]	Increasing uptake of eye testing can improve detection of eye diseases. Although the RCOphth recommends eye tests every two years for adults, estimates indicate that 27% of people have not had an eye test within the last two years.

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
				[…].
6	Novartis Pharmaceuticals Ltd	Accurate definitive diagnosis People referred to a specialist for a definitive diagnosis should receive all the tests stipulated by the relevant NICE guidance within a reasonable timeframe […]	[…]Timely and accurate diagnosis of cataracts can optimise vision and prevent avoidable visual disability […]	Increasing uptake of eye testing can improve detection of eye diseases. Although the RCOphth recommends eye tests every two years for adults, estimates indicate that 27% of people have not had an eye test within the last two years. […].
7	Alliance Pharmaceuticals Ltd	Age related Macular Degeneration (AMD)	AMD affects more than 600,000 in the UK increasing each year. 1 in every 10 people over 65 have some degree of AMD (NHS Choices 2015) which equates to roughly **2,679,714** people in the UK with early stage AMD (RNIB 2016). AMD worsens gradually over several years, leading eventually to central loss of vision and registered blindness; AMD is the cause for over half of all blind/partially sighted certificates in the UK (Bunce 2010). Considerable evidence shows how having AMD has a considerable impact on quality of life (Mitchell 2006), doubles the risk of falls (Szabo 2010; Bhuiyan 2013) and is a	There is a need to **identify AMD early**, echoed by the NICE AMD guideline (2018): *"The review questions aims to identify factors that could be influenced to prevent, or delay the onset of AMD, thus maintaining vision for as long as possible, or reducing the treatment burden on individuals."* This guideline has also identified known risk factors for AMD progression. AMD comes on very gradually and symptoms begin with loss of central vision (NEI 2015). The aetiology is unclear, so there is no clear prevention strategy. However, by detecting AMD earlier, along with public awareness, evidence shows that earlier interventions lead to a better outcome in vision and slowing of AMD progression (NICE AMD 2018, Cochrane 2017 & RCO 2013).

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
			significant burden on NHS resources (Lee 2017). There is no cure; however, there is evidence supporting interventions do slow progression of this disease (NICE AMD Guidelines 2018 & Cochrane 2017).	**Interventions to slow AMD** progression, as defined by the NICE AMD guidelines 2018, such as smoking cessation, weight management, healthy diet (to inc. carotenoids), UV protection when outdoors and reducing alcohol are not always exercised in every patient. We know that 2/3 of >65 yrs population in the UK do not get their recommended vegetable intake (PHE 2017). Carotenoids exist in the human diet, particularly in green leafy vegetables (O'Neill 2001;Perry 2009); however, we also know that people usually ingest <1mg carotenoids per day in their normal diet (Nebeling 1997).
8	Alliance Pharmaceuticals Ltd	As defined by NICE AMD guidelines 2018, low carotenoid intake in the diet is a well recognised risk factor for the progression of AMD disease and supplements can support the diet of people who would not otherwise achieve adequate intake through diet alone; thus, slowing AMD progression (Cochrane 2017+ dietary intake refs below). The Royal College of Ophthalmologists latest guidelines on AMD management (2013) not only recommends daily AREDS* type vitamins in AMD patients, but even goes so far as to advocate prescribing of these to help slow down AMD progression. We also know from the studies that supplementing the diet not only slows progression of AMD, but also improves visual acuity over time (Cochrane 2017, AREDS studies 2001-11 & Dietary intake refs below).		
4.2 Referral				
9	ABHI	Key improvement area 1: Referral thresholds for cataract surgery: reference Cataract in Adults	Cataract surgery has a high success rate in improving visual function, with low morbidity and mortality. It is the most common operation performed in the NHS, with an ever growing need as the population ages.	The clinical threshold used to access cataract surgery varies across NHS trusts in England. This has resulted in differences in access to cataract surgery, because policies vary in scope and content and are not necessarily consistent with research evidence or guidance provided by the Department of Health in Action on cataracts

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
		management guideline (CG77, 1.2)	The recent NICE guideline recommends to not restrict access to cataract surgery on the basis of visual acuity, a position welcomed by numerous stakeholders including the RNIB, RCO and College of Optometrists	and the Royal College of Ophthalmologists' Cataract surgery guidelines or the recently published NICE guidelines (NG77). There is clear evidence that visual acuity thresholds for cataract surgery still exist in many CCGs are and are continuing to be developed by others in direct contradiction to the recent NICE guideline NG77
10	SCM5	Equal access for patients for cataract surgery, no postcode lottery		
11	SCM5	Patients initially found ineligible for surgery due to concurrent serious co-morbidity or lack of social support to be offered a review		
12	Alcon Eye Care UK	Key area for quality improvement 1 Referral thresholds for cataract Surgery: reference Cataract in Adults management guideline (NG77 1.2).	Cataract surgery has a high success rate in improving visual function, with low morbidity and mortality. It is the most common operation performed in the NHS, with an ever growing need as the population ages. The recent NICE guideline recommends not to restrict access on the basis of visual acuity, a position welcome by numerous stakeholders including the RNIB, RCO, College of Optometrists	The clinical threshold used to access cataract surgery varies across NHS trusts in England. This has resulted in differences in access to cataract surgery, because policies vary in scope and content and are not necessarily consistent with research evidence or guidance provided by the Department of Health in Action on cataracts and the Royal College of Ophthalmologists' Cataract surgery guidelines or the recently published NICE guidelines (NG77). There is clear evidence that visual acuity thresholds for cataract surgery referral still exist in many CCGs and are continuing to be

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				developed by others in direct contradiction to the recent NICE guideline NG77.
13	The Industry Vision Group	Access to innovative treatments	[…] Cataract surgery is the most common operations performed on the NHS in the UK, with over 390,000 procedures each year, and is also one of the most cost-effective. Even for second-eye cases, NICE guidelines outline that immediate surgery has been shown to be cost-effective in most scenarios. Delayed or denied access to treatment for cataracts puts patients at greater risk of falls (and related hip fractures) depression and eventual severe vision loss.	[..].
14	The Industry Vision Group	Prompt referral for specialist assessment	People in whom a serious eye disorder is suspected should receive a prompt referral to a specialist for further assessment and definitive diagnosis Timely and accurate diagnosis and treatment of cataracts can optimise vision and prevent avoidable visual disability […]	In March 2017, NHE England announced the relaxation of the requirement of hospitals to treat 92% of patients for non-urgent operations, including cataract surgery. Since March 2017, the percentage of patients treated within 18 weeks of referral has dropped from 91.4% to 89.7%.
15	Novartis Pharmaceuticals Ltd	Prompt referral for specialist assessment People in whom a serious eye disorder is	Timely and accurate diagnosis and treatment of cataracts can optimise vision and prevent avoidable visual disability.	

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		suspected should receive a prompt referral to a specialist for further assessment and definitive diagnosis.		
16	SCM4	Key improvement area 1: Referral pathways for eye disorders	There has been considerable work around referral strategies from primary care to secondary care for glaucoma, AMD and cataract. Each of these areas have different pinch points that are disease specific and have an impact on outcomes for those with sight loss	The impact of referral patterns can be significant to the hospital eye service which is already struggling with capacity. The impact will vary according to disorder type and have very different levers.
17	Royal College of Ophthalmologists	Key area for quality improvement 2: Timely follow up of patients with COAG/OHT	People with COAG, suspected COAG or with OHT may be at risk of loss of visual field and acuity and should have access to timely follow up at intervals in accordance with NICE guidance. Sufficient capacity needs to be in place and systems to identify people at high risk whose appointments are missed, cancelled or delayed. 1. Referral filtering and review and reassessment of people with ocular hypertension (OHT) who are recommended by NICE for treatment can be undertaken in the community by suitably trained optometrists. Community optometric services thus have the potential both to reduce the rates of false positive referrals to hospital eye services and	Documented evidence of delayed follow up of COAG patients, leading to serious incidents with potentially irreversible visual loss QI Opportunity There is currently no nationally available data item which provides for collection of information relating to delayed review appointments which results in avoidable sight loss to people with such conditions.

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			to reduce the burden of ongoing monitoring of individuals who are at a low risk of blindness within their lifetime. 2. Chronic disease monitoring for potentially blinding eye conditions including glaucoma, macular degeneration and other serious eye conditions (e.g. diabetic retinopathy which can cause preventable sight loss in adults).	
18	SCM1	Key improvement area 5: Availability of a service model that includes Goldmann-type applanation tonometry before referral for diagnosis of COAG and related conditions	Referrals based on inaccurate intraocular pressure measurements are currently a major issue for secondary care services with constrained capacity	Improvement of accuracy of IOP measurements, decreased number of false+ve tests and reduction in unnecessary referrals
19	Royal College of Ophthalmologists	Key improvement area 5: Availability of a service model that includes Goldmann-type applanation tonometry before referral for diagnosis of COAG and related conditions	Referrals based on inaccurate intraocular pressure measurements are currently a major issue for secondary care services with constrained capacity	Improvement of accuracy of IOP measurements, decreased number of false+ve tests and reduction in unnecessary referrals

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20	Optical Confederation	Time to first appointment for glaucoma suspects.	Delays in glaucoma diagnosis have been shown to increase the risk of sight loss. Implementation of referral refinement schemes can reduce false positives and decrease the period true glaucoma suspects have to wait.	The time to first appointment has risen in many hospital eye departments. By implementing referral refinement schemes across all areas of the UK, time to first appointment for glaucoma suspects can be reduced.
21	SCM2	Key improvement area 3: Referral filtering and review and reassessment of people with ocular hypertension (OHT) who are recommended by NICE for treatment can be undertaken in the community by suitably trained optometrists.	This is important because false positive referrals generate unnecessary anxiety for patients and cost for the NHS. A community service which delivers both referral filtering and low risk OHT monitoring provides the added benefit of reducing pressure on overburdened hospital eye services, allowing them to focus attention on people who are at a high risk of vision loss from other eye conditions.	NICE QS community service development recommendations for referral filtering and low risk monitoring would encourage the setting up of appropriate service models. QS7 made such recommendations and these should be restated in the current Serious Eye Disorders QS. Such recommendations would strengthen the existing recommendations in NG81.
22	The Industry Vision Group	Prompt referral for specialist assessment	People in whom a serious eye disorder is suspected should receive a prompt referral to a specialist for further assessment and definitive diagnosis […] There is no cure for glaucoma, but early intervention can help slow or delay the damage caused to the eye by the condition. Given glaucoma is the cause of blindness for over 10% of registered blind people in the UK, accurate and definitive diagnosis is central to improving patients' quality of life and the associated economic burden of blindness. […]	

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23	Novartis Pharmaceuticals Ltd	Prompt referral for specialist assessment People in whom a serious eye disorder is suspected should receive a prompt referral to a specialist for further assessment and definitive diagnosis	[…] There is no cure for glaucoma, but early intervention can help slow or delay the damage caused to the eye by the condition. Given glaucoma is the cause of blindness for over 10% of registered blind people in the UK, accurate and definitive diagnosis is central to improving patients' quality of life and the associated economic burden of blindness. […]	
24	RNIB	Patients with sight loss are offered support through Eye Clinic Liaison Officers (ELCOs) or similar role to access appropriate habilitation and rehabilitation information, advice and support, as well as emotional wellbeing.	Being diagnosed with an eye condition can be difficult to come to terms with. It can be an extremely confusing and uncertain time and in many cases emotionally traumatic. People with sight loss are three times more likely to suffer depression. A survey of registered individuals revealed that after diagnosis 92 per cent of blind and partially sighted people were not offered formal counselling by the eye clinic, either at the time or later. Nearly a quarter of blind and partially sighted people (23 per cent) leave the eye clinic not knowing, or unsure of, the name or nature of their eye condition.	ECLOs are vital in helping people get the support they need. Patient experience survey found 78 per cent of patients stated that the ECLO referred them, put them in touch with, or informed them of services outside of the hospital. Of these patients, 79 per cent felt that they would not have accessed or found this support without the ECLO and 68 per cent of patients used these services and 99 per cent of patients found these services helpful or very helpful. I would have been lost without this service, they have been brilliant. Both the qualitative and quantitative findings from the patient experience survey suggest that

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			Eye clinic staff are often unable to provide the emotional and practical support their patients' need. The ECLO can help provide this essential support.	patients have experienced an increased sense of emotional wellbeing because of ECLO support. 81 per cent of respondents reported their emotional well-being had increased as a result of seeing an ECLO. She was the lifeboat.
25	Thomas Pocklington Trust	Eye Clinic Liaison Officers (ECLOs) or Sight Loss Advisors to be explicitly mentioned as a key resource for supporting patients across all eye conditions.	ECLOs provide a key role in supporting people with sight loss by providing emotional support, signposting and providing a vital link between eye clinics and vision rehabilitation services	There is sporadic coverage of ECLOs across England. Out of the 150 NHS Trusts, 82 provide an ECLO service with around 75% of this provision funded by the voluntary sector. ECLOs are an excellent example of how to implement QIPP principles (quality, innovation, productivity, prevention). They are highly skilled professionals who provide a vital service across London and the rest of the country. ECLOs work closely with consultants and other medical staff and are an integral part of the ophthalmology team. The Royal College of Ophthalmologists recommends that ECLOs are part of a minimum service team (1). The ECLO service increases the efficiency of clinical staff through enabling them to focus their time most appropriately. This is achieved through reducing the time clinical staff need to spend with distressed patients, signposting to valuable follow on support services, assisting with the administration of Certificates of Visual

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				Impairment, providing information on patients' eye conditions and providing emotional support. Patient throughput is maximised and the stress felt in clinics can be reduced. (2)
26	College of Optometrists	Habilitation and rehabilitation Better access to habilitation and rehabilitation services	Low vision has a significant impact on a person's independence and quality of life. For example, older people with low vision are more likely to fall or suffer from social isolation and depression than their sighted peers. Children and young people with low vision are at risk of poor outcomes since reduced visual input presents a major obstacle to the acquisition and development of fundamental developmental skills in early and later childhood. Independent research has identified that good vision rehabilitation avoids significant health and social care costs; the costs avoided are more than three times the cost of delivering the service3.	The current system of low vision habilitation and rehabilitation services is fragmented and more joined up commissioning is needed to ensure consistency of services for users, and the avoidance of a postcode lottery. In some areas, services do not exist and the population need has not been assessed. In many areas, there is no accessible community low vision service, and the referral route can involve the optometrist referring to the GP, and the GP referring to the HES. Most HES departments provide low vision clinics supported by an eye clinic liaison officer (ECLO). ECLOs are key in linking patients to services and helping them understand the impact of their diagnosis. An ECLO service is an essential part of the eye health and sight loss pathway and therefore should be included in contracts and service specifications. Low vision services should be seamlessly incorporated into the eye care and sight loss pathways and not as an afterthought. Many adult patients access low vision assessments when sight loss has occurred and further treatment is no longer effective. Earlier anticipated access to

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				low vision services could lead to better outcomes, when there is some useful vision present.
27	Macular Society	Timely treatment for serious eye conditions such as age-related macular degeneration (AMD) and myopic choroidal neovascularisation: 1. At referral 2. At diagnosis	The new NICE Clinical Guideline for AMD considered, and accepted, a wealth of evidence showing that early treatment of AMD leads to better visual outcomes. It says: "The committee interpreted this evidence as providing a clear mandate for the swiftest possible patient journey from suspicion to treatment of late AMD (wet active). The committee identified 3 linked intervals (initial presentation to referral, referral to diagnosis, and diagnosis to treatment) that comprise the initial referral pathway. The committee noted that delay at any of these junctures could have an important impact on people's visual change." The Guideline includes a recommendation to consider treatment outside NICE's own technology appraisals 155 and 294 which only permit treatment after vision has dropped to 6/12 (ie below the legal driving limit). Vision is also lost when there are delays to follow up treatment.	We believe there is widespread failure to meet recommended treatment times both for first treatments and follow up. Repeated surveys and FOI requests by the Macular Society, RNIB and the RCOphth have indicated this clearly. In addition we have anecdotal evidence from callers to our helpline who are frightened that their treatment is delayed and the vision is declining. Recent examples include a Belfast patient who was told the wait for a first injection would be 15 weeks. Other delays have been reported to us recently at Aintree, Shrewsbury, Gwent, West Kent, Macclesfield, Southampton, Solihull, Cambridge, East Kilbride, Llanelli, Oldham and Rochdale. These units report a range of problems including under investment in the service, inadequate buildings or space, and staff shortages. In some instances it is possible to identify poor management practices and it is common for problems in the eye department to be reported in hospitals that appear to have systemic organisational failures and may be in special measures. Other issues causing delays include poor quality commissioning decisions, poor communication between CCGs and Trusts, a dysfunctional IFR

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				process, slowness to adopt new or good practices. This latter is important as we are aware of some units that do meet time to treatment guidelines.
28	Optical Confederation	Wet AMD Fast track	Patients with suspected Wet AMD should be seen within 2 weeks by the HES, this target has slipped in many areas due to capacity issues. OCT is increasingly prevalent within optical practices. By implementing OCT before referral, capacity can be increased for seeing Wet AMD patients within the HES.	Wet AMD is a time critical condition. Numerous areas are struggling to reach the two week referral target with many having extended this period. This places patients at risk.
29	The Industry Vision Group	Prompt referral for specialist assessment	People in whom a serious eye disorder is suspected should receive a prompt referral to a specialist for further assessment and definitive diagnosis Timely and accurate diagnosis and treatment of cataracts can optimise vision and prevent avoidable visual disability. There is no cure for glaucoma, but early intervention can help slow or delay the damage caused to the eye by the condition. Given glaucoma is the cause of blindness for 10% of registered blind people in the UK, accurate and definitive diagnosis is central to improving patients' quality of life and the associated economic burden of blindness.	Consultant-led Referral to Treatment Waiting Times

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
			AMD is the leading cause of severe visual impairment in adults. Geographic atrophy and exudative AMD account for two-thirds of visual impairment and blindness in the UKi. Approximately 10-15% of patients with AMD subsequently develop wet-AMD. Early diagnosis can prevent the rapid deterioration of sight and eye damage.	
30	Novartis Pharmaceutical Ltd	Prompt referral for specialist assessment People in whom a serious eye disorder is suspected should receive a prompt referral to a specialist for further assessment and definitive diagnosis.	Timely and accurate diagnosis and treatment of cataracts can optimise vision and prevent avoidable visual disability. There is no cure for glaucoma, but early intervention can help slow or delay the damage caused to the eye by the condition. Given glaucoma is the cause of blindness for 10% of registered blind people in the UK, accurate and definitive diagnosis is central to improving patients' quality of life and the associated economic burden of blindness. AMD is the leading cause of severe visual impairment in adults. Geographic atrophy and exudative AMD account for two-thirds of visual impairment and blindness in the UKii. Approximately 10-15% of patients with AMD subsequently develop wet-AMD. Early diagnosis can prevent the rapid deterioration of sight and eye damage.	
31	SCM3	Referral refinement for urgent eye conditions	There are many examples of the referral and management of urgent eye conditions and the use of community eye services.	The development of & sharing of process for eye conditions may help with access times to treatment & effective use of resources

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
32	SCM4	Key improvement area 1: Referral pathways for eye disorders	There has been considerable work around referral strategies from primary care to secondary care for [….] AMD. Each of these areas have different pinch points that are disease specific and have an impact on outcomes for those with sight loss	The impact of referral patterns can be significant to the hospital eye service which is already struggling with capacity. The impact will vary according to disorder type and have very different levers.
4.3 Treatment				
33	Alcon Eye Care UK	Key improvement area 3: Shared decision making: reference Cataract in Adults management guideline.	The NICE Cataract in Adults management guideline (NG77) and the UK Ophthalmology Alliance highlight the importance of providing clear information and engaging the patient in shared decision-making on IOL selection and refractive target, considering the patient's preferred refractive outcome, lifestyle and expectations. We would propose that this could apply to, for example, the correction of astigmatism using a toric IOL. Accessible written and verbal communication about the cataract surgery should be provided and time allowed for consideration. This should include information about IOLs and refractive choices.	A cataract surgery can be a daunting experience for patients due to their age and potential other medical conditions, which can create additional concerns for clinicians and patient. Therefore their collaboration is essential, ensuring that provided care is patient tailored to the need of individual. Patient awareness about cataract disease and available treatment options is limited but essential in supporting individuals to develop the knowledge and confidence they need to make informed decisions about their health and healthcare. The time of cataract surgery is the only point in time where patients can make the decision to stay with glasses or opt for spectacle independence. Therefore an informed decision should be mandated through a quality standard.

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34	The Industry Vision Group	Provision of patient Information	People with or at risk of developing a serious eye disorder should be offered appropriate and accessible patient information at each stage of their patient journey, including information about their treatment options. Educating and empowering patients can lead to more effective treatment across the pathway and better adherence to treatment and improved outcomes.	A study conducted recently by the RNIB found many participants reported a lack of reassurance and emotional support throughout cataract treatment. Following referral, the study found insufficient provision of information to allay patient fears over treatment. Post-operatively, patients reported being confused by 'unclear, incomplete and contradictory patient information'. This was partially due to inconsistency of healthcare professionals seen during consultations
35	Novartis Pharmaceuticals Ltd	Provision of patient information People with or at risk of developing a serious eye disorder should be offered appropriate and accessible patient information at each stage of their patient journey, including information about their treatment options […]	By providing information to patients about their eye disorder and possible treatment options, it will empower them to get the most out of hospital eye services and care. Better informed patients will likely result in improved self-help, which in turn can help to reduce wasted, missed or delayed appointments, as well as encourage correct use of the primary and secondary eye care services. Increasing understanding amongst people with, or at risk, of developing serious eye disorder will only help to improve outcomes for patients by decreasing avoidable sight loss or progression of sight loss.	A study conducted recently by the RNIB found many participants reported a lack of reassurance and emotional support throughout cataract treatment. Following referral, the study found insufficient provision of information to allay patient fears over treatment11. Post-operatively, patients reported being confused by 'unclear, incomplete and contradictory patient information'. This was partially due to inconsistency of healthcare professionals seen during consultations11.

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				[…]
36	Royal College of Ophthalmologists	Key area for quality improvement 7 Appropriate use surgical checklists for cataract surgery	Wrong IOL never events are the commonest surgical never event Using an ophthalmic WHO checklist is crucial	
37	SCM5	Before surgery, patients should be aware of likely visual outcomes and overall quality of life outcomes.		
38	SCM5	Clinician to share decision-making with patient or carer.		
39	SCM5	Patient should receive information they can understand, pre-operatively, on individual risks, benefits and complications, and before discharge, on after care and contact person.		
40	SCM6	Routine use of written information as well as verbal communication. In this era, and there is the ability to develop a repository of good quality information sheets on-line which can be printed off on demand (so means all consulting rooms should have internet access and a printer). This would make it feasible for information sheets to	All guidelines have highlighted the need for good quality information.	Good quality information has a large number of positives to the health service and should also be achievable. One would expect it to lead to improved compliance and realistic expectations. Evidence that much litigation is initiated by poor communication

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
		be available for even rare conditions.		
41	Novartis Pharmaceuticals Ltd	Access to innovative treatments for patients diagnosed with serious eye disorders. People with a diagnosed serious eye condition should have access to the full range of appropriate approved treatments and be encouraged to engage in shared-decision making in designing their treatment plan.	It is important that the system can treat patients at the correct time in the correct place, to improve patient outcomes and efficiencies in the NHS. Recent research by the Royal College of Ophthalmologists showed that up to 22 patients per month in the UK are suffering permanent and severe visual loss due to health service initiated delays. If treatment is prescribed to the right patients at the right time, it could allow the NHS to achieve its goal of eradicating avoidable blindness by 2020. In addition, benefits of community optical practices delivering local community services in primary care is a reduction in referral rates to GPs, A&E and hospital eye departments.	Evidence suggests that access to certain medicines and surgical interventions continues to vary across the country. In glaucoma, evidence suggests significant geographic variation in prescription rates across the country, which in part can be explained by changes and variation in practices of eye-care professionals. The treatment of glaucoma can delay or prevent sight loss, with those with advanced glaucoma at the highest risk of blindness. Wet AMD is a rapidly progressive condition and, while treatment cannot repair damage already caused, earlier treatment is associated with a better outcome. The NICE guidelines state, that patients exhibiting symptoms of AMD should be referred urgently to an ophthalmologist for further assessment and treatment as necessary.
42	The Industry Vision Group	Access to innovative treatments	People with a diagnosed serious eye condition should […] be encouraged to engage in shared decision-making in designing their treatment plan. […]	In order to achieve the best possible health outcomes, people with serious eye conditions need to be accorded access to the full range of appropriate, cost-effective pharmacological and surgical treatments.

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
				[…] Evidence suggests that access to certain medicines and surgical interventions continues to vary across the country. In glaucoma, evidence suggests significant geographic variation in prescription rates across the country, which in part can be explained by changes and variation in practices of eye-care professionals.
43	RNIB	Patients are provided with information in an accessible format and supported to make informed decisions about the management and treatment of their condition	86% of blind and partially sighted people said they found it difficult or impossible to read medication information, My Voice RNIB 2015	NHS Accessible Information Standard
44	The Industry Vision Group	Access to innovative treatments	[…] Unlike dry-AMD, wet-AMD is treatable, with early intervention and use of anti-VEGF therapy leading to significantly better outcomes, including improved sight in 25% of people. Delays in treatment worsen outcomes. […]	
45	SCM1	Key improvement area 1: Clear local pathway for people with AMD- need for	Patients with AMD need rapid access to retinal specialist with AMD expertise; need to be referred directly, not via GP as this introduces unnecessary delay	Referral to treatment time should not normally exceed 2 weeks. Reducing delay in assessment and treatment

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
		rapid access for wet AMD		
46	Royal College of Ophthalmologists	Key improvement area 1: Clear local pathway for people with AMD- need for rapid access for wet AMD	Patients with AMD need rapid access to retinal specialist with AMD expertise; need to be referred directly, not via GP as this introduces unnecessary delay	Referral to treatment time should not normally exceed 2 weeks. Reducing delay in assessment and treatment
4.4 Follow-up/reassessment				
47	Optical Confederation	Cataract pre and post assessment time period	There is good evidence that elderly people with cataract suffer a significant decrease in quality of life. Consideration should be given to suitably qualified staff at community optical practices undertaking the routine pre-cataract examination as well as the post-operative checks. This would increase capacity within secondary care.	There are numerous examples of post-operative cataract care being delivered by optometrists across the UK. These provide good results for patients and release capacity in the HES. This provides eye departments with more time to see new or complex patients. Increased capacity for complex care cases within the HES decreases avoidable sight loss. Currently eye departments are overburdened with routine appointments, leading to missed targets and risk to patients. This area will not directly improve outcomes, but indirectly will increase capacity and improve outcomes.
48	SCM4	Key improvement area 2: Monitoring of low risk disease	Those at low risk of sight loss being safely monitored or followed up outside the secondary care environment	Cataract post-operative assessments could be carried out in the community […]

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
49	The Industry Vision Group	Timely follow up for monitoring and appropriate treatment	People living with a serious eye disorders should be monitored and followed up at intervals appropriate to their risk of progressive loss of vision. This should include follow-up treatment as well as ongoing monitoring. Regular follow-up after diagnosis and during treatment is essential to detect the progression of glaucoma that might necessitate different treatment pathways. Following diagnosis, glaucoma requires life-long monitoring. The frequency of timely (every four weeks) follow-up for wet-AMD patients cannot be reduced without worsening outcomes.	At present, there is a lack of national metrics on eye health. While there are waiting-time targets for newly referred patients, there are no equivalent measures for when patients are seen for follow-up appointments after receiving a diagnosis. As a result, data are not routinely gathered on how many of these appointments are missed, cancelled or rearranged, despite guidance from the RCOphth stating that commissioners and providers should ensure systems are in place to capture this information. Not only does this make it impossible to determine the magnitude of such problems at a national level, it can also impede necessary service improvements RCOphth have outlined that traditional cataract pathways – with patient/ophthalmologist engagement throughout are not sustainable with increasing demands on services In the UK, 22 patients per month across 2015-2016 reported a preventable loss of vision due to hospital-initiated delays to follow-up appointments (76% of cases), delayed treatment and lost-referrals. - The median delay was 22 weeks

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
				- The main diagnoses were glaucoma (42%) and AMD (23%) . The Macular Society identified through an FOI request in 2013 that 67% of cases of AMD were not meeting the follow up times that were clinically indicated.
50	Optical Confederation	Follow up time period for glaucoma patients	There is good evidence that stable glaucoma monitoring can be carried out in community optical practice. Currently many patients with stable glaucoma are seeing an increased time period between appointments due to the extreme workloads in secondary care. This care could be delivered closer to home in community optical practices. Further there is good evidence that delays in glaucoma follow up increase avoidable sight loss.	Many hospital eye departments currently are not reaching their glaucoma follow up appointment targets due to the number of glaucoma patients. This increases the risk of avoidable sight loss. By moving stable glaucoma to community optical practice, there will be an increase within the HES capacity for more complex cases.
51	Royal College of Ophthalmologists	Key area for quality improvement 6: Chronic disease monitoring for potentially blinding eye conditions including glaucoma […] […]	This is important because people whose review visits are significantly delayed and people who are lost to follow up continue to come to harm and there are no robust systems in place to track the number of individuals whose review appointments are either delayed or lost. Several potentially blinding eye diseases require timely action when clinically detectable deterioration occurs and if this 'window of opportunity' in time is missed then irrecoverable damage not can result. […]	
52	Novartis Pharmaceuticals Ltd	Timely follow up and escalation of treatment.	[…] Not only does this make it impossible to determine the magnitude of such problems at a	Regular follow-up after diagnosis and during treatment is essential to detect the progression of glaucoma that might necessitate different

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
		People living with a serious eye disorder should be monitored and treated at intervals appropriate to their risk of progressive loss of vision. […] for glaucoma	national level, it can also impede necessary service improvements	treatment pathways. Following diagnosis, glaucoma requires life-long monitoring. […]
53	SCM4	Key improvement area 2: Monitoring of low risk disease	Those at low risk of sight loss being safely monitored or followed up outside the secondary care environment	[…] OHT monitoring could be carried out in the community
54	SCM6	Appointments being on time	Delays in health care delivery can result in a worse outcome	This is a factor directly under the control of the Health Service
55	SCM1	Key area for quality improvement 2: Timely follow up of patients with COAG/OHT	People with COAG, suspected COAG or with OHT may be at risk of loss of visual field and acuity and should have access to timely follow up at intervals in accordance with NICE guidance. Sufficient capacity needs to be in place and systems to identify people at high risk whose appointments are missed, cancelled or delayed	Documented evidence of delayed follow up of COAG patients, leading to serious incidents with potentially irreversible visual loss
56	Royal College of Ophthalmologists	Key area for quality improvement 2 Timely follow up of patients with COAG/OHT	People with COAG, suspected COAG or with OHT may be at risk of loss of visual field and acuity and should have access to timely follow up at intervals in accordance with NICE guidance. Sufficient capacity needs to be in place and systems to identify people at high	Documented evidence of delayed follow up of COAG patients, leading to serious incidents with potentially irreversible visual loss […]

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
			risk whose appointments are missed, cancelled or delayed. […] 2. Chronic disease monitoring for potentially blinding eye conditions including glaucoma, macular degeneration and other serious eye conditions (e.g. diabetic retinopathy which can cause preventable sight loss in adults).	
57	RNIB	Patients receive treatment within clinically appropriate timeframe delivered by a suitably trained health care professional with competencies and experience in accordance with NICE guidance. Sufficient capacity is in place to provide this service and systems in place to identify patients needing clinical priority if appointments are cancelled, delayed or missed.	Currently patients are facing delayed appointments and treatment which is leading to avoidable sight loss. A British Ophthalmological Surveillance Unit (BOSU) study published in February 2017 found that patients are suffering permanent and severe visual loss due to health service initiated delays: “The research involving all UK consultant ophthalmologists, showed that up to 22 patients per month [were] losing vision by such delays. These patients are from a vulnerable social group with chronic conditions requiring long-term routine follow-up such as glaucoma, age related macular degeneration and diabetic retinopathy.”	It is vital that patients receive timely treatment. Currently many patients have to be particularly proactive in chasing appointments to ensure they receive treatment in clinically appropriate timeframe. Significant numbers of patients will not have the skills or confidence to effectively navigate the process of ‘chasing’ ophthalmology appointments.

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
58	Macular Society	Timely treatment for serious eye conditions such as age-related macular degeneration (AMD) and myopic choroidal neovascularisation: […] 3. During monitoring and follow up	The new NICE Clinical Guideline for AMD considered, and accepted, a wealth of evidence showing that early treatment of AMD leads to better visual outcomes. It says: The committee interpreted this evidence as providing a clear mandate for the swiftest possible patient journey from suspicion to treatment of late AMD (wet active). The committee identified 3 linked intervals (initial presentation to referral, referral to diagnosis, and diagnosis to treatment) that comprise the initial referral pathway. The committee noted that delay at any of these junctures could have an important impact on people's visual change. […]	We believe there is widespread failure to meet recommended treatment times both for first treatments and follow up. Repeated surveys and FOI requests by the Macular Society, RNIB and the RCOphth have indicated this clearly. In addition we have anecdotal evidence from callers to our helpline who are frightened that their treatment is delayed and the vision is declining. Recent examples include a Belfast patient who was told the wait for a first injection would be 15 weeks. Other delays have been reported to us recently at Aintree, Shrewsbury, Gwent, West Kent, Macclesfield, Southampton, Solihull, Cambridge, East Kilbride, Llanelli, Oldham and Rochdale. These units report a range of problems including under investment in the service, inadequate buildings or space, and staff shortages. In some instances it is possible to identify poor management practices and it is common for problems in the eye department to be reported in hospitals that appear to have systemic organisational failures and may be in special measures. Other issues causing delays include poor quality commissioning decisions, poor communication between CCGs and Trusts, a dysfunctional IFR process, slowness to adopt new or good practices.

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				This latter is important as we are aware of some units that do meet time to treatment guidelines.
59	College of Optometrists	Treatment Ensuring timely treatment for people with sight threatening conditions.	Increasing demands on eye health services due to the ageing population and the availability of new treatments are creating acute capacity bottlenecks with the Hospital eye Services (HES), especially in relation to age-related macular degeneration (AMD) […] Delays in follow-up appointments can lead to further deterioration of sight, making the ongoing condition harder to manage effectively. This may lead to further demand for follow-up appointments. Managing chronic sight-threatening conditions effectively is dependent on regular appointments at specified intervals, so the more pressure there is within the system for appointments; the harder it is to prevent deterioration. There are opportunities to make better use of the existing network of community based eye service providers to reduce pressure on GPs and hospital services. There is also potential to increase the use of these services to deliver post-operative assessment and low vision care, and models such as Minor Eye Conditions Scheme	It has been predicted that between 2010 and 2020, there would be a 26% increase in patients with AMD […] We are just over the half way point and a 30% increase in ophthalmology outpatient attendances over the last five years is already being reported and this is set to rise further leading to unmanageable capacity problems in the HES. The hospital eye service is overwhelmed and patients are losing sight because of delayed treatment due to postponed hospital eye service appointments. Urgent change is needed if we are to avoid unnecessary sight loss and will involve using all the skills available across the eye care pathway4,5.

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			(MECS), a collaborative approach between providers which has reduced the number of referrals to hospitals via GPs and increased community management.	
60	Novartis Pharmaceuticals Ltd	Timely follow up and escalation of treatment. People living with a serious eye disorder should be monitored and treated at intervals appropriate to their risk of progressive loss of vision. […] for wet-AMD.	[…] … data are not routinely gathered on how many of these appointments are missed, cancelled or rearranged […] Not only does this make it impossible to determine the magnitude of such problems at a national level, it can also impede necessary service improvements	[…] The Macular Society identified through an FOI request in 2012 that 67% cases of AMD were not meeting the follow-up times that were clinically indicated
61	Optical Confederation	Stable Wet AMD monitoring	OCT is increasingly prevalent in optical practices. Patients who are stable could also receive follow up monitoring appointments in an optical practice, freeing capacity within secondary care.	Wet AMD is a time critical condition. Numerous areas are struggling to reach the follow up referral targets with many having extended this period. This places patients at risk.
62	Royal College of Ophthalmologists	Key area for quality improvement 6: Chronic disease	This is important because people whose review visits are significantly delayed and people who are lost to follow up continue to	[…]

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		monitoring for potentially blinding eye conditions including […] macular degeneration […]	come to harm and there are no robust systems in place to track the number of individuals whose review appointments are either delayed or lost. Several potentially blinding eye diseases require timely action when clinically detectable deterioration occurs and if this 'window of opportunity' in time is missed then irrecoverable damage not can result.	
63	RNIB	Patients receive appropriate monitoring and the opportunity to discuss their treatment regime, [are provided with accessible information and advice at each visit]	There is evidence that a significant proportion of patients struggle to adhere to treatment regimes. Discussion and the opportunity to ask questions helps enable patients to make informed decisions about their treatment and comply with treatment regimes.	Conditions like glaucoma often require regular use of eye drops. Over time people's circumstances, co-morbidities change which can lead to difficulties with treatment regimes. The opportunity to discuss this with health care professionals can is of critical importance.
64	International Glaucoma Association	Improvement area 3: Ensuring clear guidance is provided on correct eye drop instillation at the point of glaucoma (or ocular hypertension) diagnosis, and that correct technique is assessed at follow-up visits.	This will improve compliance, reduce unnecessary prescribing and so save money, prevent unnecessary visual loss and reduce the number of clinic appointments required.	
65	NHS Improvement	Based on incidents reported by Trusts to	These delays can often result in follow-up appointments being rescheduled at an interval	Please see the National Patient Safety Agency (NPSA)** Rapid Response Report on the topic

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		the National Reporting and Learning System (NRLS) a known patient safety issue, and significant risk for affected patients, is the fact that a number of ophthalmic patients experience delay to follow-up appointments after the initial diagnostic consultation at the treating Ophthalmology unit. This may be due, in part, to a lack of robust systems and processes to enable patients to be tracked and flagged for delays.	that is outside the therapeutic treatment interval for a patient and result in deterioration or even loss of vision in the affected eye(s). The majority of these delays originate from the treating Ophthalmology unit, but a number may be cancelled by patients for a variety of reasons; consequently, the systems and processes around the identification and management of 'Did not attend' and 'Could not attend' appointments should be considered for inclusion in this Quality standard.	that was published in June 2009. This report, and the accompanying supporting information document, was focussed on Glaucoma but the delays outlined within it apply equally to other ophthalmic conditions. http://www.nrls.npsa.nhs.uk/alerts/?entryid45=61908 Although the report was issued over eight years ago, the principles contained therein remain pertinent today. This Rapid Response Report is part of the evidence base being considered by the NHS England Elective Care Transformation Programme in Ophthalmology. The generic programme email address is: england.electivecare@nhs.net ***** NPSA was a predecessor organisation to the Patient Safety Team now part of NHS Improvement.***
4.5 Support for people with eye disorders				
66	SCM6	Access to electronic visual aids and improved low visual aid services generally	Sight loss in the elderly is common and they struggle with such tasks as reading or watching television as well as activities of daily living	This is a neglected area of health service provision with good evidence that low visual aids can improve quality of life
67	Macular Society	Timely referral to low vision services.	NICE did not make a strong recommendation in the AMD guideline in favour of referring patients to low vision services because the	Low vision provision has always been patchy in the UK and non-existent in some areas. We believe many local authorities and CCGs that do

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			evidence base was not specific to AMD; it included other serious eye conditions. However, for the purposes of the Quality Standard this evidence is valid. There is no medical therapy for dry AMD and the anti-VEGF therapy for wet AMD does not prevent loss of visual function totally, possible because dry AMD continues to progress alongside the wet form. In addition anti-VEGF therapy may become less effective over time. Some 10% of patients do not respond to anti-VEGF therapy. Thus most people with AMD will have 'low vision' eventually. This is defined as vision that affects the person's ability to manage daily life but which is not severe enough to qualify for registration and which cannot be corrected with medical intervention or spectacles.	provide low vision services are withdrawing funding because they are not mandatory. This represents a very serious reduction in important rehabilitation services for people losing their sight. We know from experience with our 400 peer support groups how much difference good low vision information and advice can make to quality of life. Even where there is a service, medical staff often refer people very late to low vision, usually when medical options are exhausted. By that point a person may need very sophisticated low vision equipment which is more difficult to manage than lower-powered magnifiers for example. Good low vision advice and equipment helps keep people independent, in their own homes and in employment. It reduces falls, improves wellbeing and quality of life.
68	International Glaucoma Association	Key area for quality improvement 1 ... improved provision across all eye disorders in the form of education and support (post	This will help reduce unnecessary eye clinic appointments, and help reduce anxiety and depression and increase independence amongst sight impaired people by ensuring access to appropriate services	

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		diagnosis and during their journey), and clear signposting to support organisations relevant to their condition.		
69	Macular Society	Understanding, recognising and responding to the impact of sight loss and the emotional needs of patients diagnosed with a sight-threatening condition.	The NICE Clinical Guideline for AMD recognises that a diagnosis of a sight-threatening condition has a significant impact on emotional well-being. Many patients with AMD experience emotional distress and even those for whom there is a treatment may have significant depressive symptoms.	Many studies have reported an increased risk of depression in people with sight loss. Social isolation, risks to wellbeing, ability to self-care, fear of falling, reduced ability to care for others, work or take part in voluntary activities and hobbies. A recent study found high levels of undiagnosed (and so untreated) anxiety and depression in a wet AMD patient group that was receiving treatment for their AMD. Our own helpline deals annually with thousands of distressed callers, around 250 of whom have been referred to our counselling service in the last 12 months. Others are referred to our peer-support groups, befriending service or volunteer 'buddies' who can share their experiences of, for example, anti-VEGF injections or visual hallucinations (Charles Bonnet Syndrome).
70	Macular Society	Signposting patients to other sources of help and support	The NICE Clinical Guideline for AMD recommends signposting patients to other sources of help and support. NHS and local authority services and increasingly stretched and would benefit from referring patients to reliable sources of help and support that they themselves cannot	Evidence from published studies and the daily experience of our Helpline (>12,500 calls a year) suggest that signposting to help and support beyond the HES remains inadequate.

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			provide. This should include the many local and national voluntary organisation that provide important services.	
71	RNIB	Patients are offered Certification of Visual Impairment as soon as they are eligible	Being certified and registered is life changing for many patients and they described the help they receive at this time as substantially improving their lives. When the C&R processes 'work', patients access support within weeks. However for many patients the C&R processes are drawn out, complicated and fraught with frustrations.	There is evidence that the decision to offer certification can be difficult for patients with long term conditions like diabetic eye disease, glaucoma, and AMD. It is important that CVI is not seen as only available when no further treatment can be offered but rather as route to services
72	Macular Society	Ensure patients have access to good quality information, appropriate to the stage of their condition and in a format they find acceptable and accessible.	The NICE Clinical Guideline for AMD (Section 12.2.4.) makes clear recommendations on the information that should be given to patients, how and when. The information provided to patients, family members and others in conjunction with other practitioners should be impartial, appropriate, timely, accurate, up-to-date, clear and concise	Macular Society research suggests many HCPs are still not communicating well with their patients. Although there are signs of improvement this is still not adequate. Poor communication with patients increases anxiety and distress and robs them of their ability to manage their condition and do the best for themselves. The study quoted in the next column said that of particular note is the association between registration as SI or SSI and lack of information provision at diagnosis on what patients need to do if they experience a sudden deterioration in vision. This finding suggests that lack of this information may cause subsequent sight loss sufficient to warrant registration. Respondents who were registered were also more likely to report not being given the name of their macular condition nor receiving

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				appropriate help, support and advice in the diagnostic consultation. Another study of Macular Society patients reported similar findings in relations to patients' experience of Charles Bonnet Syndrome (CBS): a lack of previous knowledge of CBS and poor quality information provided by HCPs were associated with negative outcome CBS. Good quality information can also reduce the anxiety associated with cessation of treatment.
4.6 Additional areas				
73	SCM2	Key area for quality improvement 2 Participation in the HQIP commissioned Royal College of Ophthalmologists delivered National Cataract Audit has increased in recent years but there remain centres which either do not participate or whose participation is incomplete. Where centres are	The national cataract audit outcomes of 1. Surgical complications of posterior capsule rupture and/or vitreous loss and 2. Visual Acuity Loss related to surgery have been noted as important in NICE NG77 and the Royal College of Ophthalmologists (2016) Commissioning Guide: Cataract. In the quality assurance arena participation in national audits which are benchmarked and risk adjusted are important because without participation assurance cannot be provided to patients, the public, the taxpayer or commissioners of services.	A NICE QS recommendation for all providers of cataract care to participate fully in the national audit would strengthen the quality assurance role of the national audit. Feasibility studies for audits in Glaucoma, Macular Degeneration and Retinal Detachment surgery have been undertaken and depending on future funding additional national audits may be set up. A general recommendation for all eye care services to participate in all eye care national audits would enhance the quality assurance ability of existing and future eye care audits.

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		participating case complexity adjusted cataract surgery complication rates are generally within limits but with variation which suggests that there may be room for improvement at some centres. Performance at non-participating centres, which includes most NHS funded independent treatment centres, remains uncertain.	Currently just under 20% of cataract surgery is delivered by NHS funded independent treatment centres but to date only 2 out of 115 independent centres have expressed an interest in joining the national audit as opposed to over 90% of NHS trusts.	
74	SCM1	Key improvement area 4: Ensuring submission of surgeon and departmental data regarding cataract surgery is submitted by every provider to the National Ophthalmology Audit, benchmarked and analysed	Outcome measures of cataract surgery including visual acuity prediction of refractive outcome, significant operative and postoperative complications should always be recorded and available to providers and commissioners as well as NOD	Continuous audit of outcomes of cataract benchmarks and demonstrates transparency and provides opportunities to improve quality of cataract surgery for the benefit of patients. 2017 National Ophthalmology Database Report- only 47% of eligible NHS trusts in England and Wales so there is definitely scope for improvement.
75	SCM6	Information technology in place to perform automated	The cataract guidelines noted wide variation in practice and the glaucoma guidelines noted the	One can only improve what one measures. Cataract is one of the most commonly performed

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		audits of key indicators – particularly for glaucoma and cataract	importance of auditing the quality of community based services	operations and glaucoma is one of the commonest reasons for attending out patients.
76	SCM2	Improvement area 1: Chronic disease monitoring for potentially blinding eye conditions including glaucoma, macular degeneration and other serious eye conditions (e.g. diabetic retinopathy, which can cause preventable sight loss in adults). QI Opportunity There is currently no nationally available data item which provides for collection of information relating to delayed review appointments which results in avoidable sight loss to people with such conditions.	This is important because people whose review visits are significantly delayed and people who are lost to follow up continue to come to harm and there are no robust systems in place to track the number of individuals whose review appointments are either delayed or lost […]. Several potentially blinding eye diseases require timely action when clinically detectable deterioration occurs and if this 'window of opportunity' in time is missed then irrecoverable damage can result.	A NICE QS recommendation for a nationally mandated reporting variable will allow the extent and severity of delayed visits to be understood with appropriate action taken where delays and or lost appointments are out of control. This has the potential to save sight for many individuals as multiple surveys have confirmed that this problem remains ongoing in many areas. Previous attempts to achieve this have been frustrated by NHS IT inertia despite the obvious need. The current Chair of the Academy of Medical Royal Colleges championed this issue while President of the Royal College of Ophthalmologists but it has yet to be resolved.

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77	SCM3	Demonstrating the output of advanced AHP clinical activity	A standard to ensure the involvement of AHP's involved in Ophthalmology is demonstrated and audited on a regular basis	This would not only be helpful in the assessment of patient care but also any plan to increase AHP involvement with future advanced practice
78	Leeds Teaching Hospital	Process and visual acuity outcomes after intra-vitreal therapies for age-related macular degeneration.	Age-related macular degeneration is typically treated with NICE-approved intra-vitreal therapies. Treatment needs to be ongoing to maintain the initial anatomical and functional gains. The drug costs associated with these treatments are large and it is important that there is a national benchmark to drive standards in local units.	The Royal College of Ophthalmologists has recently completed a report on process and outcomes after intra-vitreal therapy for AMD. The report was commissioned by HQIP as a feasibility study and data was extracted from the national Ophthalmology Database. Data from 32 units was included in the report. There was notable variation in the process between units for the time to complete the loading phase of treatment and the follow-up of patients. There was also marked variation in the visual acuity change from either baseline or month 3 to month 12, even after taking account of the baseline visual acuity and age
79	Alcon Eye Care UK	Key area for quality improvement 2 Intraocular lens selection: reference Cataract in Adults management guideline (NG77 8.1).	The NICE Cataract in Adults management guideline (NG77) aimed to identify the most appropriate materials for and designs of intraocular lenses (IOLs), both for improving visual outcomes and preventing posterior capsule opacification (PCO) or 'secondary cataract' after cataract surgery.	PCO related to IOL choice can lead to re-intervention and inefficient use of NHS resources through Nd:YAG laser treatment. This is important given the current economic and capacity challenges faced by the NHS and the subsequent cancellation of operations in Ophthalmology. Capacity gained by using lens material less likely to require follow-up treatments could enable more patients to receive treatment for cataracts and other pathologies where capacity is a challenge.

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				In the 2016 National Ophthalmology Database (NOD) report there was no follow up data recorded for 17,176 (22.7%) of cataract operations. Of the 58,548 cataract operations with follow up data recorded, 55,126 (94.2%) had no recorded post-op complications. We would suggest that a renewed emphasis is placed on recording PCO and other post-operative complications within the NOD. To further support a quality standard on PCO we would propose at least 12 months follow-up clinical evidence for PCO and Nd:YAG rates when considering IOL choice.
80	ABHI	Key area for improvement 2: Posterior Capsular Opacification	The NICE Cataract in Adults management guideline (NG77) aimed to identify the most appropriate materials for and designs of intraocular lenses (IOLs), both for improving visual outcomes and preventing posterior capsule opacification (PCO) or 'secondary cataract' after cataract surgery. PCO can occur following cataract surgery, incidence varies depending on both surgical technique and material of the IOL used. A YAG capsulotomy is required to restore vision.	In the 2016 National Ophthalmology Database (NOD) report there was no follow up data recorded for 17,176 (22.7%) of cataract operations. Of the 58,548 cataract operations with follow up data recorded, 55,126 (94.2%) had no recorded post-op complications. We would suggest that a renewed emphasis is placed on recording PCO and a better understanding or national standardization of the coding used for YAG lasering and other post-operative complications within the NOD. […]
81	Royal College of Ophthalmologists	Key area for quality improvement 4:	Outcome measures of cataract surgery including visual acuity prediction of refractive	Continuous audit of outcomes of cataract benchmarks and demonstrates transparency

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		Ensuring submission of surgeon and departmental data regarding cataract surgery is submitted by every provider to the National Ophthalmology Audit, benchmarked and analysed	outcome, significant operative and postoperative complications should always be recorded and available to providers and commissioners as well as NOD. Visual Acuity Loss related to surgery have been noted as important in NICE NG77 and the Royal College of Ophthalmologists (2016) Commissioning Guide: Cataract. In the quality assurance arena participation in national audits which are benchmarked and risk adjusted are important because without participation assurance cannot be provided to patients, the public, the taxpayer or commissioners of services. Currently just under 20% of cataract surgery is delivered by NHS funded independent treatment centres but to date only 2 out of 115 independent centres have expressed an interest in joining the national audit as opposed to over 90% of NHS trusts.	and provides opportunities to improve quality of cataract surgery for the benefit of patients. A NICE QS recommendation for all providers of cataract care to participate fully in the national audit would strengthen the quality assurance role of the national audit. Feasibility studies for audits in Glaucoma, Macular Degeneration and Retinal Detachment surgery have been undertaken and depending on future funding additional national audits may be set up. A general recommendation for all eye care services to participate in all eye care national audits would enhance the quality assurance ability of existing and future eye care audits
82	Novartis Pharmaceuticals Ltd	[…] In order to prevent unnecessary vision loss, there should be a nationally mandated	At present, there is a lack of national metrics on eye health. While there are waiting-time targets for newly referred patients, there are no equivalent measures for when patients are seen for follow-up appointments after receiving a diagnosis.	

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		system for monitoring follow-ups for glaucoma and wet-AMD.	As a result, data are not routinely gathered on how many of these appointments are missed, cancelled or rearranged, despite guidance from the RCOphth stating that commissioners and providers should ensure systems are in place to capture this information. Not only does this make it impossible to determine the magnitude of such problems at a national level, it can also impede necessary service improvements	
83	SCM3	Referral and management of choroidal naevi	This can be a simple condition to referral and monitor and yet practice varies and primary care clinics are over burdened	The development of a standard for referral, management and use of allied health professional (AHP) in the care of patients with this condition could streamline services
84	ABHI	Key improvement area 3/4: Information on combined treatment of co-morbid primary open-angle glaucoma: reference Cataract in Adults management guideline (NG77)	The National Ophthalmology Database Audit of Cataract Surgery (2016) reported glaucoma as one of the most common ocular co-pathologies for cataract operations, occurring 9.9% or 7,483 operations out of a total of 75,827 cataract operations audited.1 Primary open angle glaucoma (POAG), also referred to as open angle glaucoma (OAG) or chronic OAG, is the commonest type of glaucoma in the UK.2 NICE has issued interventional procedure guidance (IPG) on the concomitant surgical treatment of POAG with ocular hypertension (OHT) during phacoemulsification cataract surgery in IPG 397, IPG 591, and IPG 575.3—5	The Royal College of Ophthalmologists estimate an increase in case numbers of approximately 44% for glaucoma and 50% for operable cataract between 2015 and 2035 in the United Kingdom.6 The Royal College has highlighted a capacity shortfall in ophthalmic services to meet rising demand.6 Glaucoma treatment is particularly affected by capacity constraints with delayed treatment or review being reported as a preventable cause of permanent vision loss.7,8 We recommend that cataract patients with co-morbid POAG with OHT be provided information prior to cataract surgery on the concomitant surgical treatment of POAG during cataract surgery.
85	Alcon Eye Care UK	Key improvement area 3/4: Information on combined	The National Ophthalmology Database Audit of Cataract Surgery (2016) reported glaucoma as one of the most common ocular co-pathologies	The Royal College of Ophthalmologists estimate an increase in case numbers of approximately 44% for glaucoma and 50% for operable

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		treatment of co-morbid primary open-angle glaucoma: reference Cataract in Adults management guideline (NG77)	for cataract operations, occurring 9.9% or 7,483 operations out of a total of 75,827 cataract operations audited.1 Primary open angle glaucoma (POAG), also referred to as open angle glaucoma (OAG) or chronic OAG, is the commonest type of glaucoma in the UK.2 NICE has issued interventional procedure guidance (IPG) on the concomitant surgical treatment of POAG with ocular hypertension (OHT) during phacoemulsification cataract surgery in IPG 397, IPG 591, and IPG 575.3—5	cataract between 2015 and 2035 in the United Kingdom.6 The Royal College has highlighted a capacity shortfall in ophthalmic services to meet rising demand.6 Glaucoma treatment is particularly affected by capacity constraints with delayed treatment or review being reported as a preventable cause of permanent vision loss.7,8 We recommend that cataract patients with co-morbid POAG with OHT be provided information prior to cataract surgery on the concomitant surgical treatment of POAG during cataract surgery.
86	SCM3	Remote surveillance clinics in the MR service (Medical Retina Service)	To support services with a best practice process in order to manage the high volume of patient attendances in this service	There is a wide variety of approaches to the management and monitoring of this condition. Consideration would need to be made of clinical pathways and staff involved with care delivery would be helpful
87	Macular Society	Additional developmental areas of emergent practice Demand for ophthalmology services is rising and the capacity of the NHS to meet this demand is inadequate and often poorly managed. There is an urgent need to review the commissioning and delivery of optical and ophthalmic services throughout the UK, but especially in England and Wales.		
88	Leeds Teaching Hospitals NHS Trust	Process and visual acuity outcomes after intra-vitreal therapies	Diabetic macular oedema is typically treated with NICE-approved intra-vitreal therapies. Treatment needs to be ongoing to maintain the initial anatomical and functional gains. The	Although pooled, real-world from NHS centres are available for intra-vitreal therapies for diabetic macular oedema, there is no good UK data comparing outcomes between sites and a

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		for diabetic macular oedema	drug costs associated with these treatments are large and it is important that there is a national benchmark to drive standards in local units.	national benchmark is needed to drive improvements in both process and outcome.
89	The Industry Vision Group	Diabetic Retinopathy	The quality standard should address the care and treatment of patients either with, or at risk of developing, diabetic retinopathy, including diabetic macular oedema. This, by any standards, is a “serious eye condition”.	Already around four million people in the UK are reckoned to be living with diabetes and it is widely expected that this number will grow significantly in coming years. Diabetic retinopathy is a common consequence of this condition: one study has found that within 20 years of diagnosis nearly all people with type 1 diabetes, and two thirds of those with type 2, have some degree of retinopathy. Diabetic retinopathy remains one of the leading causes of blindness among people of working age. The UK diabetic retinopathy screening programme has had considerable success in identifying people at risk and NICE approved treatments exist for people diagnosed with diabetic macular oedema. Nevertheless, outcomes will only be improved if patients are able to access all the treatment and follow-up that they need in a timely fashion. Given not least the considerable pressure under which NHS retina services in particular find themselves, NICE quality standards in this area should make an important contribution to ensuring that patients with this form of serious eye disease are appropriately prioritised and

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				cared for. The current absence of NICE standards relating to diabetic retinopathy is a serious omission from the canon.
90	PolyPhotonix Ltd	Key area for quality improvement 1 Noctura 400 Sleep Mask to be offered as prevention/early stage therapy for first signs of Diabetic Retinopathy	Diabetic Retinopathy and Diabetic Macular Oedema develop in patients with diabetes over time. Currently patients are monitored annually in Diabetic Eye Screening however no action is taken until the eye disease has progressed to a later stage where eye sight is being threatened.	Once late stages of the disease are present, laser procedures and intravitreal injections are given but these involve multiple visits to the hospital, are expensive and come with side effects. If the Noctura mask was prescribed for early stages of the disease by the monitoring services, patients would avoid progression, preserve their eyesight, stay out of the hospital setting and the NHS would save money.
91	ABHI	Key improvement area 5: Dry Eye-Meibomian Gland dysfunction	MGD is a chronic and progressive condition. The outermost layer of the tear film, the lipid layer, is composed of oils from Meibomian gland secretions that lubricate, prevent evaporation, and perform barrier functions. If glands become obstructed, qualitative and quantitative changes in glandular secretion may lead to symptoms of eye irritation, clinically apparent inflammation and ocular surface disease.	86% pf patients diagnosed with dry eye have symptoms associated with an unstable tear film due to compromised Meibomian gland function. Obstruction of Meibomian glands impedes the production of oils necessary to reduce aqueous evaporation and minimise harmful friction between the eyelids and cornea. If left untreated obstructed glands will reduce oil production atrophy and eventually drop out. Once a gland has atrophied completely function is lost permanently, which leads to chronic discomfort and potentially sight threatening damage to the ocular surface.
92	British & Irish Orthoptic Society	Key area for quality improvement 3	Idiopathic Intracranial hypertension	Patients can suffer visual field defects due to raised intracranial pressure

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
93	ABHI	Key area for quality improvement 4/5 People with COAG who are progressing to loss of vision despite treatment or who present with advanced visual loss are offered surgery with pharmacological augmentation (MMC) as indicated and information on the risks and benefits associated with surgery (Glaucoma in adults, Quality standard [QS7], Statement 10)	The NICE NG81 glaucoma diagnosis and management guideline (NG81) recommends IOP-lowering surgery with or without pharmacological augmentation (MMC) to treat advanced COAG (1.5.13) or to prevent the risk of progression to sight loss (1.5.16 and 1.5.17). Moreover, the guideline references related IPG for trabeculectomy ab interno for open angle glaucoma (IPG397), ab externo canaloplasty for primary open-angle glaucoma (IPG591), and trabecular stent bypass microsurgery for open-angle glaucoma (IPG575).1—3 Of these procedures, IPG591 and IPG 575 do not require pharmacological augmentation with mytomycin C (MMC).	In the 2016 Glaucoma Commissioning Guide, the Royal College of Ophthalmologists recommended “Commissioners should also note NICE guidance regarding new emerging surgical treatments and ensure they commission providers that are compliant with this guidance”.4 To ensure patients are provided information on all surgical interventions reviewed by NICE, we suggest this statement is reworded to the following “people with COAG who are progressing to loss of vision despite treatment or who present with advanced visual loss are offered surgery with or without pharmacological augmentation (MMC) as indicated and information on the risks and benefits associated with surgery”.
94	Alcon Eye Care UK	Key area for quality improvement 4/5 People with COAG who are progressing to loss of vision despite treatment or who present with advanced visual loss are offered surgery with pharmacological	The NICE NG81 glaucoma diagnosis and management guideline (NG81) recommends IOP-lowering surgery with or without pharmacological augmentation (MMC) to treat advanced COAG (1.5.13) or to prevent the risk of progression to sight loss (1.5.16 and 1.5.17). Moreover, the guideline references related IPG for trabeculectomy ab interno for open angle glaucoma (IPG397), ab externo canaloplasty for primary open-angle glaucoma (IPG591), and trabecular stent bypass microsurgery for	In the 2016 Glaucoma Commissioning Guide, the Royal College of Ophthalmologists recommended “Commissioners should also note NICE guidance regarding new emerging surgical treatments and ensure they commission providers that are compliant with this guidance”.4 To ensure patients are provided information on all surgical interventions reviewed by NICE, we

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
		augmentation (MMC) as indicated and information on the risks and benefits associated with surgery (Glaucoma in adults, Quality standard [QS7], Statement 10)	open-angle glaucoma (IPG575).1—3 Of these procedures, IPG591 and IPG 575 do not require pharmacological augmentation with mytomycin C (MMC).	suggest this statement is reworded to the following “people with COAG who are progressing to loss of vision despite treatment or who present with advanced visual loss are offered surgery with or without pharmacological augmentation (MMC) as indicated and information on the risks and benefits associated with surgery”.
95	The Industry Vision Group	Access to innovative treatments	People with a diagnosed serious eye condition should have access to the full range of appropriate approved treatments and be encouraged to engage in shared decision-making in designing their treatment plan. The treatment of glaucoma can delay or prevent sight loss, with those with advanced glaucoma at the highest risk of blindness. Delayed treatment can lead to suboptimal patient outcomes. The quality standard should recognise the availability of, and support access to, minimally invasive surgical techniques (MIGS) for treating glaucoma in patients who have not responded to, or have difficulty with, pharmacological treatment.	In order to achieve the best possible health outcomes, people with serious eye conditions need to be accorded access to the full range of appropriate, cost-effective pharmacological and surgical treatments. Despite MIGS being available now for several years as evidence-based treatment for glaucoma, current NICE clinical guidelines (including QS7, which this standard will replace) do not speak to their existence or acknowledge their place in treatment. NICE interventional procedure guidelines have been developed to cover a number of procedures and the publication of this new quality standard is an opportunity to align with those guidelines. An alternative to earlier forms of more invasive glaucoma surgery, MIGS offer patients both efficacy benefits and a favourable safety profile. Existing QS7 references patients being offered information “on the risks and benefits associated

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
			Unlike dry-AMD, wet-AMD is treatable, with early intervention and use of anti-VEGF therapy leading to significantly better outcomes, including improved sight in 25% of people. Delays in treatment worsen outcomes. Cataract surgery is the most common operations performed on the NHS in the UK, with over 390,000 procedures each year, and is also one of the most cost-effective. Even for second-eye cases, NICE guidelines outline that immediate surgery has been shown to be cost-effective in most scenarios. Delayed or denied access to treatment for cataracts puts patients at greater risk of falls (and related hip fractures) depression and eventual severe vision loss.	with [glaucoma] surgery" and where this is to be updated it should be acknowledged that the profile of minimally-invasive techniques should be part of the information provided Until an update to NICE's guidelines on the management of cataracts in adults, commissioners had greater scope to restrict access to cataract surgery - 2016 Royal National Institute of Blind People (RNIB) FOI survey found 71/151 commissioning bodies restricting access - The RNIB has reported rationing of cataract services on the basis on arbitrary visual acuity thresholds, and in a few areas on the basis of cost - 2017 survey by Royal College of Ophthalmologists (RCOphth) showed 66% of Ophthalmology Units being asked to restrict access to surgery based on visual acuity thresholds, despite the fact that the evidence in the recent NICE cataract guidelines demonstrates that this is neither good practice nor cost-effective to the NHS.
96	British & Irish Orthoptic Association	Key area for quality improvement 1	Orthoptic aspects of stroke management	Visual problems caused by stroke, including visual field defects, can often be missed and yet can lead to problems both with rehabilitation and post stroke outcomes

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
97	International Glaucoma Association	Key area for quality improvement 1 Clear shared care pathways across all health and social care, professionals working to clearly defined competency levels, and improved provision across all eye disorders in the form of education and support (post diagnosis and during their journey), and clear signposting to support organisations relevant to their condition.	This will help reduce unnecessary eye clinic appointments, and help reduce anxiety and depression and increase independence amongst sight impaired people by ensuring access to appropriate services	
98	Thomas Pocklington Trust	Joining up of services along the eye health and sight loss pathway	There is a lack of integration between primary, secondary and social care which puts patients at risk.	Where people are not referred in a timely and efficient manner there is risk to patient health and their quality of life.
99	Novartis Pharmaceuticals Ltd	Provision of patient information […]	By providing information to patients about their eye disorder and possible treatment options, it will empower them to get the most out of hospital eye services and care.	[…] People must be at the centre of a more sustainable health system with services shaped around their needs and preferences.

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
		Roll out Patient Activation Measure in all eye care units	Better informed patients will likely result in improved self-help, which in turn can help to reduce wasted, missed or delayed appointments, as well as encourage correct use of the primary and secondary eye care services. Increasing understanding amongst people with, or at risk, of developing serious eye disorder will only help to improve outcomes for patients by decreasing avoidable sight loss or progression of sight loss.	Understanding patient a significantly influences the way in which people are supported to manage their long-term conditions. In particular, measuring patient activation using tools such as the Patient Activation Measure (PAM) enables care professionals to tailor their approaches to individual needs to improve their health outcomes, ensure a better experience of care and reduce unplanned care admissions
100	International Glaucoma Association	Key area for quality improvement 5 We would like to see the widespread application of some form of Patient Reported Outcome Measure for treatment outcomes in serious eye disorders.	Would produce a range of well-established benefits, evidenced by their use in other clinical specialisms within the NHS.	
101	SCM2	Key area for quality improvement 4 Optometric practices are increasingly moving into provision	This is important because there is a potentially valuable opportunity for eye care services for low risk conditions to be moved into community optometric practices. Reducing the burden on the hospital eye services would allow them to	Inclusion within the CQC inspection system would provide a quality improvement opportunity for optometric practices to upgrade accordingly and to demonstrate that they are undertaking clinical work in a safe and appropriate environment. This would enhance public and

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
		of eye health services. Unlike other health care providers (including dental practices) optometric practices are however currently exempt from CQC inspections. This situation is anomalous and creates uncertainty for the public and commissioners.	focus on those individuals at high risk of preventable blindness within their lifetimes. The General Optical Council (GOC) currently regulates optometric practices but their remit relates to provision of optometric services and not eye health services.	commissioner confidence in community services arranged in this way.
102	British and Irish Orthoptic Society	Key area for quality improvement 2	Double vision and driving in adults	Patients with double vision can drive as long as it is corrected with a prism or patch and they have adapted to the correction according to the DVLA. There is no evidence to say what constitute adaptation.
103	Leeds Teaching Hospitals NHS Trust	Process and visual acuity outcomes after intra-vitreal therapies for retinal vein occlusion.	Retinal vein occlusion is typically treated with NICE-approved intra-vitreal therapies. Treatment needs to be ongoing to maintain the initial anatomical and functional gains. The drug costs associated with these treatments are large and it is important that there is a national benchmark to drive standards in local units.	There is a lack of both pooled, real-world outcomes and a national benchmark for the treatment of macular oedema secondary to retinal vein occlusion.
104	Thomas Pocklington Trust	Inclusion of retinitis pigmentosa (RP)	While less prevalent than the other stated conditions, RP affects the lives of many working age people with sight loss	We would suggest contacting RP Fighting Blindness for further recommendations in this area:

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				https://www.rpfightingblindness.org.uk/index.php?tln=aboutrp
105	Royal College of General Practitioners	Additional developmental areas of emergent practice	This quality standard should also consider inclusion of […] • Temporal Arteritis […]	
106	British & Irish Orthoptic Society	Key area for quality improvement 4	Thyroid eye disease	Patients can experience reduction in visual field due to compression of the optic nerve
107	SCM1	Key area for quality improvement 3: Monitoring and treatment of people with OHT/suspected COAG or COAG should be provided by trained healthcare professional who has: • specialist qualification • relevant experience • ability to detect a change in Clinical status	There is good evidence that there is insufficient capacity in Hospital ophthalmology clinics with resultant delayed follow up and treatment of people with OHT/glaucoma	It is important to increase capacity for this group of patients but also to ensure that healthcare professionals undertaking this work are appropriately trained and able to detect change in people with glaucoma

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
108	Novartis Pharmaceuticals Ltd	Accurate definitive diagnosis People referred to a specialist for a definitive diagnosis should receive all the tests stipulated by the relevant NICE guidance within a reasonable timeframe	[…] The treatment of glaucoma can delay or prevent sight loss, with those with advanced glaucoma at the highest risk of blindness. Left untreated, glaucoma can lead to blindness in 5 years. The result of a false negative diagnosis of wet-AMD is delayed treatment and avoidable loss of sight. Severe vision loss can be prevented through early intervention.	[….] Evidence has suggested educational sessions for community optometrists, rather than simple dissemination of guidelines, can reduce the rate of false positive referrals. An 10-year longitudinal analysis of glaucoma referrals showed that 45.8% of patients referred to eye departments were discharged on their first visit, and only 20.4% were diagnosed with glaucoma. UK studies have shown that approximately 50% of newly detected glaucoma patients had been seen by an ophthalmologist or optometrist but not diagnosed. 50% of glaucoma in the community is undiagnosed.
109	The Industry Vision Group	Accurate definitive diagnosis People referred to a specialist for a definitive diagnosis should receive all the tests stipulated by the relevant NICE guidance within a reasonable timeframe	[…] The treatment of glaucoma can delay or prevent sight loss, with those with advanced glaucoma at the highest risk of blindness. Left untreated, glaucoma can lead to blindness in 5 years. The result of a false negative diagnosis of wet-AMD is delayed treatment and avoidable loss of sight. Severe vision loss can be prevented through early intervention.	[….] Evidence has suggested educational sessions for community optometrists, rather than simple dissemination of guidelines, can reduce the rate of false positive referrals. An 10-year longitudinal analysis of glaucoma referrals showed that 45.8% of patients referred to eye departments were discharged on their first visit, and only 20.4% were diagnosed with glaucoma. UK studies have shown that approximately 50% of newly detected glaucoma patients had been

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				seen by an ophthalmologist or optometrist but not diagnosed. 50% of glaucoma in the community is undiagnosed.
110	SCM6	Information technology allowing timely exchange of information between health care providers (e.g. between community optometry and hospital based services	There is an increasing drive for shared care with care to low risk cases being provided by community based services.	Results in test duplication and repeat visits and, on occasion, failure to address the key issue.
111	SCM4	Key area for quality improvement 3	Flow of information supporting good patient care to those involved in an individual's care	As care pathways become joined up across the increasingly artificial divide between primary and secondary care, feedback from referring clinicians and clinical information to provide care for patients in collaboration with secondary care, or between secondary care providers, is increasingly a barrier to providing good patient eye care
112	International Glaucoma Association	Key improvement area 2: Investment in and development of electronic patient record system to enable shared care (NB should be EPR and not simply digital recording)		
113	International Glaucoma Association	Improvement area 4: Improved administration and communication built into the hospital appointment systems,	This would maximise the value of consultation time, reduce patient anxieties, and reduce visual loss through delayed and 'lost in the system' events.	

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
		so that people know what to expect at a clinic appointment, and what information of medication etc to bring with them.		
114	Royal College of General Practitioners	Additional developmental areas of emergent practice	This quality standard should also consider inclusion of • Uveititis • […] • Diagnosis of eye disorders in people with learning disabilities.	
115	SCM3	A standard for the assessment & referral of patients with learning disabilities for consideration of cataract surgery	There is very little written on this subject and patient experience across the UK must vary	Best practice guidelines would be helpful to improve quality of life experiences in this patient group on how to approach the initial assessment of patients where an accurate assessment of visual acuity potential is difficult
116	Royal College of General Practitioners	Additional developmental areas of emergent practice	This quality standard should also consider inclusion of Diagnosis of eye disorders in people with learning disabilities	
117	College of Optometrists	Patients with special needs Better eye care for people with special	Sight loss is under-diagnosed in people with dementia because one condition can mask or be mistaken for another. People with learning disabilities are ten times more likely to experience serious sight	A recent study into the prevalence of dementia and sight loss found nearly one-third of people with dementia also had significant sight loss1. Almost half of the participants could have their sight loss corrected by wearing glasses, offering potentially significant improvement to quality of life and reducing the risk of avoidable injuries

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
		needs, e.g. learning disabilities, dementia	problems than the general population, a disparity that is even more marked at a young age, so it is vital that their eye care needs are recognised and accommodated. The College of Optometrists has published a Guidance for Professional Practice, which includes a section on “Examining patients with learning disabilities”3 and a section on “Examining patients with dementia or other acquired cognitive impairment”4. The Guidance provides recommendations to support optometrists when examining a patient with special needs. Optometrists are a key partner in improving a dementia patient’s quality of life, following diagnosis. Evidence from the Prevalence of Visual Impairment in Dementia (PrOVIDe) project shows that effective eye examinations are possible in most patients who have dementia. As optometrists regularly see the segment of the population who are most at risk of developing dementia, they are in a good position to make positive differences to their lives by taking the appropriate steps to correct their visual impairment. The College Of Optometrists has produced resources for patients and carers, offering essential	through falls. Ensuring that people with dementia get regular eye tests is vital. People with learning disabilities experience profound health inequalities including eye health. It is estimated that around two per cent of the population have a learning disability who would have a range of mild to more profound and multiple learning disabilities.

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
			information on the importance of eye health for people with dementia.	
118	College of Optometrists	Sight loss is under-diagnosed in people with dementia because one condition can mask or be mistaken for another. People with learning disabilities are ten times more likely to experience serious sight problems than the general population, a disparity that is even more marked at a young age, so it is vital that their eye care needs are recognised and accommodated.	A recent study into the prevalence of dementia and sight loss found nearly one-third of people with dementia also had significant sight loss1. Almost half of the participants could have their sight loss corrected by wearing glasses, offering potentially significant improvement to quality of life and reducing the risk of avoidable injuries through falls. Ensuring that people with dementia get regular eye tests is vital. People with learning disabilities experience profound health inequalities including eye health. It is estimated that around two per cent of the population have a learning disability who would have a range of mild to more profound and multiple learning disabilities. Optometrists are a key partner in improving a dementia patient's quality of life, following diagnosis. Evidence from the Prevalence of Visual Impairment in Dementia (PrOVIDe) project shows that effective eye examinations are possible in most patients who have dementia1. As optometrists regularly see the segment of the population who are most at risk of developing dementia, they are in a good position to make positive differences to their lives by taking the appropriate steps to correct	In many areas, there is no accessible community low vision service, and the referral route can involve the optometrist referring to the GP, and the GP referring to the HES. Most HES departments provide low vision clinics supported by an eye clinic liaison officer (ECLO). ECLOs are key in linking patients to services and helping them understand the impact of their diagnosis2. An ECLO service is an essential part of the eye health and sight loss pathway and therefore should be included in contracts and service specifications.

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			their visual impairment. The College Of Optometrists has produced resources for patients and carers, offering essential information on the importance of eye health for people with dementia	
119	RNIB	Patients are provided with information in an accessible format and supported to make informed decisions about the management and treatment of their condition	86% of blind and partially sighted people said they found it difficult or impossible to read medication information, My Voice RNIB 2015	NHS Accessible Information Standard
120	Thomas Pocklington Trust	Accessible information	To reiterate in all guidance the importance of providing patient information in accessible formats which meet NHS England's Accessible Information Standard	Patients not receiving all information in their required format risk incorrect usage of medicines, missing appointments thereby adding to the Did Not Attend (DNA) statistics and risking further deterioration to their eye health.
121	Thomas Pocklington Trust	General comment: as a sigh[t] loss charity we have predominantly focused on systems and processes. We would recommend clinical guidance be taken from the Royal College of Ophthalmologists or the Clinical Council for Eye Health Commissioning who we are sure will be responding to this consultation.		
122	RCN	Responded: no comments to submit on this topic engagement exercise		

Appendix 6: Suggestions from stakeholder engagement exercise – respondents with links to the tobacco industry

ID	Bayer – registered Links with tobacco industry – see below	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
Current situation: Bayer does not have direct or indirect links with, or funding from, manufacturers, distributors or sellers of smoking products but Bayer provides pesticides for crops, which would therefore include tobacco crops. • Bayer is a member of the Cooperation Centre for Scientific Research Relative to Tobacco (CORESTA) (http://www.coresta.org/) within the scope of recommendations of pesticides used for protection of tobacco plants. • It is also a member of country and EU business federations such as the Confederation of British Industry (CBI) and 'Business Europe', which include tobacco companies **Past situation:** In 2006 Bayer and its subsidiary Icon Genetics piloted a new process for producing biotech drugs in tobacco plants. Icon Genetics was acquired by Nomad Bioscience GmbH from Bayer in 2012				

ID	Bayer – registered Links with tobacco industry – see below	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
4.2 Referral				
01	Bayer PLC	Key improvement area 2: Timely referral Proposed quality statement: People with suspected late AMD (wet active) are urgently referred to hospital eye services (within x days), whether or not they report any visual impairment. (Source - draft NICE macular degeneration guideline recommendation 1.4.6).	It was reported in the 'evidence to recommendations' section of the draft NICE macular degeneration guideline that "the committee noted that included evidence demonstrated a clear association between visual loss and time delay in diagnosis and treatment for people with AMD" and that this was interpreted as "providing a clear mandate for the swiftest possible patient journey from suspicion to treatment of late AMD (wet active)	'Delayed or Lost referral' is listed as one of the main causes of delay in the recent surveillance study through the British Ophthalmological Surveillance Unit (BOSU) published by Foot et al.20171 which showed that patients are suffering preventable harm due to health service initiated delay leading to permanently reduced vision. A study by the RNIB in 2012 also showed that the time taken from first contact to diagnosis varied hugely, with 69 per cent of patients not receiving a diagnosis within 7 days. A further 15 per cent took longer than 60 days to get a diagnosis.2 Therefore we suggest that timely referral to hospital eye services is a key area for quality improvement. We note that the recommendation in the draft guideline does not include a timeframe for this referral as the committee expressed concerns about specifying an explicit target. We suggest that a timeframe should be included in the quality standard so that it is clear what is

ID	Bayer – registered Links with tobacco industry – see below	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
				intended by 'urgent' and so that the statement is measurable.
4.3 Treatment				
02	Bayer PLC	Key improvement area 3: Timely Treatment Proposed quality statement: People with confirmed late AMD (wet active) who are recommended for antiangiogenic treatment are offered treatment as soon as possible (within 14 days of referral to the hospital eye service). (Source - draft NICE macular degeneration guideline recommendation 1.4.10, and The Royal College of Ophthalmologists. Age-	It was reported in the 'evidence to recommendations' section of the draft NICE macular degeneration guideline that the committee noted that included evidence demonstrated a clear association between visual loss and time delay in diagnosis and treatment for people with AMD and that this was interpreted as providing a clear mandate for the swiftest possible patient journey from suspicion to treatment of late AMD (wet active).	Delayed treatment' is listed as one of the main causes of delay in the recent surveillance study through the British Ophthalmological Surveillance Unit (BOSU) published by Foot et al.2017 which showed that patients are suffering preventable harm due to health service initiated delay leading to permanently reduced vision. Royal College of Ophthalmologists guidelines currently state that suspected wet AMD cases should be diagnosed within one week, and treated within a further week. In the study undertaken by the RNIB in 2012, this was the case for many patients (61 per cent) but for some it took longer to receive treatment, and 18 per cent waited for 15 days or longer. Therefore we suggest that timely treatment is a key area for quality improvement. The draft NICE guideline states that treatment should be offered within 21 days of referral to the hospital eye service. We provided stakeholder feedback on this draft

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		Related Macular Degeneration: Guidelines for Management. September 2013)		guideline to highlight that this extends the timeframe from that currently recommended by the Royal College of Ophthalmologists (2 weeks). We are concerned that this could lead to a delay in treatment for people newly diagnosed with AMD which in turn could have an important impact on their visual acuity. We suggest that the quality standard should reflect the Royal College of Ophthalmologists recommended timeframe of 2 weeks.
4.4 Follow-up/reassessment				
03	Bayer PLC	Key improvement area 1: Ongoing treatment with intravitreal anti-vascular endothelial growth factors (VEGFs) at appropriate intervals to maintain stable visual and/or anatomic outcomes Proposed quality statement: People with	The draft NICE guideline on macular degeneration recommends offering intravitreal anti-vascular endothelial growth factor (VEGF) treatment to people who meet specified criteria. Ongoing treatment with intravitreal anti-vascular endothelial growth factors (VEGFs) at appropriate intervals	There have been reports of patients losing vision due to delayed ophthalmology appointments based upon evidence available from the National Reporting and Learning System (NRLS),1 and also from a more recent surveillance study through the British Ophthalmological Surveillance Unit (BOSU) published by Foot et al.2017,2 which showed that “patients are suffering preventable harm due to health service initiated delay leading to permanently reduced vision.”

ID	Bayer – registered Links with tobacco industry – see below	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
		confirmed late AMD (wet active) who are recommended for treatment with intravitreal anti-vascular endothelial growth factors (VEGFs) are offered ongoing treatment at appropriate intervals to maintain stable visual and/or anatomic outcomes. If visual and/or anatomic outcomes deteriorate, the treatment interval should be shortened accordingly.	to maintain stable visual and/or anatomic outcomes is a key area for quality improvement.	
Additional comment				
04	Bayer PLC	We appreciate that the 'serious' eye conditions including cataracts, glaucoma and macular degeneration have been grouped under one quality standard to prevent duplication. However we would like to caution that providing		

ID	Bayer – registered Links with tobacco industry – see below	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?
		generalisable quality statements regarding ‘eye conditions’ should not be at the expense of including statements regarding important disease specific quality issues which should also be considered relevant for this quality standard		