The Regulation and Quality Improvement Authority

Review of the Diabetic Retinopathy Screening Programme

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Assurance, Challenge and Improvement in Health and Social Care

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The Regulation and Quality Improvement Authority

The Regulation and Quality Improvement Authority (RQIA) is the independent body responsible for regulating and inspecting the quality and availability of health and social care (HSC) services in Northern Ireland. RQIA's reviews aim to identify best practice, to highlight gaps or shortfalls in services requiring improvement and to protect the public interest. Our reviews are carried out by teams of independent assessors, who are either experienced practitioners or experts by experience. Our reports are submitted to the Minister for Health, Social Services and Public Safety, and are available on our website at www.rqia.org.uk.

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Executive Summary

People with diabetes are at risk of developing retinopathy which can damage their vision. In 2006, the Department of Health Social Services and Public Safety initiated the introduction of a regional diabetic retinopathy screening programme in Northern Ireland. This involves annual retinal screening for all people aged 12 years and over, using retinal digital photography. The aim is to reduce visual morbidity caused by diabetic retinopathy, by facilitating early diagnosis and treatment.

This review of the Diabetic Retinopathy Screening Programme (DRSP) has been carried out as part of the RQIA Thematic Review Programme for 2012 to 2015. The team carrying out the review included independent experts and individuals who have extensive experience in carrying out peer reviews of diabetic eye screening services in England.

Northern Ireland's DRSP has a number of unique characteristics when compared with other UK diabetic eye screening programmes. It has a distinct retinopathy grading scheme and a unique process for managing its cohort of patients invited for screening. The programme involves over 80,000 patients from a variety of backgrounds ranging from inner city deprived communities to sparse rural areas.

The review team found a committed and enthusiastic workforce who value their service. All staff interviewed were open and co-operative in talking about what the service has achieved so far and how it can meet its aspirations. The main challenge is to provide a safe and effective service whilst dealing with the rapid and continuing rise in the number of people who need to be screened.

The programme includes a quality assurance (QA) framework (see Appendix 1) containing 14 standards against which to measure quality. This review was conducted against that framework, although the review team considered that several of the standards relate to process and might be more appropriate within a service specification.

Although the service has continued to provide screening to a considerable volume of people, a reliance on a predominantly paper based administration systems has created fundamental problems. These include an inability to maintain adequate oversight of the programme, limited implementation of further development for the programme, and an inconsistent comparison of achievements against its own standards. An annual report has not been completed for the service for a number of years. It has been difficult to drive quality, provide strategic direction, or give the necessary assurances.

The programme is compliant with three standards (4, 5 and 7); is partly compliant with four standards (2, 3, 6, and 8) and is non-compliant with seven standards (1, 9, 10, 11, 12, 13, and 14). A list of the standards is outlined in Appendix 1.

Compliance with the standards was noted in relation to maintaining the database of patients to be screened, monitoring the uptake of screening, and having procedures in place for non-attendance. Equipment and monitoring of image quality were also compliant with the standards.

Arrangements for monitoring aspects of the service were in place; however, further work was required in relation to improving the screening interval times for patients, the call/ recall process, and ensuring patients received information about screening.

The quality assurance of the service was an area that required further development, along with the production of annual reports. Improvements in both staff training, and continuing professional development, are necessary.

Several areas were identified that require further development, as they were considered not compliant with the standards. Although failsafe protocols are in place, it was considered that they are not adequate. Improvements are required in relation to reducing the referral time of patients to ophthalmology. Similarly, reducing the time for access to treatment is necessary. The review team found there was limited patient follow-up, and the communication of patients' results were not being forwarded to GPs in a timely manner.

The Public Health Agency (PHA) which has the oversight role for the service, through a programme board, has already recognised the majority of key issues for the programme; has moved to set up a modernisation project group; and has clearly identified for rapid change the factors that have made monitoring and control difficult. A modernisation plan for the service has been developed. The review team recommends that the report of this review is considered alongside the modernisation plan.

New software has been commissioned to facilitate replacement of the paper based administrative system. This has the potential to allow for better failsafe processes, safer administration, regular reporting against standards and more effective use of staff time in both the administrative and clinical domains.

The review team was advised that the introduction of the new systems will coincide with a review of some of the unique characteristics of the programme. This could facilitate better alignment with other UK diabetic eye screening programmes. This should provide improved opportunities for cross programme support, for example, to provide on line testing facilities for grading.

The report makes 40 recommendations for improvement, prioritised by the timescale within which they should be implemented.

Section 1 – Introduction

1.1 Context for the Review

Diabetes is a condition in which the body cannot control blood sugar levels (glucose), because of problems with the production of the hormone insulin. This is caused by the pancreas not producing any insulin, not enough insulin, or the insulin that it produces does not work properly in helping glucose entering the body's cells.

There are two main variations of the illness: type 1 diabetes develops if the body cannot produce any insulin; and type 2 diabetes develops when the body can still make some insulin, but not enough, or the insulin produced does not work properly.

In 2014, approximately 81,867 people are living with diabetes in Northern Ireland, an increase of 25.8% from 2009[1]. However, the charity Diabetes UK, considers this to be an underestimate as a number of people remain undiagnosed.

If left untreated, diabetes can lead to major complications including heart disease, stroke, blindness, and kidney failure. Diabetes is the second most common cause of blindness or visual impairment in people of working age in the UK and is also a major cause of blindness in older people.

People with diabetes are at risk of developing a complication called retinopathy. Retinopathy weakens the blood vessels supplying the retina of the eye. The vessels can swell, become blocked, leak fluid or burst, restricting light passing through to the retina, causing visual impairments.

In its early stages, diabetic retinopathy is symptom free; however, if left untreated it can damage vision. There is no cure for diabetic retinopathy, so early detection and treatment is vital and regular eye checks are essential for identifying early signs. Laser therapy may be available to prevent or slow the progression of the disease. However, the best treatment for retinopathy is prevention. Good control of blood sugar level and blood pressure, healthy eating, and exercise can help prevent or delay retinopathy.

In 2007, the Department of Health, Social Services and Public Safety (DHSSPS) introduced a regional diabetic retinopathy screening programme in Northern Ireland. This involves annual retinal screening for all people with diabetes aged 12 years and over, using retinal digital photography. The aim of the programme is to reduce visual morbidity caused by diabetic retinopathy, by facilitating early diagnosis and treatment.

[1] Northern Ireland Statistics and Research Agency - http://www.ninis2.nisra.gov.uk/public/pivotgrid.aspx?dataSetVars=ds-5446-lh-73-yn-2007-2014-sk-134-sn-Health%20and%20Social%20Care-yearfilter--

The programme included a Quality Assurance framework incorporating 14 standards, against which to measure quality. This review was conducted against the standards contained in the framework.

The DRSP is a regional screening programme, based in the Belfast Health and Social Care Trust (Belfast Trust), but screening is carried out across Northern Ireland at GP practices and static sites. The screening programme has now been in operation for over seven years.

GP practices maintain registers of patients with diabetes, with the information from these registers used to identify the people who need to be invited for screening.

The Belfast Trust manages the administration of the screening programme, the photographers, and the grading of images, for all trusts in Northern Ireland. However, there are some exceptions in the Western Health and Social Care Trust (Western Trust), where contracted optometrists are used to take the digital photographs at designated static sites within the trust area. In the other trusts, the photographers travel to GP practices to take the digital photographs.

All the digital retinal images are returned to the DRSP centre within the Belfast Trust for grading. The grading is carried out by ophthalmologists.

Grading is the classification and severity of diabetic retinopathy. Historically this has been based on ophthalmoscopically visible signs of increasing severity, ranked into a stepwise scale from no retinopathy through various stages of non-proliferative or pre-proliferative disease, to advanced proliferative disease. The National Screening Committee has endorsed a classification for the English Diabetic Eye Screening programme, aimed at detection of the level of retinopathy sufficiently severe to merit referral of the patient for expert ophthalmological opinion and possible treatment. Other countries have their own grading frameworks similar to this.

The classification adopts a simplified approach to grading retinopathy based on features which a non-ophthalmologist or accredited photographic grader might be faced with. This classification identifies four types of presentation of fundus disease, namely retinopathy (R), maculopathy (M), photocoagulation (P) and unclassifiable (U).

This review aims to assess the screening programme against the quality assurance framework and standards, and considers:

- eligibility for screening
- capacity of the screening programme
- screening interval of people with diabetes
- reporting of images
- quality assurance
- referral for treatment

During the review, the views and experiences of service users who use the screening programme were considered.

1.2 Terms of Reference

The terms of reference for this review were:

1. To review the diabetic retinopathy screening programme against the NI quality assurance framework and standards.
2. To obtain the views and experiences of service users in relation to the diabetic retinopathy screening programme.
3. To report on the findings, identify areas of good practice and, where appropriate, make recommendations for improvements.

1.3 Exclusions

The review did not focus on other diabetes related conditions, or the other diabetes services provided by the HSC trusts.

1.4 Review Methodology

The review methodology was designed to gather information about how the service was complying with the NI quality assurance framework and standards. The methodology included the following steps:

1. A review of relevant literature set out the context for the review and identified appropriate lines of enquiry.

2. Questionnaires were completed by the Public Health Agency, the Belfast Health and Social Care Trust (Belfast Trust), and the Western Health and Social Care Trust (Western Trust), to identify compliance with the quality assurance framework and standards.

3. The views of people with diabetes were a key element of this review. RQIA worked in partnership with Diabetes UK, to set up focus groups to obtain the views of people with diabetes, in each of the trust areas. Twenty nine people with diabetes participated in the focus groups. The review team also spoke with several people attending screening clinics, to obtain their views of the service.

4. The review team visited three screening clinics, to carry out observations of practice.

5. Validation visits to the PHA and the Belfast and Western trusts[2] were undertaken, to meet with practitioners working within the screening

[2] The Belfast Trust manages the administration of the screening programme, the photographers, and the grading of images, for all trusts in Northern Ireland. However, there are some exceptions in the Western Health and Social Care Trust (Western Trust), where

programme. These included representatives from senior management and senior leads responsible for the screening programme; consultants, graders and photographers responsible for the delivery of the screening programme; and administrative staff providing support for the screening programme.

6. The initial findings from the questionnaires, validation visits and focus groups were collated, and the results used to inform this overview report.

1.5 The Purpose of External Quality Assurance

The aim of quality assurance within the diabetic retinopathy screening programme is the maintenance of minimum standards and continuous improvement in performance. This applies to all aspects of screening and assessment, up to specific treatment, to ensure that people with diabetes have access to a high quality service.

The aim of the screening programme is to reduce visual morbidity caused by diabetic retinopathy, by facilitating early diagnosis and treatment.

The QA Framework and Standards (April 2008) clearly set out the aspirations for the programme, and define the standards with which it should comply. This review has been conducted with reference to the standards document.

This report sets out the key components of the programme and associated performance measures. Where performance measures are quantifiable, a Northern Ireland DRSP target has been set and minimum standards have also been set.

The PHA and the providers of the screening programme are expected to have a systematic approach to the management of quality. Quality assurance processes should be integrated in local clinical governance arrangements.

QA processes of diabetic retinopathy screening (DRS) programmes are generally considered to require both internal and external components:

Internal quality assurance (IQA) measures should:-

- Ensure that staff involved in the programme are appropriately trained and enabled to maintain their expertise.

- Monitor the accuracy of image grading to minimise the risk of missing disease (false negatives) and over-reporting of disease (false positives).

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contracted optometrists are used to take the digital photographs at designated static sites within the trust area. As a result of this structure, only the Belfast and Western trusts received a questionnaire.

- Audit the screening history and images of patients who present with retinopathy requiring urgent referral, or unexpected screen-detected deterioration.

- Take action when errors or near-misses are identified.

External quality assurance (EQA) systems have three main functions:

- Ongoing monitoring of the programme, to ensure that the key quality standards are being achieved.

- Co-ordination of an external proficiency testing scheme, undertaken at regular intervals for all staff who grade images, using test sets of images with previously agreed grading. This will complement the internal QA systems and ensure that systematic grading errors are not going undetected.

- Organisation of QA visits to ensure that the screening programme has sufficient resources to provide a comprehensive and quality service. This may include external peer review visits from elsewhere within the UK which should ascertain that IQA processes are in place and being properly followed.

The performance of the screening programme should be monitored in a variety of ways, which include review of statistics or informal visits to screening providers. However formal QA visits to a screening programme provide the only forum for a review of the entire multidisciplinary screening pathway and an assessment of the effectiveness of team working within the screening centre and associated referral sites.

The Northern Ireland screening programme standards have where possible, been aligned with those elsewhere to facilitate benchmarking against other programmes. However, in some areas, there are no relevant standards as certain elements of the DRSP in Northern Ireland is organised and delivered slightly differently to programmes in other parts of the UK.

The format of the review process has been to carry out an external quality assurance visit to the service using the NI quality assurance framework and standards.

The diabetic eye screening EQA visit is designed to meet the following objectives:

- to examine the performance of care affecting the quality of the screening programme
- to verify achievement of minimum standards and identify variance from these standards while supporting professionals working in the programme to maintain and improve standards

- to share experiences and understanding of current issues in diabetic eye screening and contribute to programme development.

1.6 Recommendations for Improvement

Recommendations are used to improve working practice, and help meet the aims of the Diabetic Retinopathy Screening Programme. Each peer reviewer has provided information and made a number of recommendations based upon data submitted in advance of the EQA visit and their observations on the day.

All QA recommendations made in the body of the report are presented in Section 3.2 and have been prioritised in terms of immediate, high, medium and low priority.

Immediate – (7 days)	If unaddressed it could lead to significant risk of harm to people seen by the service.
High – (3 months)	Where, due to an absence of data or evidence the quality of the service cannot be assessed because the QA process cannot be conducted satisfactorily. We acknowledge that there are occasions when a recommendation may be allocated a high risk grading even though the probability that an adverse event will occur is small. This is because even though the occurrence may be rare, the event would have a significant impact on the patient.
Medium – (6 months)	When a process or practice does not meet the expected standard or the recommended practice of the programme, but does not lead to direct clinical risk to individual people. Many of the programme standards are designed to ensure the acceptability of the service, the maintenance of the value of screening by adhering to professionally-agreed performance standards and quality measures to reduce the anxiety of users.
Low – (12 months)	When it carries no risk to the people seen by the service; however, if implemented could enhance the performance of the service and/or the experience of the people screened.

The contents of this report and the data used have been derived from the following sources:

- Routine monitoring data supplied by the programme.

- Information from the pre-visit questionnaire completed by the staff from the programme providers and signed off at programme board level.

- Information shared with the review team during interviews and observations.

The effectiveness of any review visit is dependent upon the openness of the service to share all necessary information in a frank and complete manner.

QA visit reports should be considered at executive board meetings and in appropriate clinical governance settings

Section 2 – Findings from the Review

The review team was asked to assess whether the Northern Ireland screening programme was compliant with DRSP standards. This report outlines each criterion from the standards, the review team's opinion on whether the current arrangements are in line with the requirements of the criterion, and the reasons for the opinion.

2.1 Experiences of People with Diabetes

An integral part of the review was to obtain the views and experiences of people with diabetes who used the diabetic retinopathy screening programme. To obtain their views, RQIA worked in partnership with Diabetes UK, facilitated focus groups with people with diabetes, who shared their views and experiences.

A total of 29 people with diabetes engaged in the focus groups, all of whom had used the diabetic retinopathy screening programme.

During focus groups, all participants advised that they had received an appointment letter from their GP practice, to attend for diabetic retinopathy screening. In cases when the appointment did not suit, they called their GP practice to rearrange. None of the participants had any problems with the appointment or rescheduling process.

With the exception of a few participants, the majority advised that information about the screening programme was not included with their appointment letter.

The majority of participants stated they had received annual screening, which generally took place on the same month every year. Some participants advised that the interval between screenings was sometimes longer than 12 months, usually only by a few weeks, but could be longer. In these cases, it was sometimes due to participants not being available for the scheduled screening appointments.

Participants spoke about the procedure of having their eyes photographed, and stated it was a quick and painless procedure. Everyone was generally content with the screening process.

Participants stated that during the screening appointment, they were not provided with any information about diabetic retinopathy, and received limited information about the screening procedure. They were not given any information about the condition of their eyes, and were told that they would usually hear within four weeks if anything was wrong. They were frequently told that no news was good news; therefore they assumed their results were fine.

The majority of participants advised they never received any results following the screening; however, a few stated that they contacted their GP for the results. Most participants stated that they would welcome a letter with confirmation of their results which would provide some reassurance about their condition.

Participants suggested some improvements to the service, which include receiving more information before, during and after the screening and being able to receive their results by telephone. Overall, people with diabetes who attended the focus groups were content with the diabetic retinopathy screening programme.

2.2 Programme Structure and Governance

The PHA is responsible for commissioning and monitoring the DRSP programme. It works in collaboration with the HSC Board, through joint commissioning structures, a commissioning plans and related service and budget agreements. The PHA has responsibility for ensuring that patients have access to a safe, effective, and high quality screening programme, through regional quality assurance structures and processes, including annual reports and audit.

The PHA provides representatives to the Northern Ireland Screening Committee and the UK National Screening Committee. Service level agreements (SLAs) are in place with relevant organisations including the Belfast and Western trusts, which are responsible for providing imaging clinics and related diagnostic and treatment services for screen positive patients.

In trust areas, with the exception of the Western Trust, images are taken by photographers who travel to primary care locations. In the Western Trust area, six independent optometric contractors provide image capture and primary grading at specific primary care locations.

The PHA chairs a screening programme board containing representatives from key partners, including the HSC Board, Business Services Organisation, and the Patient and Client Council. The board were considered to function well, and there is an engaged clinical lead. However the review team observed in several circumstances that the relationships and responsibilities within the programme needed clarification. Although there are some service level agreements in place, there is an absence of a detailed service specification.

The review team concluded that there was a lack of adequate referral failsafe processes in place within the screening programme. In relation to patient follow up or outcomes, there was no feedback being provided from the respective treatment services to the screening programme. Information and referrals are routed through the patient's GP.

Considerable work has already taken place to review the workings of the programme, and a modernisation project has begun which will deal with many of the recommendations contained in this report. An overarching strategy to improve general eye care across the province, the Developing Eyecare Partnerships – Improving Eyecare provision in Northern Ireland[3], has been developed. This strategy may have significant impact on treatment services and how they relate to the programme.

The review team identified a lack of clear line management arrangements for this service within the Belfast Trust. At the time of the review, the post of programme manager was vacant, although the workload was being covered by the office manager for DRSP. This resulted in a manager with responsibilities other than the screening programme being in control. These arrangements were giving rise to challenges, including dealing with clinical problems, the clinical management of optometrists, and no routine monitoring and feedback on grading performance being provided to the graders.

Optometrists in the Western Trust area were self-employed contractors, but did not have contracts that clearly specified their expected performance. As patients in the Western Trust area are seen in generalised ophthalmology clinics, there was little opportunity for the optometrists to receive feedback on grading performance.

Recommendation:

Medium priority recommendations:

- The Belfast Trust should ensure that line manager and contractual arrangements allow for good direct control of all facets of the programme's organisation and delivery.

[3] Developing Eyecare Partnerships – Improving Eyecare provision in Northern Ireland - http://www.dhsspsni.gov.uk/eyecarestrategy2012.pdf

2.3 Quality Assurance Framework and Standards

Standard 1: There should be a clearly defined system in place to quality assure the various aspects of the programme. This will include both internal and external quality assurance.

1.1 Internal QA
DRSP should have an ongoing programme of internal QA supported by appropriate internal documents outlining how each component of the programme will be quality assured.

Our opinion:
The review team considered the screening programme was partially-compliant with this criterion.

Reasons for our opinion:
Whilst there is documentation and evidence for some IQA activity, it was not found to be complete. For example, there are no tools for inter-grader agreement measurement and no method of assessing grader consistency. For the classification and severity grading of diabetic retinopathy, the review team identified that for the specific grading categories, 10% of R0 and R1s are reviewed, 50% of R2, 100% R3s[4] are graded a second time but there is little formal feedback to the graders.

There was also internal QA of urgent referrals that were not originally classed by the photographer as urgent. These are all highlighted to the photographer who took the image; however, the process is not systematic and there is no database for recording or reporting missed referrals.

There is no systematic internal QA for highlighting programme failures, such as monitoring symptomatic patients presenting in the eye clinic, inappropriate referrals or looking at urgent referral first time screens.

There is internal QA to highlight low uptake in GP practices, and a database indicating when individual GP practices are due to be screened, highlighting GPs who were breaching the 12 month recall of patients.

[4] Diabetic Retinopathy grading categories: R0 – no retinopathy, R1 – mild background retinopathy, R2 – moderate background retinopathy, R3 – severe background retinopathy.

1.2 External QA
DRSP should participate in an ongoing programme of external QA supported by appropriate policy documents.

Our opinion:
The review team considered the screening programme was non-compliant with this criterion.

Reasons for our opinion:
The review team understands that there was a previous external QA exercise. No documentation or action plan was made available to the review team and there was no evidence that there were plans for a further EQA exercise to be carried out.

1.3 An annual report to be produced based on the performance measures listed in this document.

Our opinion:
The review team considered the screening programme was non-compliant with this criterion.

Reasons for our opinion:
No annual report has been produced since 2008/9. In section 2 of the QA standards the principle reason for the standard was stated as:

- To assure patients that the service is performing at an acceptable standard
- To enable commissioners to assure themselves of the quality of service

Neither of these aspirations is being met.

Compliance:
The review team considered the screening programme was non-compliant with Quality Standard 1.

Recommendations:

High priority recommendations:
- The Belfast Trust should progress the introduction of the OptiMize software, and start to produce quarterly reports on the performance of the programme, to allow timely discussion in the programme board.

Medium priority recommendations:

- The Public Health Agency in conjunction with the Belfast Trust should produce an annual report for 2014/15, designed to inform all stakeholders, including patients, about the performance of the service.

- The Belfast Trust, in collaboration with the Public Health Agency, should document the internal QA processes, with each process having its purpose, outcomes, support, and escalations where not met, described.

- The Public Health Agency and the Belfast Trust should establish formal arrangements for the external quality assurance of the Northern Ireland Diabetic Retinopathy Screening Programme.

Standard 2: Systems should be in place to offer annual screening to all eligible people with diabetes

2.1 DRSP to have in place a call /re-call system which offers GP Practices and other long stay institutions (e.g. prisons) the opportunity to be screened annually.

Our opinion:
The review team considered the screening programme was partially-compliant with this criterion.

Reasons for our opinion:
There is a call/ recall system in place which offers GP practices the opportunity to be screened annually. There are limitations with the current system, as although appointments are sent out by the respective GPs, there is no feedback to the DRSP database. The modernisation plan proposes to centralise the call/ recall process within the Belfast Trust

All long stay institutions, such as nursing homes, are covered under the GP contracts and people with diabetes are invited to be screened at yearly intervals. The only long stay institutions that are not covered under the GP contracts are prisons. However, the DRSP visits the prisons on an annual basis.

In questionnaires returned by the trusts, provision was described as being available for prisons; however, during interviews no further information was obtained.

2.2 DRSP to monitor GP Practice participation to ensure full population coverage.

Our opinion:
The review team considered the screening programme was compliant with this criterion.

Reasons for our opinion:
Evidence supplied, confirmed that 100% of GPs supply lists of their eligible population to the PHA. However, the accuracy of the information supplied was not subject to verification or audit in determining the accuracy of the eligibility.

2.3 DRSP to monitor screening interval for Practices.

Our opinion:
The review team considered the screening programme was partially-compliant with this criterion.

Reasons for our opinion:
The Belfast Trust monitors whether GPs are offered screening within 15 months via the forward planner, which is supplied to PHA. However, it was noted that the current standard, where 95% of practices are offered re-screening within 15 months from the last screening, was not always achieved. The review team were advised that due to a backlog in grading, the screening interval was temporarily increased to allow the issue to be resolved.

During 2013-14, approximately one third of practices were screened within 12 months; one third in up to 15 months; and one third in over 15 months. RQIA were advised that the screening programme was compliant with this standard during 2014-15.

2.4 Using Practice based Diabetic Registers, Practices to inform DRSP of all patients with diabetes.

Our opinion:
The review team considered the screening programme was non-compliant with this criterion.

Reasons for our opinion:

The review team was advised that the screening programme is informed by GPs about patients who are eligible for screening, but is not provided with a comprehensive list of all patients with diabetes.

It is planned within the modernisation plan to list all patients with diabetes, not just the eligible patients to the programme.

2.5 DRSP to liaise with Practices to monitor the proportion of known eligible people with diabetes on the DRSP database who are invited for screening.

Our opinion:
The review team considered the screening programme was compliant with this criterion.

Reasons for our opinion:
All known eligible people with diabetes on the DRSP database are invited as per the standard. The programme informs GPs which patients need to have

appointments booked. However, there is no failsafe checking to ensure that the GPs send out invitations. This will change following implementation of the modernisation plan, as there will be central call/ recall.

It was noted that some of the terminology used in the Northern Ireland programme is different to that used elsewhere, which may have been pre-coded into the new software. For example, terms such as 'eligible' or 'suspended' may have different meanings in the Northern Ireland DRSP to the same terms in the English screening programme.

It was further noted that several of the exclusion classes for screening, including those who are partially sighted or registered blind, may still benefit from screening to prevent deterioration which may result in pain or loss of the eye. Consideration should be given to including such patients within the screening cohort.

2.6 DRSP to monitor the screening interval for all individuals screened by the programme.

Our opinion:
The review team considered the screening programme was non-compliant with this criterion.

Reasons for our opinion:
The current systems do not allow this to be calculated for all patients. Following introduction of the new software, this should be available, as the software will calculate the screening interval per patient, rather than as currently calculated per GP practice.

2.7 DRSP to offer timely screening to all newly diagnosed patients notified to them by the GP.

Our opinion:
The review team considered the screening programme was non-compliant with this criterion.

Reasons for our opinion:
In the 2013-14 year, there were 5830 newly diagnosed patients with 1128 being directly referred to DRSP. Reviewing the administration records identified that of the patients that have been referred as newly diagnosed, there were some referred in March 2014 who were still awaiting an appointment in a mop up clinic in December 2014. The review team considered that more needs to be done to ensure that newly diagnosed people with diabetes who are referred to the screening programme are given an appointment within the timescales outlined in the standards.

A large group of patients who have previously received laser treatment are listed as ineligible. It is not part of the failsafe process of the screening programme to know the current supervision arrangements for these patients. There is a considerable risk that they may have been discharged from other follow up services if they did not attend. It was considered that they may not be receiving appropriate supervision.

Compliance:
The review team considered the screening programme was partially compliant with Quality Standard 2.

Recommendations:

High priority recommendations:

- The Public Health Agency and trusts should review the arrangements for newly diagnosed people with diabetes to be referred to the screening programme immediately at diagnosis, and ensure that appointments are provided within the timescales outlined in the standards.

Medium priority recommendations:

- The screening database should have a regularly updated list of people with diabetes and their eligibility for screening to eliminate the manual re-keying of data.

- The Public Health Agency should consider alignment of the terminologies and content of the groups described within the screening programme with the English Diabetic Eye Screening programme. This could facilitate the introduction and use of the new database which may be pre-configured to those terminologies.

Low priority recommendations:

- The Public Health Agency should give consideration to including those currently excluded groups, such as people who are partially sighted or registered blind, in the screening cohort. This may prevent them from further deterioration which may result in pain or loss of the eye.

Standard 3: All communication with the users of the screening programme including prompts to attend for screening should be clear, informative and relevant

This standard relates to the necessity to provide adequate information at the time of screening, which will ensure that implied consent is properly informed and that patients know what to do if they have a reaction to dilating drops.

3.1 Information on diabetic retinopathy screening, both written and in other media must be available to people with diabetes prior to them being asked to attend for screening. This information should accompany the invitation letter issued by the GP.

Our opinion:
The review team considered the screening programme was partially compliant with this criterion.

Reasons for our opinion:
The PHA provides a supply of leaflets to GPs, who are responsible for sending them with all invites for screening. It was noted during the focus groups and in discussions with patients seen at screening clinics, that they do not regularly get this information each time. The review team considered that the PHA should work more closely with GPs to ensure patients receive the information. When the Belfast Trust takes over the call/ recall process, this should be easier to monitor. Supplies of leaflets to GPs should reconcile with numbers invited.

For information provided during screening, the review team observed at one clinic that the nurse present was not aware of angle closure glaucoma, and did not supply the patient with any information about what to do if there was a problem. The review team considered that all patients who are administered with drops should get a verbal reminder, and a reminder slip to take away from clinic.

At another observed clinic, patients who were given drops were advised to contact the clinic if they developed a painful eye. As this would not be possible during the out-of-hours period, it could result in a delay, putting patient sight at risk.

Although full verbal information was given at one clinic, it was delivered quite quickly. For older patients, or those with a hearing impairment, they might not understand the instructions and act correctly if a problem were to develop post screening.

Compliance:
The review team considered the screening programme was compliant with Quality Standard 3.

Recommendations:

High Priority recommendations:

- The Belfast Trust should ensure that all personnel who instil drops to patients receive training on giving advice about the possible precipitation of glaucoma, and what patients should do if they experience pain or photophobia post screening. The training should be recorded and regularly refreshed.

- The Belfast Trust should ensure that information is provided to patients on what to do if pain or photophobia is experienced post screening. The information should be contained within the leaflet which accompanies each invitation, and a supplementary advice slip should be given to patients who receive drops at screening.

Medium priority recommendations:

- The Public Health Agency should work with GPs to ensure that information leaflets about retinopathy screening accompany each invitation sent. Follow up audits should be carried out to ensure that this is taking place.

Standard 4: Uptake of screening should be maximised

4.1 Uptake of screening should be monitored by DRSP. Local Commissioning organisations should be informed of uptake in their area and should take appropriate action where targets are not being met.

Our opinion:
The review team considered the screening programme was compliant with this criterion.

Reasons for our opinion:
The overall minimum percentage uptake of invited patients is apparently met; however, the existing data cannot differentiate between uptake in new and previously screened patients, or between age/ sex groups. This facility will be available automatically in the new software. It is anticipated that once the information is available on the full cohort of people with diabetes, it will also be able to report on coverage.

It was noted that the Western Trust area has lower uptake than the other areas. This has not been the subject of improvement initiatives and there is only anecdotal evidence for the reasons behind it.

4.2 A policy should be in place to manage non-attenders.

Our opinion:
The review team considered the screening programme was compliant with this criterion.

Reasons for our opinion:
There is a non-attender policy which is implemented where possible. Additional mop up clinics help to ensure that people who do not attend (DNA) can be given a further appointment which may be more convenient. However, this seems to be on an ad hoc basis and not all DNAs are offered another appointment, due to clinic appointment constraints.

It is important when considering performance reports that they are used to improve the quality of activity. The review team observed that practice uptake was reported to the PHA by the Belfast Trust. The PHA reports all performance issues with primary care. Where GPs are identified to perform well, they are contacted to ask if they would share their experience with other practices. When low performing practices are identified, they are contacted and the issues are discussed.

The review team was advised that there would be sometimes be a small number of GP practices that may have problem with accommodation or staff resources. It was noted that extra nurse support or alternative premises had

sometimes been provided when there was a particular difficulty in service provision.

Compliance:
The review team considered the screening programme was compliant with Quality Standard 4.

Recommendations:

Medium priority recommendation:

- The Public Health Agency should conduct health equity audits to determine whether any particular groups are being missed by current screening processes.

- The Public Health Agency should review the Does Not Attend policy to target hard to reach populations or special groups, such as prisoners and pregnant women.

Standard 5: A central database of known patients with diabetes aged 12 and over should be maintained by DRSP

5.1 DRSP to update patient datasets using information provided by GP Practices. This will include demographic details; current eligibility status and reasons for exclusion.

Our opinion:
The review team considered the screening programme was compliant with this criterion.

Reasons for our opinion:
At the time of the review, there was a central database of the eligible patients, rather than all known patients with diabetes. This will change upon implementation of the modernisation project. It was considered that there is a good electronic extraction from GP practices to ensure that all eligible patients are sent to the programme.

Data entry policies are in place but the existing system relies upon significant amounts of manual data entry, with the potential risk of mistakes, even by the very diligent administrative staff. There is a failsafe risk with the current process, which needs to be replaced as soon as possible.

The remote stations providing screening are not directly connected to the central grading or administrative databases. Data is synchronised by using encrypted data sticks which are either delivered by hand or by secure courier. The current system prevents those in clinics from seeing previous screening data, or warnings about adverse reactions to drops etc. The current software and hardware combination is now slow and has limited the service to a particular grading base.

Compliance:
The review team considered the screening programme was compliant with Quality Standard 5.

Recommendations:

Medium priority recommendations:

- The Public Health Agency should conduct an audit to establish the success of extraction of a sample of GP practices, to determine suitability of automated transfer to the new software.

- The Public Health Agency should compare the number of exclusions from screening from each GP, to identify whether patients are being missed.

- The Public Health Agency and the Belfast Trust should ensure that the new software has the capability to record the details of any patients with adverse reactions to drops. The details should be highlighted on future clinic lists to provide a warning to those instilling drops.

Standard 6: All staff involved in the retinal screening programme should be appropriately trained in their area of service delivery and maintain their expertise

6.1 All staff should be appropriately trained and accredited in the appropriate units of the Level 3 City and Guilds Certificate in Diabetic Retinopathy Screening (or under supervision until competency demonstrated).

Our opinion:
The review team considered the screening programme was partially compliant with this criterion.

Reasons for our opinion:
All the optometrists working in the grading centre have completed their City and Guilds accreditation. The optometrists contracted by the Western Trust had not completed or started their City and Guilds accreditation. Western optometrists advised of receiving reports of their grading, but did not have the opportunity for regular discussion on the feedback.

There has not been proper accreditation for administrative staff and photographers, and they have not completed or started City and Guilds accreditation.

6.2 All staff should participate in appropriate continuing professional development as per professional and/or national guidelines and internal QA procedures.

Our opinion:
The review team considered the screening programme was partially compliant with this criterion.

Reasons for our opinion:
There was evidence of multi-disciplinary training for professional development. However, the current job grades within the screening programme do not allow for people to develop flexibly across the various jobs.

6.3 Graders should grade a sufficient volume of image sets annually to maintain expertise.

Our opinion:
The review team considered the screening programme was compliant with this criterion.

Reasons for our opinion:
The programme provided evidence that the optometrist graders conducted 1000-1500 grades per year per grader.

The QA standards document sets out a requirement for graders to take part in an on line test system. The co-ordination of an external proficiency testing scheme at regular intervals for all staff who grade images, using test sets of images with previously agreed grading could be utilised. This will complement the internal QA systems and ensure that systematic grading errors are not going undetected. This had not been possible in the early days of the screening programme, due to the adoption of a different grading scheme from that used in the Public Health England sponsored testing system.

The review team was advised that consideration is being given to investigating a move towards the grading systems used in England. This would allow graders in Northern Ireland to utilise the same tests and use aligned grading forms in the new OptiMize software. It was noted that in the interim period, the English test system has recently changed to use a features based grading system. This will allow anyone correctly identifying features (common to all grading schemes) to produce the correct grade in the test.

It was noted that there has been a high turnover of photographers. The review team was not provided with reasons for the turnover, but considered that staff retention is often improved when staff are able to develop within and beyond an existing role.

Screener photographers are not able to see previous images whilst in clinic and therefore do not have sufficient information when deciding upon urgency in the grading queue. Considering the possible delays in current non urgent grading, this is a crucial step for those patients with advanced retinopathy.

Other areas of service delivery

Introducing OptiMize will change the role of administrative staff. It has the potential to reduce the burden of managing the paper intensive system, and is an opportunity to allow Continuous Professional Development to be built in to work plans and to allow staff to complete appropriate City and Guilds modules. Developing additional knowledge will empower administrative staff to be more involved in patient contact during booking appointments, and will assist them in responding to patient questions.

Observation of clinical practice was carried out at three different locations. The observations showed that the delivery of the service runs well, and patients in the clinics were satisfied with how they were treated. Clinical practice at each location was generally good. However, the visits did reveal that in the absence of routine refresher training, there were differences in the delivery of the service between staff. Some areas that could be improved included:

- Hygiene precautions in relation to the cleaning of hands and cameras between patients were observed as not being uniformly carried out by staff.
- Informing patients about what to expect from the screening process, in terms of the camera flash, drops and recovery time from dazzle, was not being uniformly carried out by staff.
- Confirming the identity of patients was not always uniformly carried out by staff at clinics. A few observations identified the photographer stating the patient's date of birth, rather than the patient stating it. This has the potential for misidentification, particularly for older patients, or patients with a hearing impairment.

Information Systems

Clinical data about the patients' diabetes is extracted from GP systems at the time of list extraction. The review team was unable to determine a need for this data at present, as it was not currently used within the programme. However, it was highlighted that this information was potentially very valuable data, as it could be used to inform variable screening intervals for different risk groups, or for direct referral from the screening programme to hospital eye services. The review team was advised that this data was required when the modernisation plan is implemented and a centralised system is operation.

Incident analysis of English screening programmes has shown that in several cases, the backup processes for the rapid and complete restoration screening databases have failed. The review team discussed the backup arrangements for the databases used to support the programme, which identified the backup processes to be limited.

Compliance:
The review team considered the screening programme was partially compliant with Quality Standard 6.

Recommendations:

High priority recommendations:
- The Belfast Trust should establish arrangements for grading staff to participate in external testing schemes.

Medium priority recommendations:
- The Belfast Trust should improve the arrangements for continuous professional development and other developmental opportunities for photographers and administrative staff.

- The Belfast Trust should give consideration to training photographers to be capable of first level grading. This would facilitate earlier detection and referral, and provide additional capacity for dealing with grading backlogs.

- The Belfast and Western trusts should provide photographers with refresher training on patient identification, to ensure that open questions for identity confirmation are asked.

- The Belfast Trust should review its collection and storage of clinical information, and ensure that only information with a valid purpose is kept.

- The Belfast Trust should conduct a physical disaster backup recovery test, and update its backup recovery processes as required.

Standard 7: Retinal images of adequate quality should be obtained

7.1 Photographs should be taken and graded using equipment in accordance with the Four Nations Working Group recommendations.

Our opinion:
The review team considered the screening programme was compliant with this criterion.

Reasons for our opinion:
The review team noted that the equipment in use within the DRSP was in accordance with the Four Nations Working Group recommendations. However, it was advised that the current cameras are reaching the end of their expected lifespan, although they are still fully serviceable. In the Western Trust there is an SLA for the maintenance of the cameras.

Specialised screening cameras are not easily sourced and cannot be replaced quickly. It was noted that within the service there is a member of staff short, so there is a spare camera. However, when the team is fully resourced, there is no resilience to instrument failure.

7.2 Proportion of patients with un-gradable / poor quality images to be monitored.

Our opinion:
The review team considered the screening programme was compliant with this criterion.

Reasons for our opinion:
The data supplied during the review indicated that un-gradable levels were lower than the 5% target; however, it was stated that the level of un-gradable images was said to be increasing. A lack of visual acuities taken at screening can make determining the reason more difficult, but this can be partly offset by taking anterior images when the image quality is un-gradable.

Other areas of service delivery

Due to the methodology of the screening programme, it was possible that some clinic facilities can be an issue. It was observed that some clinics have restricted space for wheelchairs, and nurse cover is not uniformly good. On occasion this resulted in lone working in some clinics, which caused difficulties for the photographers, particularly when dealing with patients with low mobility.

It was highlighted that the rescheduling of appointments for DNAs resulted in overbooking of some clinics. Subsequently, clinics had long lists of patients and the delays initiated complaints from patients.

Compliance:
The programme is compliant with Quality Standard 7.

Recommendations:

Medium priority recommendations:

- The Belfast and Western trusts should ensure that screening equipment is placed on the trust asset register, to ensure sufficient budgets are available when replacement becomes necessary.

- The Belfast Trust should conduct an audit of un-gradable images to identify any reasons or trends for image quality. Appropriate action should be taken to improve image quality.

Standard 8: Images should be accurately graded using an agreed diagnostic classification system and timely action initiated where appropriate

8.1 QA of the grading process to monitor inter grader agreement for
1. referable images
2. non-referable images
3. un-gradable images

Our opinion:
The review team considered the screening programme was non-compliant with this criterion.

Reasons for our opinion:
The current system does not have facilities to produce inter grader agreement (IGA) tables. The grading system is used to allow collaborative grading to arrive at the final position, rather than fully binded grading with arbitration. For that reason, it is not possible to properly apply IGA tables in this programme whilst that occurs. The new OptiMize software will not support the present methodology.

8.2 A protocol defining actions to be taken by DRSS staff for retinopathy requiring urgent referral.

Our opinion:
The review team considered the screening programme was non-compliant with this criterion.

Reasons for our opinion:
There is a protocol in place for dealing with urgent referrals, and a separate set of administrative procedures which involves abstracting urgent cases into a separate book for expediting their passage through the system. However, the pathway remains unwieldy and delays at each step of the process make compliance with this standard difficult.

Delays occurred in cases when the iron key took a week to be returned to the grading centre, and when an urgent referral was not properly highlighted by a photographer, who is not trained to grade.

Too much paperwork is involved in the process, causing both delay and risk. The system is paper intensive with a high risk for documents to get lost. It was identified that some points in the pathway do not have an audit trail, which is a significant risk e.g. patient forms brought back from GP surgeries and put in a file which is then used as the grading queue. There is the potential for forms to go missing, resulting in the patient's image not being graded. The review team did not see an adequate failsafe mechanism to prevent this.

8.3 The proportion of patients with the various degrees of retinal and macular abnormalities should be monitored.

Our opinion:
The review team considered the screening programme was partially compliant with this criterion.

Reasons for our opinion:
The system records different retinopathy grades and levels of un-gradable images.

8.4 The screening history and images should be audited for all patients requiring urgent referral for retinopathy or who have significant screen detected deterioration.

Our opinion:
The review team considered the screening programme was compliant with this criterion.

Reasons for our opinion:
Audits are carried out on the urgent referrals, but there was no evidence of recent audits on urgent referrals or an audit of patients presenting symptomatically in the treatment services. The inability to identify patients, who fail to be detected by screening, those who are ineligible, or those who are not known to screening, cannot properly inform service improvement.

The clinical lead informed the review team of frequently receiving several phone calls per day in relation to symptomatic patients. It was noted that eye casualty receives one vitreous haemorrhage a week. Sources can be people not in the screening pathway e.g. delay in screening, marked as inactive or DNA.

There is a need to audit symptomatic presentations to identify where such cases are coming from. All urgent referrals should be reviewed to determine whether there are grading failures at last screen, or if screened for the first time, why they have not been screened before.

Proper oversight of grading requires a good deal of input. A person with suitable grading knowledge should manage grading quality. It was noted that there is no programme manager presently and that the role is covered by the office manager for DRSP.

Compliance:
The programme is partially compliant with Quality Standard 8.

Recommendations:

High priority recommendations:

- The Belfast Trust should establish a reliable mechanism for conducting regular audits of symptomatic presentations to hospital eye services which require laser treatment, and should begin to conduct such audits.

- The Modernisation Project Board should agree on the implementation of a mechanism where patients who present with retinopathy that are screen negative, not screened within the last year or not known to the screening programme, are appropriately reported and discussed.

- The Belfast Trust should ensure that all graders receive regular formalised feedback on their grading performance.

Medium priority recommendations:

- The Belfast Trust should ensure that all graders should have appropriate clinical line management or contract management arrangements in place.

Standard 9: All eligible people with diabetes who have evidence of referable retinopathy according to the grading protocol should be referred to an ophthalmologist for assessment

9.1 A protocol defining failsafe procedures for follow-up of patients with referable grades of retinopathy should be in place.

Our opinion:
The review team considered the screening programme was non-compliant with this criterion.

Reasons for our opinion:
This standard relates to activity outside the screening programme and failure to meet it could not be addressed by the service. Hospital eye services do not have direct communication with DRSP in the existing referral pathway. As a result, it is not known whether all patients with sight threatening diabetic retinopathy who have been referred to clinic attend, and whether DNA rates are fed back. All GP referrals (non-DR and DR) are sent to a general appointments office and then onto the relevant hospital eye service. For the DR referrals which are considered as elective procedures, and not time sensitive in terms of requiring treatment, there are no specific pathways to manage these.

In 2008, an audit was carried out to check on the number of patients referred with proliferative retinopathy, and when they were seen in the relevant hospital eye service. This was a manual, resource intense process, which involved ringing GPs for the information. Collecting such data requires direct connections to hospital care records and should be done frequently if it is to be effective in maintaining good service levels.

9.2 Outcome of referrals to ophthalmologist from DRSS should be monitored.

Our opinion:
The review team considered the screening programme was non-compliant with this criterion.

Reasons for our opinion:
This data was not available for the review team, so it had to be considered as non-compliant.

Compliance:
The programme is non- compliant with Quality Standard 9.

Recommendations:

Medium priority recommendations:

- The Belfast Trust should establish arrangements for regular feedback on all cases referred to ophthalmologists, to determine the appropriateness of referrals.

Low priority recommendations:

- The Public Health Agency should give consideration to amending or removing criterion 9.1 within the Quality Assurance and Framework Standards, as its responsibility does not fall within the screening programme.

Standard 10: Patients receive follow-up consultation with an ophthalmologist at an appropriate interval dependent on the outcome of the screening episode

10.1 A follow-up protocol should be in place outlining recommended timeframes within which patients with various degrees of screening abnormalities should be assessed by an Ophthalmologist.

Our opinion:
The review team considered the screening programme was non-compliant with this criterion.

Reasons for our opinion:
Identification of patients requiring an urgent appointment is via handwritten entry into an urgent folder kept in the DRSP administration office. Patients may be fast tracked by the level one grader using an urgency field in the screening software. This notification is searched for by level two graders and if the urgency is agreed, the level 2 grader enters patient details into the urgent folder. This folder is looked at by the level three graders and the paperwork is expedited by admin staff. The review team was advised that this takes place around every two working days. The patient details are kept with the paper records of the appropriate session until administration staff access them. The GP is posted the result and requested to refer urgently. We were advised that the eye clinic at the time of this review had a delay of 3 months for urgent referrals to be seen once referred.

On the day of the EQA visit, some patients with proliferative retinopathy were described to have new blood vessels forming elsewhere on the retina (grade 6 retinopathy), and in the urgent folder had a screening date in October 2014, with their retinopathy awaiting review by the level 3 grader. The Clinical Lead and level 3 grader informed the review team that these entries had only recently appeared in the folder, and that level 3 grading of urgent folder referrals would normally occur within 48 hours of the notification.

When the Clinical Lead identifies urgent findings, the normal pathway is bypassed and the patient is contacted directly (contact number on patient sheet), to attend clinic for a first appointment and laser treatment.

If the urgent nature of the screen is missed by the level one grader, the patient can be delayed. Cumulative delays can occur during: the return of the iron key to grading centre (up to 4 days); the grading queue between level 1 and level 2 grader (up to 7 weeks); and further delays if not identified before level 3 grading. Additional delay occurs in referring via the GP, and subsequently the hospital appointment system. This chain is further extended by the long hospital eye services waiting times.

In routine referrals, the review team noted a delay of 2.5 months for the transfer of paper records onto the screening software, for graded patients since beginning of September. Furthermore, paperwork for graded patients

was not available for data transfer before the 2nd week in October, indicating a grading delay of at least 5 weeks.

A recent audit in the hospital ophthalmology clinic showed that urgent patient referrals were waiting 2-3 months, and up to 52 weeks for appointments after non urgent referral by the GP. The notification of screen positive appointments is carried out by regular post to GPs, who then need to refer the patients into the hospital eye services, introducing potential further delay.

Capacity in ophthalmology is not able to meet the need to review diabetic retinopathy patients within the requested interval. Delays within hospital eye services diabetic retinopathy clinics have been audited for 59 patients. The results indicated that requested follow up appointments of 1-2 months were delayed by 8 months, requested appointments of 2-4 months delayed by 16 months and requested appointments of 4-6+ months were delayed by 20 months. Transferring patients to a surveillance system could free up capacity for necessary follow ups.

Management of grading queues is handled within the OptiMize software so there is the opportunity to assist in promoting urgent referrals through to the point of referral more quickly.

Compliance:
The programme is non-compliant with Quality Standard 10.

Recommendations:

High priority recommendations:

- A fast track direct referral process for patients with grade 6 proliferative retinopathy should be developed. The referral should be direct to hospital eye services with laser treatment capability, and bypass the GP referral process.

Medium priority recommendations:

- The Public Health Agency should develop a faster referral process for first appointments for non-urgent screen positive patients, to ensure standard 10.1b is met.

Standard 11: Patients with referable retinopathy have timely access to treatment where appropriate

11.1 Interval from screening to first laser treatment should be monitored (if listed at first visit following screening).
a) patients referred as R6 (i.e. English R3 equivalent)
b) patients referred as M2-3 (note: does not map directly on to English M1 equivalent)

Our opinion:
The review team considered the screening programme was non-compliant with this criterion.

Reasons for our opinion:
The review team identified that there was no monitoring in place to measure the timeframes between a patient's screening until their first laser treatment. No evidence was available that timelines are being met. Information from an audit of ophthalmology waiting times provided some evidence that timelines are usually exceeded.

It was identified that not all treatment centres have laser facilities or optical coherence tomography for maculopathy assessment. Therefore, there may be increased delay as patients are transferred between centres.

11.2 Interval from listing to first laser treatment should be monitored.
a) patients referred as R6 (i.e. English R3 equivalent)
b) patients referred as M2-3 (note: does not map directly onto English M1 equivalent)

Our opinion:
The review team considered the screening programme was non-compliant with this criterion.

Reasons for our opinion:
The review team identified that there was no monitoring in place to measure the timeframes between listing of a patient until their first laser treatment. No evidence was available that timelines are being met. Information from an audit of ophthalmology waiting times provided some evidence that timelines are usually exceeded.

There is a significant potential for disconnect between the screening programme and treatment services in ensuring prompt treatment for those cases which have been identified as positive for disease. It is possible that sight loss is occurring in those identified by screening as a result of treatment delays.

Compliance:
The programme is non-compliant with Quality Standard 11.

Recommendation:

High priority recommendations:

- Arrangements should be implemented to reduce the delays in access to treatment services, in line with the standards. Regular information flows should be established to monitor referral times and consideration should be given to direct referral of patients for laser treatment in specific circumstances.

Standard 12: Effective communication channels should be established between the screening programme, ophthalmology services, GPs and hospital care.

12.1 Protocols should be in place regarding communication with other professionals. This should include details of how Ophthalmology services will inform the DRSP of:
a) the result of retinal examinations carried out in ophthalmology clinics and date of next scheduled appointment or whether to be returned to screening programme
b) details of patients symptomatically presenting with retinopathy.

Our opinion:
The review team considered the screening programme was non-compliant with this criterion.

Reasons for our opinion:
Protocols are in place but there was no evidence that these are being followed on a routine basis. There is only limited notification of the results from ophthalmology back to the screening programme. Ophthalmologists have tried to put grades into patient records when time allows, but no evidence was available to the review team that this is systematically happening.

There is no regular audit of patients attending symptomatically for treatment and review of their screening history. However, the review team was told anecdotally that symptomatic presentation to emergency departments is common.

There is no routine provision for information being returned from ophthalmology to the screening programme. Information is sent back to the GP who does not routinely send the patient's details to the screening programme if the patient is being followed up in ophthalmology.

Compliance:
The programme is non-compliant with Quality Standard 12.

Recommendations:

Medium priority recommendations:

- The Public Health Agency and Belfast Trust should ensure that OptiMize has the capability to allow clinicians in the hospital eye services access to view images and reports of referred patients.

- The Belfast Trust should establish arrangements with ophthalmology to ensure that feedback on treatment outcomes is routinely provided.

Standard 13: GPs and Diabetologists of all eligible people who attend diabetic retinopathy screening should receive the patient's results in writing

13.1 Results letters are sent by DRSP to GP and Diabetologist within agreed timeframe.

Our opinion:
The review team considered the screening programme was non-compliant with this criterion.

Reasons for our opinion:
Delays occurring within the grading pathway mean that few letters reach the GP with results of either urgent or non-urgent screens within 2 – 4 weeks.

Patients are currently informed that the results of screening will be returned to their GP within four weeks. Patients involved in the focus groups advised that they were often told by screening staff that "No news is good news". The review team considered this to be inappropriate, as many results were not available after the four weeks, and by then patients would consider their results were fine as they had heard nothing. This has the potential for an affected patient to be under the belief they had a negative screening result.

Results from the OptiMize system can be sent to patients as an element of failsafe working, so that patients can question the service if a referral is late or not made.

Inability to meet this standard is indicative of the cumulative effects of delay throughout the pathway.

Compliance:
The programme is non-compliant with Quality Standard 13.

Recommendations:

Medium priority recommendations:

- The Belfast Trust should implement improvements to reduce the time taken to generate and forward results, in line with the standards.

- The Public Health Agency and Belfast Trust should give consideration to providing patients with a copy of their results.

Standard 14: The incidence of new visual morbidity due to diabetic retinopathy should be monitored

14.1 Registrations of new severe visual impairment/visual impairment predominantly due to diabetic retinopathy should be monitored to:
a) establish baseline

Our opinion:
The review team considered the screening programme was non-compliant with this criterion.

Reasons for our opinion:
The review team was informed that there is no systematic compilation of severe visual impairment due to diabetic retinopathy. There has not been a systematic analysis of results or tracked history to identify whether screening impacted the outcome. The Clinical Lead keeps records of patients under his care.

14.2 Registrations of new severe visual impairment/visual impairment predominantly due to diabetic retinopathy should be monitored to:
b) determine impact of DRSP

Our opinion:
The review team considered the screening programme was non-compliant with this criterion.

Reasons for our opinion:
The recommended audits listed at the end of the QA standards document have not been completed.

Compliance:
The programme is non-compliant with Quality Standard 14.

Recommendations:

Low priority recommendations:

- The Belfast Trust should establish arrangements for recording registrations of patients with new severe visual impairments, to determine the impact of the screening programme.

2.3 Modernisation Project

The diabetic retinopathy screening programme is the subject of a modernisation project which is being led by the Public Health Agency. The implementation of the project can be expected to deal with a number of recommendations contained in this report.

The review team was furnished with a copy of the Project Initiation Document V1.0 dated 08.11.2014. The project sits alongside a wider piece of work "Developing Eyecare Partnerships" which encompasses all facets of eyecare in Northern Ireland.

The modernisation project is described as a way of ensuring that the programme can cope with the increase in demand for diabetic screening. It also covers the need to properly provide adequate IQA and EQA processes to strengthen governance and allow for continuous improvement in the future.

The products identified within the project which are crucial include:

- an integrated call/recall system
- a reliable single IT system (OptiMize)
- a revised set of policies and procedures and reviewed information literature.
- proper controls and performance management structure

This is to be subject to an overarching Quality Control Plan and the expectations are that:

- reliable statistics are available to produce a comprehensive Annual Report for 2015/16
- that the service meets the published QA standards
- that the programme will produce regular monitoring data which can inform good governance

It was noted from the PID that the project board had concerns about the availability of the project manager. The review team would recommend that some thought be given to filling the post of project manager immediately, not only to manage the implementation of the project, but to have a central role in maintaining what has been identified as necessary within the project.

The replacement of the administrative and grading systems with an integrated system called OptiMize, is the central aspect of the modernisation project. It was highlighted that it was possible that the product could be supplied in the default format to the English "New Common Pathway". This would require the Northern Ireland screening programme to adopt some of the new terminologies which describe the cohort. Also, a less complicated grading scheme will facilitate its introduction. Other benefits of the system will allow cross programme benchmarking, and the use of a new integrated system of grader performance management, which is soon to be available in England in conjunction with the testing system.

Although features based grading in the testing system will allow Northern Ireland graders to test themselves now, the adoption of a simpler grading system will allow for appropriate testing and the use of the surveillance pathways now built into OptiMize. These pathways provide a less expensive way to monitor marginal disease, and un-gradable patients with cataracts, while reducing pressure on supporting hospital eye services.

Full alignment of testing and grading schemes would require the introduction of visual acuity testing. This will need early consideration because of its resource implications at GP practices.

Recommendation:

Medium priority recommendations:

- The Public Health Agency should consider establishing a detailed service specification for the future Diabetic Retinopathy Screening Service.

Section 3 - Conclusion and Recommendations

3.1 Conclusion

The diabetic retinopathy screening programme has been running since 2007, providing screening for all people aged 12 years and over, using retinal digital photography. Screening programmes are similar in nature, although the programme in Northern Ireland has a number of unique characteristics compared to other UK diabetic eye screening programmes. It has a unique retinopathy grading scheme and a distinct process for managing its cohort of patients invited for screening.

QA has two components which must go hand in hand. One is to foster continuous improvement whilst the second is to assure stakeholders that the service is provided safely and effectively.

The review found there was only limited quality assurance being undertaken within the Belfast Trust. The absence of a dedicated programme manager was a contributing factor in the quality assurance not being fully developed.

The service has continued to provide screening for a considerable volume of people, despite the reliance on a predominantly paper based administration system. This has been reflected in an inability to maintain adequate oversight and development because of the irregular comparison of achievements against its own standards. An annual report has not been completed for the service for a number of years. It has been difficult to drive quality, provide strategic direction or give the necessary assurances.

It was clear that a considerable amount of control of patient information related to screening, resided with GPs. GPs did participate in the screening programme, by supplying patient lists to the programme, and managing the patient appointments locally.

The uptake of screening by people with diabetes was generally good, with protocols in place to manage non-attenders. However, the current arrangements restricted the potential for full utilisation of failsafe processes relating to call/ recall of patients.

The Public Health Agency provided information to GPs, which was to be forwarded to patients prior to appointments. However, patient experiences indicated that the information was not being forwarded by all GPs. Through observations of practice, the review team identified some cases where information provided to patients could be improved.

The review team found a committed and enthusiastic workforce which values their service. All those interviewed were open and co-operative in talking about what the service has achieved so far and how it can meet its aspirations. The pressing need is to provide a safe and effective service whilst dealing with the challenge of a rapid and continuing rise in the number of people who need to be screened.

Most staff working in the Belfast Trust had received appropriate training; however, some training gaps were identified. The key issues for graders within the programme were the lack of feedback on their performance, and an absence of clinical line management.

Referral to other services was through the patients' GP. This could be improved if the referral protocols were established for direct referral from the screening programme. This would also drive improvements in the failsafe processes.

The Public Health Agency (PHA) which has the oversight role for the service, through a programme board, has already recognised the majority of key issues in the programme; has already moved to set up a modernisation project group; and has clearly identified for rapid change the factors that have made monitoring and control difficult. A modernisation plan for the service has been developed. This is to be commended. It is recommended that the report of this review is considered alongside the modernisation plan.

New software has been commissioned to allow replacement of the paper based administrative system. This will allow for better failsafe processes, safer administration, regular reporting against standards and more effective use of staff time in both the administrative and clinical domains.

It should be noted that recommendations and statements made throughout this report will overlap several of the screening themes and this report should be read and considered as a complete document rather than in individual sections.

The report makes 40 recommendations for improvement, prioritised by the timescale in which they should be implemented.

RQIA wishes to thank the management and staff from the PHA and the Belfast and Western trusts for their cooperation in taking forward this review.

3.2 Summary of Recommendations

No.	Reference to DRSP standards	Recommendation	Priority
1	General	The Belfast Trust should progress the introduction of the OptiMize software, and start to produce quarterly reports on the performance of the programme, to allow timely discussion in the programme board.	High
2	Standard 2 Criterion 7	The Public Health Agency and trusts should review the arrangements for newly diagnosed people with diabetes to be referred to the screening programme immediately at diagnosis, and ensure that appointments are provided within the timescales outlined in the standards.	High
3	Standard 3 Criterion 1	The Belfast Trust should ensure that all personnel who instil drops to patients receive training on giving advice about the possible precipitation of glaucoma, and what patients should do if they experience pain or photophobia post screening. The training should be recorded and regularly refreshed.	High
4	Standard 3 Criterion 1	The Belfast Trust should ensure that information is provided to patients on what to do if pain or photophobia is experienced post screening. The information should be contained within the leaflet which accompanies each invitation, and a supplementary advice slip should be given to patients who receive drops at screening.	High
5	Standard 6 Criterion 3	The Belfast Trust should establish arrangements for grading staff to participate in external testing schemes.	High
6	Standard 8 Criterion 4	The Belfast Trust should establish a reliable mechanism for conducting regular audits of symptomatic presentations to hospital eye services which require laser treatment, and should begin to conduct such audits.	High
7	Standard 8	The Modernisation Project Board should agree on the implementation of a mechanism where patients who present with retinopathy that are screen negative, not screened within the last year or not known to the screening programme, are appropriately reported and discussed.	High

8	Standard 8 Criterion 1	The Belfast Trust should ensure that all graders receive regular formalised feedback on their grading performance.	High
9	Standard 10 Criterion 1	A fast track direct referral process for patients with grade 6 proliferative retinopathy should be developed. The referral should be direct to hospital eye services with laser treatment capability, and bypass the GP referral process.	High
10	Standard 11	Arrangements should be implemented to reduce the delays in access to treatment services, in line with the standards. Regular information flows should be established to monitor referral times and consideration should be given to direct referral of patients for laser treatment in specific circumstances.	High
11	General	The Belfast Trust should ensure that line manager and contractual arrangements allow for good direct control of all facets of the programme's organisation and delivery.	Medium
12	Standard 1 Criterion 3	The Public Health Agency in conjunction with the Belfast Trust should produce an annual report for 2014/15, designed to inform all stakeholders, including patients, about the performance of the service.	Medium
13	Standard 1 Criteria 1 & 2	The Belfast Trust, in collaboration with the Public Health Agency, should document the internal QA processes, with each process having its purpose, outcomes, support, and escalations where not met, described.	Medium
14	Standard 1	The Public Health Agency and the Belfast Trust should establish formal arrangements for the external quality assurance of the Northern Ireland Diabetic Retinopathy Screening Programme.	Medium
15	Standard 2 Criterion 4	The screening database should have a regularly updated list of people with diabetes and their eligibility for screening to eliminate the manual re-keying of data.	Medium

16	General	The Public Health Agency should consider alignment of the terminologies and content of the groups described within the screening programme with the English Diabetic Eye Screening programme. This could facilitate the introduction and use of the new database which may be pre-configured to those terminologies.	Medium
17	Standard 3 Criterion 1	The Public Health Agency should work with GPs to ensure that information leaflets about retinopathy screening accompany each invitation sent. Follow up audits should be carried out to ensure that this is taking place.	Medium
18	Standard 4 Criterion 1	The Public Health Agency should conduct health equity audits to determine whether any particular groups are being missed by current screening processes.	Medium
19	Standard 4 Criterion 1	The Public Health Agency should review the Does Not Attend policy to target hard to reach populations or special groups, such as prisoners and pregnant women.	Medium
20	Standard 5	The Public Health Agency should conduct an audit to establish the success of extraction of a sample of GP practices, to determine suitability of automated transfer to the new software.	Medium
21	Standard 5	The Public Health Agency should compare the number of exclusions from screening from each GP, to identify whether patients are being missed.	Medium
22	Standard 5	The Public Health Agency and the Belfast Trust should ensure that the new software has the capability to record the details of any patients with adverse reactions to drops. The details should be highlighted on future clinic lists to provide a warning to those instilling drops.	Medium
23	Standard 6 Criterion 2	The Belfast Trust should improve the arrangements for continuous professional development and other developmental opportunities for photographers and administrative staff.	Medium
24	Standard 6	The Belfast Trust should give consideration to training photographers to be capable of first level grading. This would facilitate earlier detection and referral, and provide additional capacity for dealing with grading backlogs.	Medium

25	Standard 6	The Belfast and Western trusts should provide photographers with refresher training on patient identification, to ensure that open questions for identity confirmation are asked.	Medium
26	Standard 6	The Belfast Trust should review its collection and storage of clinical information, and ensure that only information with a valid purpose is kept.	Medium
27	Standard 6	The Belfast Trust should conduct a physical disaster backup recovery test, and update its backup recovery processes as required.	Medium
28	Standard 7 Criterion 1	The Belfast and Western trusts should ensure that screening equipment is placed on the trust asset register, to ensure sufficient budgets are available when replacement becomes necessary.	Medium
29	Standard 7 Criterion 2	The Belfast Trust should conduct an audit of un-gradable images to identify any reasons or trends for image quality. Appropriate action should be taken to improve image quality.	Medium
30	Standard 8 Criterion 1	The Belfast Trust should ensure that all graders should have appropriate clinical line management or contract management arrangements in place.	Medium
31	Standard 9 Criterion 2	The Belfast Trust should establish arrangements for regular feedback on all cases referred to ophthalmologists, to determine the appropriateness of referrals.	Medium
32	Standard 10 Criterion 1	The Public Health Agency should develop a faster referral process for first appointments for non-urgent screen positive patients, to ensure standard 10.1b is met.	Medium
33	Standard 12	The Public Health Agency and Belfast Trust should ensure that OptiMize has the capability to allow clinicians in the hospital eye services access to view images and reports of referred patients.	Medium
34	Standard 12	The Belfast Trust should establish arrangements with ophthalmology to ensure that feedback on treatment outcomes is routinely provided.	Medium
35	Standard 13	The Belfast Trust should implement improvements to reduce the time taken to generate and forward results, in line with the standards.	Medium

36	Standard 13	The Public Health Agency and Belfast Trust should give consideration to providing patients with a copy of their results.	Medium
37	General	The Public Health Agency should consider establishing a detailed service specification for the future Diabetic Retinopathy Screening Service.	Medium
38	Standard 2 Criterion 5	The Public Health Agency should give consideration to including those currently excluded groups, such as people who are partially sighted or registered blind, in the screening cohort. This may prevent them from further deterioration which may result in pain or loss of the eye.	Low
39	Standard 9 Criterion 1	The Public Health Agency should give consideration to amending or removing criterion 9.1 within the Quality Assurance and Framework Standards, as its responsibility does not fall within the screening programme.	Low
40	Standard 14 Criterion 2	The Belfast Trust should establish arrangements for recording registrations of patients with new severe visual impairments, to determine the impact of the screening programme.	Low

Appendix 1 - DRSP Standards

Standard 1: There should be a clearly defined system in place to quality assure the various aspects of the programme. This will include both internal and external quality assurance.				
	Criteria	**Performance Measure**	**Target**	**Minimum standard**
1.1	Internal QA DRSP should have an ongoing programme of internal QA supported by appropriate internal documents outlining how each component of the programme will be quality assured.	Internal QA documents outlining relevant performance measures exist.		Evidence of internal QA activity
1.2	External QA DRSP should participate in an ongoing programme of external QA supported by appropriate policy documents.	All staff who carry out grading to participate in external image test scheme Participation in regular external peer review visits.		Evidence of participation in external QA
1.3	An annual report to be produced based on the performance measures listed in this document.	Production of annual report by 31st October for preceding financial year		Report produced
Standard 2: Systems should be in place to offer annual screening to all eligible people with diabetes				
	Criteria	**Performance Measure**	**target**	**minimum**
2.1	DRSP to have in place a call /re-call system which offers GP Practices and other long stay institutions (e.g. prisons) the opportunity to be screened annually	A central call/recall system is in place Policies exist to call people in long stay institutions		yes yes

2.2	DRSP to monitor GP Practice participation to ensure full population coverage	% of all GP practices that participate in the Diabetic Retinopathy Screening Programme		100%
2.3	DRSP to monitor screening interval for Practices.	% of practices offered re-screening within 15 month interval from last screening visit (by LCG area) % of practices re-screened within 15 month interval from last screening visit (by LCG area)	95% 95%	90% 90%
2.4	Using Practice based Diabetic Registers, Practices to inform DRSP of all patients with diabetes.	DRSP to monitor the number of GP practices contributing data.		100%
2.5	DRSP to liaise with Practices to monitor the proportion of known eligible people with diabetes on the DRSP database who are invited for screening	% of known eligible people with diabetes on DRSP database who are sent a letter of invitation for screening		100%
2.6	DRSP to monitor the screening interval for all individuals screened by the programme	% of eligible patients with diabetes who are re-screened by DRSP within 12 month interval from last screening encounter % of eligible people with diabetes who are re-screened by DRSP within 15 month interval from last screening encounter	90% at 12 months 100% at 15 mths	70% at 12mths 95% at 15mths
2.7	DRSP to offer timely screening to all newly diagnosed patients notified to them by the GP.	% of newly diagnosed patients that are offered screening within given interval from date DRSP notified of their diagnosis	100% within 3 months	90% within 3 months 100% in 6 months

Standard 3: All communication with the users of the screening programme including prompts to attend for screening should be clear, informative and relevant				
	Criteria	**Performance Measure**	**target**	**minimum**
3.1	Information on diabetic retinopathy screening, both written and in other media must be available to people with diabetes prior to them being asked to attend for screening. This information should accompany the invitation letter issued by the GP.	Appropriate patient literature is available Practices are informed of their responsibility to distribute patient information with the letter of invitation		Yes Yes
Standard 4: Uptake of screening should be maximised				
	Criteria	**Performance Measure**	**target**	**minimum**
4.1	Uptake of screening should be monitored by DRSP. Local Commissioning organisations should be informed of uptake in their area and should take appropriate action where targets are not being met.	% of invited patients who attend for screening (by LCG area / Practice / age and sex) % uptake among those who have been screened in previous years % uptake among those screened this year for the first time (newly diagnosed patients and those previously ineligible)	90% 95% 90%	75% 80% 70%
4.2	*A policy should be in place to manage non-attenders*	Policy in place and implemented		Yes
Standard 5: A central database of known patients with diabetes aged 12 and over should be maintained by DRSP				
	Criteria	**Performance Measure**	**target**	**Minimum**

5.1	DRSP to update patient datasets using information provided by GP Practices. This will include demographic details; current eligibility status and reasons for exclusion.	Central database exists of all known patients with diabetes aged 12 and over A Data Entry Protocol exists		Yes Yes
Standard 6: All staff involved in the retinal screening programme should be appropriately trained in their area of service delivery and maintain their expertise				
	Criteria	Performance Measure	target	minimum
6.1	All staff should be appropriately trained and accredited in the appropriate units of the Level 3 City and Guilds Certificate in Diabetic Retinopathy Screening (or under supervision until competency demonstrated).	Performance Measures should reflect the requirements of the Training Policy and Internal QA protocols. % of administrative staff who have successfully completed appropriate units Level 3 City & Guilds Level 3 Certificate in Diabetic Retinopathy Screening % of photographers who have successfully completed Level 3 City & Guilds Level 3 Cert. in Diabetic Retinopathy Screening % of graders who have successfully completed Level 3 City & Guilds Level 3 Cert. in Diabetic Retinopathy Screening		Staff should be accredited for their role within 2 years of starting their post Staff should be accredited for their role within 2 years of starting their post 100% within 2 years of appointment
6.2	All staff should participate in appropriate continuing professional development as per professional and/or national guidelines and internal QA procedures.	Performance Measures should reflect the requirements of the Training Policy and Internal QA protocols.		Ongoing monitoring

6.3	Graders should grade a sufficient volume of image sets annually to maintain expertise	All Level 1 and 2 graders should grade a minimum of 1500 image sets annually Each Level 3 grader should grade a minimum of 1000 patient image sets annually	100% of all graders	100% of all graders 100% of all graders
Standard 7: Retinal images of adequate quality should be obtained				
	Criteria	**Performance Measure**	**target**	**minimum**
7.1	Photographs should be taken and graded using equipment in accordance with the Four Nations Working Group recommendations	Polices relating to equipment and working environment are in place		yes
7.2	Proportion of patients with un-gradable / poor quality images to be monitored.	% of patients where the grader determines that the image in one or both eyes is of poor quality	<5%	<10%
Standard 8: Images should be accurately graded using an agreed diagnostic classification system and timely action initiated where appropriate				
	Criteria	**Performance Measure**	**target**	**minimum**
8.1	QA of the grading process to monitor inter grader agreement for 1. referable images 2. non-referable images 3. un-gradable images	Grading protocols should be in place		Ongoing monitoring

8.2	A protocol defining actions to be taken by DRSS staff for retinopathy requiring urgent referral	Monitoring the time between screening encounter and issue of referral request.	98% urgent referred within 1 week of screening	95% urgent referred within 1 week of screening, 100% urgent referred within 2 weeks
8.3	The proportion of patients with the various degrees of retinal and macular abnormalities should be monitored	% of screened patients who have referable grades of retinopathy (mapped to English classification where possible)		statistics are collated
8.4	The screening history and images should be audited for all patients requiring urgent referral for retinopathy or who have significant screen detected deterioration.	Number of audits of screening history/images carried out.		Ongoing monitoring

Standard 9: All eligible people with diabetes who have evidence of referable retinopathy according to the grading protocol should be referred to an ophthalmologist for assessment				
	Criteria	**Performance Measure**	**target**	**minimum**
9.1	A protocol defining failsafe procedures for follow-up of patients with referable grades of retinopathy should be in place	Referral and Failsafe protocol exists Monitoring of cancellation and DNA rates at Ophthalmology clinics for various grades of abnormality	Urgent referral DNA rate at 1 month: <5% Non Urgent referral DNA rate at 6 months: <5% Maculopathy within 6 months: <5%	yes Urgent referral DNA rate at 1month:<10% Non Urgent referral DNA rate at 6 months:<10% Maculopathy within 6 months:<10%
9.2	Outcome of referrals to ophthalmologist from DRSS should be monitored.	% of inappropriate referrals (definition -someone who does not need to remain under the care of an ophthalmologist)	<20%	<25%

Standard 10: Patients receive follow-up consultation with an ophthalmologist at an appropriate interval dependent on the outcome of the screening episode				
	Criteria	**Performance Measure**	**target**	**minimum**
10.1	A follow-up protocol should be in place outlining recommended timeframes within which patients with various degrees of screening abnormalities should be assessed by an Ophthalmologist.	% of patients requiring an urgent appointment seen within 4 weeks of receipt of referral % of patients requiring a non-urgent appointment seen within 13 wks of receipt of referral	100% 100%	70% 70%
Standard 11: Patients with referable retinopathy have timely access to treatment where appropriate				
	Criteria	**Performance Measure**	**target**	**minimum**
11.1	Interval from screening to first laser treatment should be monitored (if listed at first visit following screening)	Interval between screening and first laser treatment (if listed at first visit) for: a) patients referred as R6 (i.e. English R3 equivalent) b) patients referred as M2 -3 (note: does not map directly on to English M1 equivalent)	95% within 4 weeks 95% within 15 weeks	70% within 4wks 100% within 6 weeks 70% within 15 weeks 100% within 26wks

11.2	Interval from listing to first laser treatment should be monitored:	Interval between listing to first laser treatment should be monitored for: a) patients referred as R6 (i.e. English R3 equivalent) b) patients referred as M2-3 (note: does not map directly onto English M1 equivalent)	 95% within 2wks 95% within 10weeks	 90% within 2 weeks 70% within 10weeks
Standard 12: Effective communication channels should be established between the screening programme, ophthalmology services, GPs and hospital care				
	Criteria	**Performance Measure**	**target**	**minimum**
12.1	Protocols should be in place regarding communication with other professionals This should include details of how Ophthalmology services will inform the DRSP of: a) the result of retinal examinations carried out in ophthalmology clinics and date of next scheduled appointment or whether to be returned to screening programme b) details of patients symptomatically presenting with retinopathy.	Protocols exist for communication between DRSP and other relevant professionals outlining the responsibilities of each.		Yes

Standard 13: GPs and Diabetologists of all eligible people who attend diabetic retinopathy screening should receive the patient's results in writing				
	Criteria	**Performance Measure**	**target**	**minimum**
13.1	Results letters are sent by DRSP to GP and Diabetologists within agreed timeframe	% of urgent results letters sent to GP and within 2 weeks of screening visit (to facilitate early referral) % of all other results letters sent within 4 weeks of screening visit to GP % of all results letters sent within 4 weeks of screening visit to Diabetologists	100% 100% 100%	95% 75% 75%
Standard 14: The incidence of new visual morbidity due to diabetic retinopathy should be monitored				
	Criteria	**Performance Measure**	**target**	**minimum**
14.1	Registrations of new severe visual impairment/visual impairment predominantly due to diabetic retinopathy should be monitored to: a) establish baseline	Number of annual registrations of new severe visual impairment/visual impairment, predominantly due to diabetic retinopathy		On - going monitoring
14.2	b) determine impact of DRSP	% reduction in new registrations predominantly due to diabetic retinopathy from baseline		Annual monitoring

Appendix 2 - Abbreviations

Belfast Trust	- Belfast Health and Social Care Trust
DHSSPS	- Department of Health, Social Services and Public Safety
DRSP	- Diabetic Retinopathy Screening Programme
DNA	- Do not attend
EQA	- External Quality Assurance
HSC	- Health and Social Care
IGA	- Inter grader agreement
IQA	- Internal Quality Assurance measures
PHA	- Public Health Agency
QA	- Quality Assurance
RQIA	- Regulation and Quality Improvement Authority
SLA	- Service Level Agreements
Western Trust	- Western Health and Social Care Trust

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