



Public Health
England



NHS Diabetic Eye Screening Programme Pathway standards

Updated March 2018

Public Health England leads the NHS Screening Programmes

About Public Health England

Public Health England (PHE) exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. It does this through world-class science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. PHE is an operationally autonomous executive agency of the Department of Health.

Public Health England, Wellington House, 133-155 Waterloo Road, London SE1 8UG

Tel: 020 7654 8000 www.gov.uk/phe

Twitter: [@PHE_uk](https://twitter.com/PHE_uk) Facebook: www.facebook.com/PublicHealthEngland

About PHE Screening

Screening identifies apparently healthy people who may be at increased risk of a disease or condition, enabling earlier treatment or better informed decisions. National population screening programmes are implemented in the NHS on the advice of the UK National Screening Committee (UK NSC), which makes independent, evidence-based recommendations to ministers in the four UK countries. The Screening Quality Assurance Service ensures programmes are safe and effective by checking that national standards are met. PHE leads the NHS Screening Programmes and hosts the UK NSC secretariat.

PHE Screening, Floor 2 Zone B, Skipton House, 80 London Road, London SE1 6LH

www.gov.uk/phe/screening

Twitter: [@PHE_Screening](https://twitter.com/PHE_Screening) Blog: phescreening.blog.gov.uk

Prepared by: Jo Jacomelli and Donna Prentis

For queries relating to this document, please contact: phe.screeninghelpdesk@nhs.net

© Crown copyright 2017

You may re-use this information (excluding logos) free of charge in any format or medium, under the terms of the Open Government Licence v3.0. To view this licence, visit [OGL](https://www.ogcl.gov.uk) or email psi@nationalarchives.gsi.gov.uk. Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.

Published March 2017

PHE publications

gateway number: 2016143

PHE supports the UN

Sustainable Development Goals



Contents

About Public Health England	2
About PHE Screening	2
Introduction	4
UK National Screening Committee	4
NHS Diabetic Eye Screening Programme	4
Format	4
Scope	5
Out of scope	5
Terminology	5
Notes	6
Relationship between standards and key performance indicators (KPIs)	6
Reporting standards	6
Revision of standards	7
Other information to support providers and commissioners	7
Implementation date	7
Data collection and analysis	8
Summary of main changes	10
Withdrawn standards	13
DES-PS-1	14
DES-PS-2	16
DES-PS-3	17
DES-PS-4	19
DES-PS-5	20
DES-PS-6	22
DES-PS-7	23
DES-PS-8	25
DES-PS-9	26
DES-PS-10	27
DES-PS-11	29
DES-PS-12	31
DES-PS-13	34
Appendix 1: Abbreviations	35
Appendix 2: Glossary	36
Appendix 3: References	39

Introduction

UK National Screening Committee

The UK National Screening Committee (UK NSC) advises ministers and the NHS in the four UK countries about all aspects of screening and supports implementation of screening programmes.

NHS Diabetic Eye Screening Programme

The NHS Diabetic Eye Screening (DES) Programme aims to reduce the risk of sight loss for people with diabetes through the early detection, appropriate monitoring and treatment of diabetic retinopathy, which is one of the biggest causes of blindness among people of working age.

This document presents the revised national standards for the NHS Diabetic Eye Screening Programme, effective from April 2017. It should be read in conjunction with the service specifications for the NHS providers available as part of the **public health functions exercised by NHS England** and the **national operating guidance**. These revised standards replace the interim standards published in August 2014. The technical specification and field definitions to support the standards can be found in the programme performance report, the dataset summary document and the dataset calculation document^{2,3,4}.

Document version

This document is 'DES Standards and Performance objectives v1.10'. A minor correction from the previously published v1.8 (August 2017) to standard 7 has been made. The words 'been offered and' have been removed from the numerator descriptor (previously 'number of people who have *been offered and* attended a successful routine digital screening event').

A minor correction from the previously published v1.9 (March 2017) to standard 5 has also been made. The PPR references in the numerator and denominator description have been corrected.

Format

The format of screening standards has been revised. The changes have been made to ensure providers, commissioners, users, screening quality assurance service (SQAS) and English screening programmes have access to:

- reliable and timely information about the quality of the screening programme
- data at local, regional and national level

- quality measures across the screening pathway without gaps or duplications
- a consistent approach across screening programmes
- a burden of data collection that is proportionate to the benefits gained.

Development of this format has been an iterative process, based on work with providers, users and SQAS.

Scope

Included are those standards that assess the screening process and allow for continuous improvement. This enables providers and commissioners to identify where improvements can most effectively be made across the pathway.

Out of scope

Not included are structural standards which describe the structures which make up each programme (such as workforce and IT) which are driven by service specifications and monitored through commissioning and other quality assurance routes. The service specifications should be reviewed by providers and commissioners to ensure structural standards are met by all screening providers.

Outcome standards are also not included. Screening outcomes are best measured at a population level and in many cases screening is only one contributor. Assessment of screening outcomes is currently under review by the operations team of the national screening programme.

Terminology

To clarify what is being measured, each standard has three parts¹:

1. **Objective** – the aim of the standard.
2. **Criteria** – what is being assessed.
3. **Measure** – the acceptable and achievable percentages that have been set.

The acceptable threshold is the lowest level of performance which providers are expected to attain to ensure safety and programme effectiveness. All providers are expected to exceed the acceptable threshold and to agree service improvement plans that develop performance towards an achievable level. Providers not meeting the acceptable threshold are expected to implement recovery plans to ensure rapid and sustained improvement.

The achievable threshold represents the level at which the provider is likely to be running optimally; screening providers should aspire towards attaining and maintaining performance at this level.

These levels are based on published evidence or on median and inter quartile ranges from existing screening provider data.

Using a standard that assesses coverage for the newborn and infant physical examination as an example:

Objective – to maximise timely coverage in those who want the screen

Criteria – the proportion screened by 72 hours

Measure for the population screened – acceptable level 95% and achievable level 99%

Screening pathway – the standards view the entire screening pathway and are based on the following themes:

- identify population
- inform
- coverage and/or uptake
- test
- diagnose
- intervention/treatment
- outcome
- minimising harm
- staff: education and training
- commissioning/governance

In this document standards that apply across all screening programmes (generic) are listed first, followed by standards specific to the programme.

Notes

Relationship between standards and key performance indicators (KPIs)

KPIs are a subset of standards that are collated and reported quarterly compared to annual reporting for standards. There are 2 to 3 KPIs per programme. The KPIs focus on areas of particular concern. Once a KPI consistently reaches the achievable level it will revert to being a standard and allow entry of another KPI to focus on additional areas of concern.

Reporting standards

Standards will be reported quarterly and published annually. A template and process for annual reporting will be developed by the Screening Data Group of the NHS Screening Programmes.

Revision of standards

It is anticipated that standards will be reviewed in line with the service specifications on an annual basis.

Other information to support providers and commissioners

This document focusses on process standards for improving the quality of screening programmes so that providers and commissioners can easily improve the quality of the screening programme. Additional operational guidance is included in screening handbooks, laboratory handbooks and other documents. Service specifications contain detailed information about the screening pathway.

Implementation date

These standards have an implementation date of April 2017. A summary of the main changes is on page 10.

Data collection and analysis

Data for the national screening programmes is collected from a variety of providers such as local screening providers, laboratories and maternity units. The organisations collating the data are responsible for ensuring it is accurate, timely and complete. The national screening programmes coordinate the collection of data, its processing and analysis. The national programmes also work with SQAS to identify areas for improvement and areas of good practice.

The national programme has developed the standards in collaboration with experts in the relevant fields using available evidence, data and best practice. There has also been consultation with commissioners and local screening providers to ensure standards are valid, robust and clear.

The data to support the DES pathway standards is collected through submission of quarterly and rolling 12-month programme performance reports. These reports provide aggregate figures for important fields required to calculate the pathway standards. The report is specified through the diabetic eye screening dataset summary², the programme performance report template³ and the dataset calculations for the programme performance report⁴ documents. The 3 reports are submitted to the national programme team, which calculate the standards. The standards are then approved by the programme manager and clinical lead. The local screening providers obtain information on attended consultation dates from the hospital eye services they refer into. The hospital eye service is responsible for offering appointments to referred people with diabetes within the nationally specified time frames.

The standards in this document are described in terms of the criteria used for the calculations in the database but they have been written in plain English where possible. Where specific field options are given, these are the ones used in the dataset calculation document⁴.

The thresholds for the standards are based upon evidence and provisional local provider data from 1 April 2014 to 31 March 2015.

Standard	Threshold based upon
1	1.1. Interquartile range of provisional 2014 to 2015 data (cohort measures) 1.2. To be set 1.3. To be set
2	Expert guidance with a view to revising up to meet the interquartile range after one year
3	Expert advice as new standard

4	To be set
5	To be set
6	To be set
7	Interquartile range of provisional 2014 to 2015 data (cohort measures)
8	To be set
9	Interquartile range of provisional 2014 to 2015 data
10	Unchanged
11	11.1. Unchanged. 11.2. Based on a 5% reduction on the acceptable threshold for 11a and 3% reduction of achievable threshold for 11a
12	12.1. unchanged 12.2. expert guidance as data for new time periods not available
13	Expert guidance as data for new time periods not available

Summary of main changes

Standard	Changes	Data collected by
2.1 Percentage of eligible population invited to screening	Note this has changed from the previously published version of the Performance Standards (April 2017), to clarify the definition of 'eligible', and to separate out invitation standard from cohort classification measure. So percentage suspended and excluded are separate from percentage invited to RDS. Thresholds revised to 95% acceptable and 98% achievable. Now DES-PS-1.	Local screening provider
2.2 All newly diagnosed people with diabetes must be offered first screening appointment within 3 months of the programme being notified of their diagnosis	Revised wording so that it is clear the appointment date offered should be within 3 months. Thresholds revised to 90% acceptable and 95% achievable. Now DES-PS-2.	Local screening provider
3.1 Proportion of those offered screening who attend a digital screening event	Thresholds revised to 75% acceptable and 85% achievable. Now DES-PS-7.	Local screening provider
4. Percentage of people with diabetes where a digital image has been obtained but final grading outcome is ungradable	Thresholds set at 2% to 4% based upon interquartile range of Q4 2014 to 2015 data. Now DES-PS-9.	Local screening provider
6. Time between screening event and issuing of results letters to person with diabetes and GP	Now also includes relevant health professional and result letters from DS and SLBS. Now DES-PS-10.	Local screening provider
7. Time between screening event and issue of referral request	R3SM1 are to be included in routine. Thresholds for urgent set at acceptable 95% within 2 weeks and achievable 98% within 2 weeks; routine acceptable 90% 3 weeks and achievable 95% within 3 weeks. Now DES-PS-11.	Local screening provider

8.1 Time between notification of positive test and consultation (urgent)	Change notification of positive test to screening event and add 2 weeks to time frame. Thresholds set at acceptable 80% within 6 weeks. Now DES-PS-12.	Local screening provider
8.2 Time between notification of positive test and consultation (routine)	Change notification of positive test to screening event. Thresholds set at acceptable 70% within 13 weeks and achievable 95% within 13 weeks. Now DES-PS-12.	Local screening provider
10. Maximum time between RDS and attendance for SLBS to be no more than 13 weeks	Reworded to match DES-PS-12. Time between screening event and first attendance at SLBS. Thresholds set at acceptable 70% within 13 weeks and achievable 95% within 13 weeks. Now DES-PS-13.	Local screening provider
17. Programme operates on annual screening interval for RDS	Now looks at whether eligible people are offered an RDS appointment that occurs within +/- 6 weeks of their due date. Now DES-PS-3.	Local screening provider
Proportion of people with diabetes offered an appointment for slit lamp biomicroscopy within an appropriate time frame	New standard (DES-PS-4) to ensure those on slit lamp biomicroscopy are seen within an appropriate time frame	Local screening provider
Proportion of due digital surveillance appointments with an offer date within an appropriate time frame	New standard (DES-PS-5) to ensure those on digital surveillance are seen within an appropriate time frame, aligning with DES-PS-3. The standard counts appointments rather than patients as there may be more than one appointment per year.	Local screening provider
Proportion of pregnant women with diabetes seen within 6 weeks of notification of pregnancy to the local programme	New standard (DES-PS-6) to ensure those on the pregnancy pathway are seen according to NICE guidelines, aligns with DES-PS-3 and DES-PS-5.	Local screening provider
Proportion of people with diabetes not attending an appointment within 3 years	New standard (DES-PS-8) to reduce repeat non-attenders.	Local screening provider

Withdrawn standards

Criteria	Metric	Reason for withdrawal
1.1	Single collated list of all people with diabetes and systematic call from a single management system	Included in service specification
1.2	Comparison of DESP database programme size with CQRS diabetic population	It is not a standard and cannot be reliably populated
1.3	Proportion of GP practices participating	Included in service specification
1.4	Regular database cleansing using national standard operating procedures	Included in the standard operating procedures
5.1	Every grader registered on the software as a grader to participate in TAT	Included in service specification
5.2	Evidence of clinical lead or nominated senior grader feeding back outcomes to grading staff	Included in service specification
9	Timeline tracking undertaken to agreed national template	It is not a standard. Referral tracking is included in the standard operating procedures
11	Time between listing and first treatment following screening if listed at first visit	Outside of the scope of the screening programme
12	Time between screening event and first treatment if listed at first visit	Outside of the scope of the screening programme
13.1	Audit of SSI/SI certifications	Included in service specification and standard operating procedures
13.2	Audit of visual acuity	The data is not collectable at a local level
14	Screening and grading staff to be appropriately qualified in accordance with national standards	Included in service specification
15	Graders must meet minimum grading requirement	Included in service specification
16	Minimum programme size	Not a standard. Included in service specification
18.1	Production of nationally specified reports	Not a standard. Included in service specification
18.2	Production of KPI data	Not a standard. Included in service specification
19	External quality assurance	Not a standard. Included in service specification

DES-PS-1

Theme 2	Inform/ Invite
Objective	To maximise the proportion of all known <u>eligible</u> people with diabetes who are invited to attend for <u>routine digital screening</u> and to monitor the proportion of the <u>eligible</u> population that are <u>suspended</u> or <u>excluded</u> .
Criteria	<p>1.1. Percentage of <u>eligible</u> people, categorised under <u>routine digital screening</u>, who are <u>offered</u> an appointment for <u>routine digital screening</u>.</p> <p>1.2. Percentage of <u>eligible</u> people, categorised as <u>suspended</u>.</p> <p>1.3. Percentage of <u>eligible</u> people, categorised as <u>excluded</u>.</p>
Rationale	<p>To maximise the impact of the screening programme all <u>eligible</u> people should be <u>offered</u> an appointment for <u>routine digital screening</u>, unless they are <u>suspended</u> or <u>excluded</u>.</p> <p>Monitoring the proportion of <u>suspended</u> and <u>excluded</u> people in the <u>eligible</u> population should help ensure that people are not being <u>suspended</u> or <u>excluded</u> unnecessarily.</p>
Definitions	<p>1.1. Invited</p> <p>Numerator: number of <u>eligible</u> people, categorised under <u>routine digital screening</u> on the final day of the reporting period, <u>offered</u> an appointment for <u>routine digital screening</u> during the report period [PPR field 3.2c].</p> <p>Denominator: number of <u>eligible</u> people, categorised under <u>routine digital screening</u> on the final day of the reporting period [PPR field 3.1.7a].</p> <p>1.2. Percentage suspended</p> <p>Numerator: number of <u>eligible</u> people that are <u>suspended</u> on the final day of the reporting period [PPR field 3.1.5a].</p> <p>Denominator: number of <u>eligible</u> people on the final day of the reporting period [PPR field 3.1.1].</p> <p>1.3. Percentage excluded</p> <p>Numerator: number of <u>eligible</u> people that are <u>excluded</u> on the final day of the reporting period [PPR field 3.1.3a].</p> <p>Denominator: number of <u>eligible</u> people on the final day of the reporting period [PPR field 3.1.1].</p> <p>Note if an <u>eligible</u> person attends a walk in clinic or is screened for diabetic retinopathy while in care of ophthalmology for non-diabetic retinopathy it will be counted as an <u>offer</u> for that date.</p>

	Reference: The definition for counting open and closed invitations is available in the programme performance report template ³ .
Thresholds	<p>1.1. Acceptable: ≥95% Achievable: ≥98%</p> <p>1.2. To be set</p> <p>1.3. To be set</p>
Mitigations	<p><u>Eligible</u> people with diabetes, categorised under <u>routine digital screening</u> towards the end of the screening year may not be sent an <u>invitation</u> within the reporting time period and so the provider is not expected to achieve 100%.</p> <p>This is a snapshot at the final day of the reporting period, meaning that 1.1 will not include people that were sent an <u>invitation</u> for <u>routine digital screening</u> during the reporting period, but no longer categorised under <u>routine digital screening</u> on the final day of the reporting period.</p>
Reporting	<p>Data should be reported over a rolling 12 month period.</p> <p>Data collected by local screening provider.</p>
Equity impact	<p>Review of this standard at a local level will indicate if specific groups do not enter, complete the screening pathway or do not access services within optimal timescales. Equity impact assessments and the NHS England Equality Delivery Scheme are tools to improve equity of access.</p>

DES-PS-2

Theme 2	Inform/ Invite
Objective	To invite all people newly diagnosed with diabetes to attend for routine diabetic retinopathy screening.
Criteria	Proportion of people newly diagnosed with diabetes offered a <u>first routine digital screening</u> appointment that is due to occur within 89 calendar days of the provider being notified of their diagnosis.
Rationale	People can be diagnosed with diabetes several years after having developed the condition. It is therefore important that a screen of the retina is taken as soon as possible after diagnosis to ensure that there is no retinopathy already present.
Definitions	<p>Numerator: number of people with diabetes newly added to the register offered a <u>first appointment</u> for their <u>first routine digital screening event</u> which is due to occur within 89 calendar days of the date of the local provider being notified of their diagnosis [PPR field 3.2.2a].</p> <p>Denominator: number of people with diabetes newly added to the programme <u>register</u> during the reporting period [PPR field 3.5].</p> <p>Note, the 89 calendar day period can be outside of the reporting period.</p> <p>Please refer to the programme performance report for an explanation regarding how 89 calendar days approximates 3 months³.</p> <p>Reference: NICE guidance for the management of diabetes type 1 and type 2^{5,6}.</p>
Thresholds	<p>Acceptable: ≥90%</p> <p>Achievable: ≥95%</p>
Mitigations	<p>Some people newly added will be immediately moved <u>off register</u>, for instance if they are under 12 years of age, and so the provider is not expected to achieve 100%.</p> <p>Providers may not be able to distinguish between people newly diagnosed with diabetes and those who are transferring into the service from another service.</p>
Reporting	<p>Data can be reported over a quarterly or 12 month period.</p> <p>Data collected by local screening provider.</p>
Equity impact	Review of this standard at a local level will indicate if specific groups do not enter, complete the screening pathway or do not access services within optimal timescales. Equity impact assessments and the NHS

England Equality Delivery Scheme are tools to improve equity of access.

DES-PS-3

Theme 2	Inform/ Invite
Objective	To offer a timely appointment for diabetic retinopathy screening to all known <u>eligible</u> people with diabetes, categorised under <u>routine digital screening</u> .
Criteria	Proportion of <u>eligible</u> people <u>offered</u> an appointment for <u>routine digital screening</u> occurring 6 weeks before to 6 weeks after their <u>due date</u> .
Rationale	Providers should operate a 12 month screening interval. To ensure that the 12 month screening interval is maintained, the <u>invitation</u> should be <u>offered</u> to enable the appointment to occur within 6 weeks of the due date. Local providers sending open invitations should issue invitations 47 days before the appointment due date. If the screening interval is not maintained people with diabetes may be seen too frequently or not often enough and detection of disease may be delayed.
Definitions	<p>Numerator: number of people, categorised under <u>routine digital screening</u> on the final day of the reporting period, who are <u>offered</u> an appointment that occurs up to 6 weeks before to 6 weeks after their due date [PPR field 3.4.2b].</p> <p>The offered appointment can occur outside of the reporting period so long as it is within 6 weeks of the due date.</p> <p>Denominator: number of people, categorised under <u>routine digital screening</u> on the final day of the reporting period, due to have a <u>routine digital screen</u> within the reporting period [PPR field 3.4.2a].</p> <p>The definition for counting open and closed invitations is available in the programme performance report template³.</p> <p>This standard will not include those people screened for the first time or those referred into the service and not screened during the screening year.</p>
Thresholds	<p>Acceptable: ≥95%</p> <p>Achievable: ≥98%</p>
Mitigations	This is a snapshot at the final day of the reporting period, meaning that it will not include people that were due to have a <u>routine digital screen</u> within the reporting period, but no longer categorised under <u>routine digital screening</u> on the final day of the reporting period.
Reporting	Data should be reported over a rolling 12 month period. Data collected by local screening provider.

Equity impact

Review of this standard at a local level will indicate if specific groups do not enter, complete the screening pathway or do not access services within optimal timescales. Equity impact assessments and the NHS England Equality Delivery Scheme are tools to improve equity of access.

DES-PS-4

Theme 2	Inform/ Invite
Objective	To offer a timely appointment for <u>slit lamp biomicroscopy</u> screening to all people with diabetes on the <u>slit lamp biomicroscopy surveillance</u> pathway.
Criteria	Proportion of <u>eligible</u> people with diabetes <u>offered</u> an appointment for <u>slit lamp biomicroscopy</u> 6 weeks before or after their due date.
Rationale	People with diabetes moved on to <u>slit lamp biomicroscopy</u> surveillance need to be seen on a regular basis and may have complex needs due to other eye pathology. It is important that patients attend their follow-up appointments in a timely manner. If the follow up period is not maintained people with diabetes may be seen too frequently or not often enough and detection of disease may be delayed.
Definitions	<p>Numerator: number of people on <u>slit lamp biomicroscopy surveillance</u> at the final day of the reporting period <u>offered</u> an appointment that occurs up to 6 weeks before to 6 weeks after their due date [PPR field 9.1.5b].</p> <p>Denominator: number of people on <u>slit lamp biomicroscopy surveillance</u> at the final day of the reporting period due to have a <u>slit lamp biomicroscopy appointment</u> within the reporting period [PPR field 9.1.5a].</p> <p>The offered appointment can occur outside of the reporting period so long as it is within 6 weeks of the due date.</p> <p>The definition for counting open and closed invitations is available in the programme performance report template³.</p>
Thresholds	To be set.
Mitigations	This standard will not include those people screened for the first time in <u>slit lamp biomicroscopy surveillance</u> during the screening year.
Reporting	Data should be reported over a rolling 12 month period. Data collected by local screening provider.
Equity impact	Review of this standard at a local level will indicate if specific groups do not enter, complete the screening pathway or do not access services within optimal timescales. Equity impact assessments and the NHS England Equality Delivery Scheme are tools to improve equity of access.

DES-PS-5

Theme 2	Inform/ Invite
Objective	To offer a timely appointment for <u>digital surveillance</u> to all people on the <u>digital surveillance</u> pathway.
Criteria	Proportion of due appointments for <u>digital surveillance</u> that have an offer of an appointment due to occur within a reasonable time of the follow up period.
Rationale	People with diabetes moved on to <u>digital surveillance</u> need to be seen on a regular basis and so it is important that patients attend their follow up appointments in a timely manner. If the follow up period is not maintained people with diabetes may be seen too frequently or not often enough and detection of disease may be delayed.
Definitions	<p>Numerator: number of due appointments for <u>digital surveillance</u> where there has been an offer of a follow up appointment that occurs within a reasonable time of their follow up period [PPR fields 10.1.6a to 10.1.6j]:</p> <p>3 months: +/- 1 week 4 and 5 months: +/- 2 weeks 6 and 7 months: +/- 3 weeks 8 and 9 months: +/- 4 weeks 10 and 11 months: +/- 5 weeks 12 months: +/- 6 weeks</p> <p>Denominator: number of due appointments for <u>digital surveillance</u> in the reporting time period [PPR fields 10.1.5a to 10.1.5j].</p> <p>The definition for counting open and closed invitations is available in the programme performance report template³.</p>
Thresholds	To be set.
Mitigations	Please note that providers should not be held accountable for this standard until they have fully implemented digital surveillance within their service.
Reporting	<p>Data should be reported over a rolling 12 month period.</p> <p>Data collected by local screening provider.</p>
Equity impact	Review of this standard at a local level will indicate if specific groups do not enter, complete the screening pathway or do not access services within optimal timescales. Equity impact assessments and the NHS England Equality Delivery Scheme are tools to improve equity of access.

DES-PS-6

Theme 3	Coverage
Objective	To maximise the number of pregnant women with diabetes seen in digital surveillance .
Criteria	Proportion of pregnant women with diabetes seen within 6 weeks of notification of their pregnancy to the screening provider.
Rationale	<p>Pregnant women with diabetes have clear guidelines for the management of their diabetes as set out by NICE and screening providers should comply with this guidance. It is anticipated that any provider that sees a patient within 6 weeks of notification of their pregnancy to the screening provider, will re-screen according to the NICE guidance.</p> <p>Reference: NICE guidance on diabetes in pregnancy: management of diabetes and its complications from pre-conception to the postnatal period (NG3)⁷.</p>
Definitions	<p>Numerator: number of pregnant women with diabetes attending digital surveillance within 6 weeks of notification to the local provider of their pregnancy [PPR field 10.1.4].</p> <p>Denominator: number of women notifying their pregnancy to the local provider within the reporting period [PPR field 3.8.1a minus 3.8.1b].</p> <p>Excluded: Women who have been screened in the three months (89 days) prior to the date of notification. This includes women who notify the provider of their pregnancy on the day of their annual screen. Please refer to the programme performance report for an explanation regarding how 89 calendar days approximates 3 months³. Women already under the care of HES for diabetic retinopathy as they will remain under the care of HES for the duration of their pregnancy.⁸</p> <p>The provider may be notified of the pregnancy by the woman's GP or other health professional or they may be notified by the woman. In all instances the date of notification should be recorded.</p>
Thresholds	To be set.
Mitigations	Pregnant women who miscarry or terminate their pregnancy before attending their first digital surveillance appointment can be exception reported to local programme boards via quarterly reporting.
Reporting	<p>Data should be reported over a rolling 12 month period.</p> <p>Data collected by local screening provider.</p>
Equity impact	Review of this standard at a local level will indicate if specific groups do not enter, complete the screening pathway or do not access services within optimal timescales. Equity impact assessments and the NHS

England Equality Delivery Scheme are tools to improve equity of access.

DES-PS-7

Theme 3	Uptake
Objective	To maximise the number of invited people with diabetes receiving the test.
Criteria	Percentage of those <u>offered routine digital screening</u> who attend a <u>routine digital screening</u> event where images are captured.
Rationale	<p>This standard gives an indication of the <u>acceptance</u> of the screening test in those <u>offered</u> the screen. A low uptake may be due to people with diabetes not wishing to be screened, not understanding the importance of being screened, forgetting the appointment or not being able to easily access the screening service.</p> <p>Uptake should be looked at in conjunction with the DES-PS-1.</p>
Definitions	<p>Numerator: number of people who have attended a successful <u>routine digital screening</u> event within the reporting period, where images are captured such that a screening outcome can be determined [PPR field 3.4].</p> <p>Denominator: number of people <u>offered</u> a <u>routine digital screening</u> event which was due to take place within the reporting period [PPR field 3.2b].</p> <p>Note if an <u>eligible</u> person attends a walk in clinic or is screened for diabetic retinopathy while in care of ophthalmology for non-diabetic retinopathy it will be counted as an <u>offer</u> and an attendance on the same day.</p> <p>The numerator includes instances where one or both eyes are not assessable through digital photography and a screening outcome of ‘<u>ungradable</u>’ is assigned. In these cases a subsequent <u>invitation to slit lamp biomicroscopy</u> clinic is issued, the screening event is considered ‘complete’ and is counted in the numerator of this performance measure.</p> <p>For the denominator, where no specific digital screening event date was proposed, the date at which the <u>invitation</u> was sent should be used, and where a range of dates were proposed, the first date in the range should apply.</p> <p>If a person is <u>invited</u> more than once in the year the most recent <u>invitation</u> and subsequent attendance if it occurs, will be counted.</p> <p>Full definitions can be found in the programme performance report template and dataset calculation document^{2,3}.</p>
Thresholds	Acceptable: ≥75%

	Achievable: ≥85%
Mitigations	N/A
Reporting	Data should be reported over a rolling 12 month period. Data collected by local screening provider.
Equity impact	Review of this standard at a local level will indicate if specific groups do not enter, complete the screening pathway or do not access services within optimal timescales. Equity impact assessments and the NHS England Equality Delivery Scheme are tools to improve equity of access.

DES-PS-8

Theme 3	Uptake
Objective	To minimise the number of repeat non-attenders.
Criteria	Proportion of <u>eligible</u> people with diabetes who have not attended for screening in the previous 3 years.
Rationale	<p>This standard will help identify patients who regularly miss screening appointments and are not engaged in this aspect of their care. This will allow providers to identify and implement interventions to improve uptake of screening in these groups, for instance the use of translated letters and easy to read information.</p> <p>The proportion of non-attendance should be looked at in conjunction with standard DES-PS-1 and DES-PS-7.</p>
Definitions	<p>Numerator: number of people on the <u>routine digital screening pathway</u> who have not attended a <u>routine digital screening event</u> within the previous 3 years and have been on the programme <u>register</u> for at least 3 years [PPR field 3.4.3].</p> <p>Denominator: number of people on the <u>routine digital screening pathway</u> who have been on the programme <u>register</u> for at least 3 years [PPR field 3.1.7b].</p>
Thresholds	To be set.
Mitigations	N/A
Reporting	<p>Data should be reported over a rolling 3 year period.</p> <p>The 3 year time period should end on the last day of the reporting period.</p> <p>Data collected by local screening provider.</p>
Equity impact	Review of this standard at a local level will indicate if specific groups do not enter, complete the screening pathway or do not access services within optimal timescales. Equity impact assessments and the NHS England Equality Delivery Scheme are tools to improve equity of access.

DES-PS-9

Theme 4	Test
Objective	To ensure digital images are of adequate quality.
Criteria	Proportion of <u>eligible</u> people with diabetes where a digital image has been obtained but the <u>final grading outcome</u> is <u>ungradable</u> .
Rationale	The proportion of images with a <u>final grading outcome</u> of <u>ungradable</u> can indicate if there is a problem with the photography, grading process or equipment. It can also be a reflection of other eye pathology. If a high or low rate is due to equipment or the process it indicates a need for training within the service.
Definitions	<p>Numerator: number of people with a <u>final grading outcome</u> of <u>ungradable</u> in either eye following a <u>routine digital screening event</u> during the reporting period [PPR field 4.1.10].</p> <p>Denominator: number of people who have attended a successful <u>routine digital screening event</u>, during the reporting period, where images are captured such that a screening outcome can be determined [PPR field 3.4].</p>
Thresholds	Acceptable: 2% to 4%
Mitigations	<p>It is recognised that a small number of people will have eyes that are <u>ungradable</u> due to extensive media opacity (e.g. due to previous trauma) and the clinical lead may make a decision to base the screening outcome and future screening method on the one gradable eye. This can lead to a higher rate of ungradable images.</p> <p>It is recognised that local screening services recall patients back to screening to have repeat photographs. This is in cases where adequate images were not captured at the initial screening appointment, but it is believed that better images can be achieved and prevent referring the patient unnecessarily to SLBS. For example, where patients have refused drops but have agreed to have drops at a subsequent screening appointment. This can lead to a higher rate of ungradable images.</p>
Reporting	<p>Data can be reported over a quarterly or 12 month period.</p> <p>Data collected by local screening provider.</p>
Equity impact	Review of this standard at a local level will indicate if specific groups do not enter, complete the screening pathway or do not access services within optimal timescales. Equity impact assessments and the NHS England Equality Delivery Scheme are tools to improve equity of access.

DES-PS-10

Theme 5	Diagnose
Objective	To ensure the person with diabetes, GP and relevant health professionals are informed of all test results.
Criteria	The proportion of <u>eligible</u> people with diabetes attending for diabetic eye screening, digital surveillance or slit lamp biomicroscopy to whom <u>results</u> were issued within 3 weeks of the screening event.
Rationale	<p>In order to reduce anxiety for people with diabetes it is important for them to receive their results in a timely manner. It is also important for the GP and relevant health professional(s) to be informed in a timely manner so that they can take appropriate steps in the ongoing care of the people with diabetes.</p> <p>Operationally, this standard also monitors if there is a backlog in the grading of digital images.</p> <p>As described in the DES Service Specification the health professionals may include diabetologist, paediatrician and obstetrician amongst others⁹.</p>
Definitions	<p>Numerator: number of <u>results letters</u> produced within 3 weeks of the screen date [PPR fields 5.4a, 5.5 and 5.6].</p> <p>Denominator: number of <u>eligible</u> people who have attended a successful screening event, within the reporting period [PPR fields 3.4, 9.1.2b and 10.1.2b].</p> <p>The screening event may be</p> <ol style="list-style-type: none"> a) <u>routine digital screening</u> b) <u>digital surveillance</u> c) <u>slit lamp biomicroscopy</u> <p>Produced may be printing a letter or creating an electronic result letter. This is a proxy measure for the receipt of result letters as it is not possible to measure if they are sent or received.</p>
Thresholds	<p>Acceptable: ≥70% within 3 weeks.</p> <p>Achievable: ≥95% within 3 weeks.</p>
Mitigations	Providers are not expected to achieve 100% as people with diabetes who are under the care of Hospital Eye Services for other non-diabetic eye pathology may be screened for diabetic retinopathy and so will not receive a <u>results letter</u> from the provider. It also takes into account if a person's death takes place before the <u>result letter</u> is generated.
Reporting	Data will be reported separately for each of the 3 screening event types internally but will be published collectively for KPI DE2.

	<p>Data can be reported over a quarterly or 12 month period.</p> <p>Data collected by local screening provider.</p>
Equity impact	<p>Review of this standard at a local level will indicate if specific groups do not enter, complete the screening pathway or do not access services within optimal timescales. Equity impact assessments and the NHS England Equality Delivery Scheme are tools to improve equity of access.</p>

DES-PS-11

Theme 6	Intervention/ treatment	
Objective	To ensure timely referral of people with diabetes with <u>positive screening</u> results.	
Criteria	Time between <u>routine digital screening event</u> or <u>digital surveillance event</u> or <u>slit lamp biomicroscopy event</u> and issuing the referral to the Hospital Eye Service.	
Rationale	It is important for people with diabetes with referable and potentially sight threatening disease to be graded and referred to hospital eye services for treatment in a timely manner. This is the first step in the pathway for treatment and the provider should work to reduce unnecessary delays. Urgent referrals should be added to the rapid grading queue to enable grading to take place sooner and results sent within 2 weeks.	
Definitions	<p>1. Urgent referrals</p> <p>Numerator: number of hospital eye service urgent referrals made within 2 weeks of the screen date [PPR field 6.1b].</p> <p>Denominator: number of people referred to the hospital eye service with a <u>final grading outcome</u> of R3A in the worst eye, from a screening or surveillance event which occurred within the reporting period [PPR fields 6.2.1a and 6.2.1b].</p> <p>2. Routine referrals</p> <p>Numerator: number of hospital eye service routine referrals made within 3 weeks of the screen date [PPR field 6.1c].</p> <p>Denominator: number of people referred to the hospital eye service with a <u>final grading outcome</u> of R2 or M1 in the worst eye, from a screening or surveillance event which occurred within the reporting period [PPR fields 6.2.1d to 6.2.1g].</p> <p>R2 or M1 referred as urgent by the ROG grader will be counted as a routine referral for the purposes of reporting.</p> <p>The screening event may be</p> <ul style="list-style-type: none"> a) <u>routine digital screening</u> b) <u>digital surveillance</u> c) <u>slit lamp biomicroscopy</u> <p>If a patient has been referred previously to the Hospital Eye Service, is screened again and a new referral is generated within the reporting period, both referrals will be counted.</p>	
Thresholds	<p>1. Urgent</p> <p>Acceptable: ≥95% 2 weeks</p>	<p>2. Routine</p> <p>Acceptable: ≥90% 3 weeks</p>

	Achievable: $\geq 98\%$ 2 weeks	Achievable: $\geq 95\%$ 3 weeks
Mitigations	N/A	
Reporting	Data can be reported over a quarterly or 12 month period. Data collected by local screening provider.	
Equity impact	Review of this standard at a local level will indicate if specific groups do not enter, complete the screening pathway or do not access services within optimal timescales. Equity impact assessments and the NHS England Equality Delivery Scheme are tools to improve equity of access.	

DES-PS-12

Theme 6	Intervention/ Treatment
Objective	To ensure timely consultation for people with diabetes who are <u>screen positive</u> .
Criteria	Time between screening event and first attended <u>consultation</u> at hospital eye services or <u>digital surveillance</u> .
Rationale	<p>A key part of any screening programme is that there is an appropriate treatment for the screened for condition. It is therefore important that a person with R3A retinopathy is seen in hospital and R2/ M1 retinopathy is seen in hospital or <u>digital surveillance</u> in a timely manner so that they can receive the appropriate management. For R2 or M1 referrals, people should be seen in the same timescale regardless of whether they are referred to the hospital eye service or <u>digital surveillance</u>.</p> <p>Although local screening providers are not directly responsible for providing the appointments for hospital eye services they can work with them to ensure that this happens and there is seamless transfer of care.</p> <p>Failure of screen positive subjects to attending for assessment within 6 weeks might be caused by:</p> <ul style="list-style-type: none"> • delays in the local screening service grading or administrative process • delays in availability of consultation appointment within the hospital eye department • failure by the patient to attend for assessment. <p>Reference: DES Failsafe procedures¹⁰</p>
Definitions	<p>1. Urgent referrals</p> <p>Numerator: number of people referred to the hospital eye service with a <u>final grading outcome</u> of R3A in the worst eye attending a <u>first consultation</u> in the hospital eye service within 6 weeks of their screening or surveillance event which occurred within the reporting period [PPR field 6.3a].</p> <p>The hospital eye service appointment can occur outside the reporting period but must occur within 6 weeks of the screening or surveillance event.</p> <p>Denominator: number of people referred to the hospital eye service with a <u>final grading outcome</u> of R3A in the worst eye from a screening or surveillance event, which occurred within the reporting period [PPR fields 6.2.1a and 6.2.1b].</p> <p>2. Routine referrals</p>

Numerator: number of people referred to the hospital eye service or digital surveillance clinic with a final grading outcome of R2 or M1 attending a first consultation in the hospital eye service or digital surveillance clinic within 13 weeks of their screening or surveillance event, which occurred within the reporting period [PPR fields 6.3b to 6.3d plus 10.1.3.2a plus 10.1.3.2b].

The hospital eye service or digital surveillance appointment can occur outside the reporting period but must occur within 13 weeks of the screening event.

Denominator: number of people referred to the hospital eye service digital surveillance clinic with a final grading outcome of R2 or M1 in the worst eye from a screening or surveillance event which occurred within the reporting period [PPR fields 6.2.1d to 6.2.1g plus 10.1.3.3a plus 10.1.3.3b].

Excluded: patients currently in hospital eye services for diabetic retinopathy (this must be verifiable) are not included in this indicator.

All other referred patients should be included in the denominator, regardless of subsequent findings in the hospital eye service. Exceptions can be reported through the DES quarterly reporting process.

The screening event generating the referral may be

- a) routine digital screening
- b) digital surveillance
- c) slit lamp biomicroscopy

The attended appointment may occur within or outside the reporting period.

Thresholds	1. Urgent	2. Routine
	Acceptable: ≥80% 6 weeks	Acceptable: ≥70% 13 weeks
		Achievable: ≥95% 13 weeks
Mitigations	It is not possible for the screening software to differentiate between low risk and high risk R3A. To minimise the risk of harm all R3A referrals are classed as high risk.	
Reporting	<p>Data will only be published annually due to small numbers.</p> <p>Data can be reported over a quarterly or 12 month period.</p> <p>Data collected by the local screening provider from the hospital eye service.</p> <p>Patients not meeting the standard should be exception reported to the programme board.</p>	
Equity impact	Review of this standard at a local level will indicate if specific groups do not enter, complete the screening pathway or do not access services within optimal timescales. Equity impact assessments and the NHS	

England Equality Delivery Scheme are tools to improve equity of access.

DES-PS-13

Theme 6	Intervention/ treatment
Objective	To ensure timely consultation for people with diabetes whose images are recorded as <u>ungradable</u> .
Criteria	Time between digital screening event and first attended consultation in <u>slit lamp biomicroscopy surveillance</u> .
Rationale	People with diabetes whose images are <u>ungradable</u> at <u>routine digital screening</u> or <u>digital surveillance</u> should be referred to <u>slit lamp biomicroscopy</u> in a timely manner as they can still be screened and may have retinopathy.
Definitions	<p>Numerator: number of people with <u>ungradable</u> image(s) referred to slit lamp biomicroscopy during the reporting period attending an appointment at a <u>slit lamp biomicroscopy</u> clinic within 13 weeks of their last digital screen date [PPR field 9.1.4].</p> <p>Denominator: number of people referred to slit lamp biomicroscopy surveillance during the reporting period [PPR field 9.1.3].</p> <p>People with diabetes who are being seen in surveillance clinics with <u>screen positive</u> diabetic retinopathy (R2, M1, R3S) who develop <u>ungradable</u> images (e.g. due to cataracts) should be referred to the Hospital Eye Service and are therefore not included in this standard.</p>
Thresholds	<p>Acceptable: ≥70% within 13 weeks.</p> <p>Achievable: ≥95% within 13 weeks.</p>
Mitigations	It is recognised that a small number of people will have eyes that are <u>ungradable</u> due to extensive media opacity (e.g. due to previous trauma) and the clinical lead may make a decision to base the screening outcome and future screening method on the one gradable eye.
Reporting	<p>Data can be reported over a quarterly or 12 month period.</p> <p>Data collected by local screening provider.</p>
Equity impact	Review of this standard at a local level will indicate if specific groups do not enter, complete the screening pathway or do not access services within optimal timescales. Equity impact assessments and the NHS England Equality Delivery Scheme are tools to improve equity of access.

Appendix 1: Abbreviations

Acronym	Definition
CQRS	Calculating Quality Reporting Service
DES	Diabetic Eye Screening
GP	General Practice
KPI	Key performance indicator
NDESP	NHS Diabetic Eye Screening Programme
NHS	National Health Service
PHE	Public Health England
PS	Pathway standard
SLBS	Slit lamp biomicroscopy surveillance
SI	Sight impairment
SQAS	Screening Quality Assurance Service
SSI	Severe sight impairment
TAT	Test and Training
UK NSC	United Kingdom National Screening Committee

Appendix 2: Glossary

Term	Definition
accept	A response to an offer which indicates that a person with diabetes is willing to proceed with a routine digital screening event.
acceptance of offer	The proportion of those offered screening who accept the offer.
actionable referral outcome grade	The referral outcome (as opposed to the grading outcome) that determines the next step in the screening and treatment pathway for the person with diabetes once their imagesets have been graded.
communication	An interchange that the individual is capable of understanding and acting upon.
completeness of offer	The proportion of those eligible for screening who are offered screening.
consultation	Attendance at a hospital eye service for assessment of retinopathy and/or maculopathy.
digital surveillance (DS)	The pathway under which a person with diabetes requires monitoring on a more frequent basis than annual routine digital screening but there is no current requirement for the person with diabetes to be referred to HES.
digital surveillance event	Attendance for a digital surveillance appointment by a person with diabetes
DNA	Did not attend. Applies to appointments where a fixed date was assigned.
DNR	Did not respond. Applies to open or partial invitations where the person with diabetes is required to contact the screening provider to arrange a fixed appointment date.
due date	The date on which a subsequent appointment is due. If a person with diabetes on an annual screening interval is screened on 01/04/2015 their next due date will be a year later on 01/04/2016.
eligible	A person on the programme register who; <ul style="list-style-type: none"> • is aged 12 years and over and • has a diagnosis of diabetes mellitus (excluding gestational diabetes) • excluding those who do not have perception of light in both eyes
exception	When a digital image cannot be taken due to e.g. technical failure, operator error or administration discrepancies.
excluded	People with diabetes who are on the register but not invited due to having opted-out of screening or being classed as medically unfit.

final grading outcome	Following internal quality assurance procedures, the assessment of a level of diabetic retinopathy from the evidence as presented.
first appointment	The initial offer given to a person with diabetes who has not been previously invited since being added to the screening programme register. Must be a realisable appointment within three months of invitation being sent.
first RDS event/ first screening	The first attendance at RDS event when the person with diabetes has not previously attended a RDS event, since being added to the screening programme register.
first consultation	An appointment with a specialist directly resulting from a referral from a screening service.
full grading	A determination by a grader for the level of diabetic retinopathy.
HES	Hospital Eye Service
imageset	The set of images which are captured for a single person with diabetes during screening. Usually, an imageset consists of four images – one macular and one nasal for each eye.
ineligible	People with diabetes who are on the register but are not eligible for screening due to having no perception of light in both eyes.
invitation	See invited.
invited	Formal communication made by the screening service for a screening event to take place within the reported time period
issuing	The production of result notification, e.g. printing and dispatch of notification letters, emails or telephone call.
notification	The issuing of a result letter.
offer	Formal communication made by the screening service for a screening event to take place within the reported time period
off-register	People with diabetes who are not on the screening programme register due to being categorised as; deceased, moved out of area, not diabetic, under 12, seen at another provider or refused demographic transfer.
positive test	Any disease outcome (i.e. presence of retinopathy and/or maculopathy, or ungradable).
referred	An appropriate referral request was made.
referred as	With a final grading outcome as specified.
register	Collated list of people with diabetes under this screening provider who are either eligible or ineligible for screening.
result letter	An appropriate indication to an entitled party (minimum of person with diabetes, and their GP and health professional), being issued/printed of: <u>a. the date at which the person with diabetes was screened</u> <u>b. the final outcome of grading the person with diabetes' imagesets</u> <u>c. the action recommended</u>

routine digital screening (RDS)	The first stage of the screening pathway where digital images are obtained, graded and a referral outcome is decided.
routine digital screening event	Attendance for a routine digital screen appointment where digital images were obtained for the person with diabetes.
slit lamp biomicroscopy surveillance (SLBS)	The pathway under which people with diabetes are managed following RDS, where people with diabetes for whom adequate retinal examination cannot be obtained by retinal photography, are examined by SLB.
slit lamp biomicroscopy surveillance event	Attendance for a SLBS appointment by a person with diabetes
surveillance	See digital surveillance and slit lamp biomicroscopy surveillance
suspended	Eligible people with diabetes who are on the register but not invited for RDS due to receiving screening in DS or SLBS, or receiving treatment in HES.
ungradable	Image fails to meet the definition of adequate image quality. See the document <i>Exclusions, suspensions and management of ungradable images</i> for further guidance.

Appendix 3: References

1. Donabedian, Avedis. "Evaluating the quality of medical care." The Milbank memorial fund quarterly (1966): 166-206.
2. Diabetic Eye Screening Dataset Summary. Available at: <https://www.gov.uk/government/publications/diabetic-eye-screening-des-national-data-reporting-specifications>
3. Programme Performance Report template. Available at: <https://www.gov.uk/government/publications/diabetic-eye-screening-des-national-data-reporting-specifications>
4. Dataset Calculations for the Programme Performance Report. Available at: <https://www.gov.uk/government/publications/diabetic-eye-screening-des-national-data-reporting-specifications>
5. NICE guidance on Type 1 diabetes in adults: diagnosis and management (NG17). Available at: <https://www.nice.org.uk/guidance/ng17>.
6. NICE guidance on Type 2 diabetes in adults: management (NG28). Available at: <https://www.nice.org.uk/guidance/ng28>.
7. NICE guidance on Diabetes in pregnancy: management of diabetes and its complications from pre-conception to the postnatal period (NG3). Available at: <https://www.nice.org.uk/guidance/ng3>.
8. Overview of patient pathway, grading pathway, surveillance pathways and referral pathways. Available at:
9. Diabetic Eye Screening Programme Service Specification: <https://www.england.nhs.uk/commissioning/pub-hlth-res/>.
10. DES Failsafe procedure: <https://www.gov.uk/government/publications/diabetic-eye-screening-programme-failsafe-procedures>
11. DES Standards and Performance objectives v1.10.