



# NHS Screening Programmes in England

1 April 2015 to 31 March 2016



December 2016

# The big picture

During 2015 to 2016

We carried out more than **21 million** screening tests for all conditions.

More than **450,000** individuals required further testing or treatment following positive screening test results.

We screened **3.1 million** women for cervical abnormalities.

Cervical screening saved an estimated **5,000** lives.

**2.4 million** people with diabetes had eye screening.

We referred **7,500** people with sight-threatening diabetic retinopathy for further treatment.

We screened **2.2 million** people for bowel cancer.

We screened about **620,000** pregnant women for a fetal anomaly, hepatitis B, HIV, syphilis, sickle cell disease and thalassaemia.

We screened around **700,000** babies for 15 conditions (14 for baby girls).

The **millionth** man in England was screened for abdominal aortic aneurysm.

Top right cover picture courtesy of NHS photo library.

# Contents



Introduction	04-05
What do we screen for?	06-07
2015 to 2016 screening data	08-13
Quality assurance interventions make major impact in preventing cancers (bowel cancer screening)	14-15
Focus on training and recruitment plans to solve significant workforce challenge (breast screening)	16-17
Pilot proves pulse oximetry is feasible but we need to do more work (newborn and infant physical examination)	18-19
Making best use of data helps improve detection of serious heart conditions (fetal anomaly screening)	20-21
Celebrating 10 years improving the life chances for babies born with hearing loss (newborn hearing screening)	22-23
Consistent comparable data is central to reducing variation between services (diabetic eye screening)	24-25
The end of antenatal rubella screening (infectious diseases in pregnancy screening)	26
Research: cervical screening is working (cervical screening)	27
Thousands helped over past decade (sickle cell and thalassaemia screening)	28
Driving up blood spot testing quality (newborn blood spot screening)	29
IT system ensures programme safety (abdominal aortic aneurysm screening)	30
Finances	31

# Introduction

England's screening programmes are world leading and responsible for saving thousands of lives every year.

In the year from 1 April 2015 to 31 March 2016, the 11 NHS national screening programmes, led by Public Health England (PHE), carried out around 20 million screening tests. These are the first steps on a journey which, for around 450,000 individuals, led to further testing that may result in diagnosis and essential treatment.

It is because of screening that there are an estimated 5,000 fewer cases of cervical cancer every year – just one of many examples that highlight the work of the NHS Screening Programmes in England to turn evidence into high quality interventions that improve the public's health. We would like to thank all the national and local screening teams for their continued hard work and excellence.

Screening programmes differ from other large scale prevention programmes in that they approach people with no symptoms and who are not actively seeking care. This means they are held to a higher ethical and quality standard to prevent any undue harm to someone who had never asked to be screened in the first place.

The NHS constitution requires that proposals to run screening programmes are reviewed and recommended by the UK National Screening Committee (UK NSC) and that people are supported to make their own informed decision about whether to participate. The UK NSC assesses the latest evidence in order to improve

existing programmes and examine proposals for new ones.

Last year the UK NSC recommended several changes, which are explained in more detail in the annual evidence report, '[Screening in the UK: making effective recommendations 2015 to 2016](#)'.

One important change will be switching to the faecal immunochemical test (FIT) for bowel screening, which is easier to use and more accurate than the current faecal occult blood test (FOBT). English trials have also shown that it is

“ *The NHS Screening Programmes turn evidence into high quality interventions that improve the public's health.* ”

more acceptable to people. We will be working with the NHS to implement FIT by April 2018 and expect to see a positive impact on improving screening for people from

ethnic minorities and deprived backgrounds – a core objective for PHE in reducing inequalities.

We continually work to improve existing programmes through quality assurance interventions, IT developments and data analysis. The successful intervention by PHE's Screening Quality Assurance Service into the bowel cancer programme this year will directly increase the number of bowel cancers prevented by screening, reducing the burden of disease and saving lives.

Collecting, analysing and comparing good quality data is also critical. This year data analysis has enabled the fetal anomaly programme to improve the detection of serious heart conditions and

driven significant improvements in the diabetic eye programme, reducing variation between local services.

We celebrated some significant landmarks this year. The newborn hearing programme marked its 10th anniversary of full implementation across England. During that time more than 7 million babies have been screened, leading to the diagnosis of more than 13,500 babies with a hearing impairment.

The sickle cell and thalassaemia (SCT) programme also celebrated 10 years of newborn screening for sickle cell disease (SCD) as part of the newborn blood spot screening test. The SCT programme has identified around 3,600 babies with SCD and nearly 270 with beta thalassaemia

major. Early identification of these serious inherited blood conditions helps prevent serious illness and death in many babies.

Very occasionally, evidence leads us to stop screening for a condition, and on 1 April 2016 we stopped antenatal screening for rubella susceptibility. This was due to a great achievement for public health – the eradication of rubella as a result of the combined measles, mumps and rubella (MMR) vaccination.

The reach and influence of English screening programmes – nationally and internationally – is of vital importance to the public's health. We would like to thank all our colleagues across PHE and the NHS who make these programmes work on a daily basis.



**Duncan Selbie**  
Chief Executive  
Public Health England



**Dr Anne Mackie**  
Director of Screening  
Public Health England

# What do we screen for?

## NHS Abdominal Aortic Aneurysm Screening Programme

The NHS Abdominal Aortic Aneurysm (AAA) Screening Programme reduces premature deaths from ruptured AAAs among men aged 65 and over by up to 50% through early detection, appropriate follow-on tests and referral for potential treatment. It offers all men an ultrasound scan of the abdomen during the year they turn 65 while men over 65 who have not previously been tested can self-refer for screening.

## NHS Bowel Cancer Screening Programme

The NHS Bowel Cancer Screening Programme detects bowel cancer at an early stage when treatment is more likely to be effective. Bowel cancer screening also detects polyps, which are not cancers but may develop into cancers over time. Polyps can be removed, reducing the risk of bowel cancer developing. A screening kit is offered to men and women aged 60 to 74 every 2 years. The kit is completed at home and posted to a laboratory for analysis. A one-off bowel scope screening test, using flexible sigmoidoscopy, for those aged 55, is also being implemented across England. This test uses a narrow, flexible video camera called a sigmoidoscope to look inside the rectum and bowel.

## NHS Breast Screening Programme

The NHS Breast Screening Programme reduces the number of deaths from breast cancer by finding signs of disease at an early stage. Breast screening uses mammography (x-rays) to look for abnormalities in breast tissue. Women in England and Wales aged 50 to 70 are invited for breast screening every 3 years. Women over 70 can continue to have breast screening by making an appointment at their local screening unit every 3 years.

## NHS Cervical Screening Programme

The NHS Cervical Screening Programme prevents cancer by detecting abnormalities of the cervix and referring for potential treatment. The programme uses liquid based cytology – still sometimes called a smear – to collect samples of cells from the cervix. These samples are examined in a laboratory to look for any abnormal changes in the cells. Screening is offered every 3 years to all women aged 25 to 49 and every 5 years to those aged 50 to 64.

## NHS Diabetic Eye Screening Programme

The NHS Diabetic Eye Screening Programme reduces the risk of sight loss in people with diabetes through the early detection, appropriate monitoring and referral for treatment of diabetic retinopathy, which is one of the biggest causes of blindness among people of working age. It offers screening every 12 months to all people with diabetes aged 12 and over.

## NHS Fetal Anomaly Screening Programme

The NHS Fetal Anomaly Screening Programme offers ultrasound scanning to all pregnant women to assess the chance of their baby being born with Down's syndrome or abnormalities with the fetus. The first scan usually takes place 10 to 14 weeks after conception and includes a blood test for Down's syndrome. A scan for fetal abnormalities takes place around 18 to 21 weeks. This allows for further diagnostic tests if required and time for women to consider and choose from the options available.

## NHS Infectious Diseases in Pregnancy Screening Programme

The NHS Infectious Diseases in Pregnancy Screening Programme recommends screening for all pregnant women for hepatitis B, HIV and syphilis. The programme identifies women with hepatitis B, HIV or syphilis so they can be offered appropriate follow-on tests and treatments, substantially reducing the risk of passing on the infection to their babies.

## NHS Newborn and Infant Physical Examination Programme

The NHS Newborn and Infant Physical Examination Programme uses a detailed physical examination to screen newborn babies for problems with their eyes, heart, hips or testes. Screening helps ensure early detection and diagnosis of several congenital medical conditions and can reduce the amount of treatment required and the likelihood of long-term disability.

## NHS Newborn Blood Spot Screening Programme

The NHS Newborn Blood Spot Screening Programme screens newborn babies for 9 rare but serious conditions: phenylketonuria (PKU), congenital hypothyroidism (CH), sickle cell disease (SCD), cystic fibrosis (CF), medium-chain acyl-CoA dehydrogenase deficiency (MCADD), maple syrup urine disease (MSUD), isovaleric acidaemia (IVA), glutaric aciduria type 1 (GA1) and homocystinuria (HCU). The programme uses a heel prick test to collect spots of blood which are tested to find babies who have one of the conditions. Babies who test positive can then be treated early, improving their health and, in some cases, preventing severe disability or even death.

## NHS Newborn Hearing Screening Programme

The NHS Newborn Hearing Screening Programme offers a hearing screening test for babies during the first few weeks of their lives to find those who are born with hearing loss. These children and their families can then be offered the right support, treatment and information as early as possible, helping ensure they can reach their full educational and social potential.

## NHS Sickle Cell and Thalassaemia Screening Programme

The NHS Sickle Cell and Thalassaemia (SCT) Screening Programme uses a questionnaire about family origin and, if necessary, offers blood tests to screen pregnant women for 2 serious inherited blood conditions – sickle cell disease and thalassaemia major. It also screens newborn babies for sickle cell disease. People who have these conditions need specialist care throughout their lives. The SCT programme helps find those at risk and gives parents time to consider the options available. It also means babies who have either condition can be given the best support and treatment from the very start.

# 2015 to 2016 screening data

NHS Abdominal Aortic Aneurysm (AAA) Screening Programme	
Eligible for screening (2015 to 2016 cohort <sup>i</sup> )	284,971
Offered screening	284,583
Tested (2015 to 2016 cohort <sup>i</sup> )	227,543
Coverage (2015 to 2016 cohort <sup>i</sup> )	79.8%
Tested (self referrals)	21,091
AAAs detected (total)	3,164
AAAs detected (cohort)	2,549
Incidence (cohort)	1.1%
AAAs detected (self-referrals)	615
Incidence (self-referrals)	2.9%
Men on surveillance at end of year	13,104
Referrals to surgery	723
Elective AAA repairs	568
Deaths from elective repairs	8 (1.4%)
Ruptures	10
Deaths from rupture	9 (90%)

<sup>i</sup> Men registered with a GP in England and born between 1 April 1950 and 31 March 1951

**Data source:** AAA SMaRT **Data extracted:** 9 August 2016

NHS Breast Screening Programme (provisional data)	
Number of women tested (all ages)	2,167,230
Uptake of screening (all ages)	75.8%
Screening round length (50 to 70 year olds) <sup>i</sup>	87.0%

<sup>i</sup> Percentage of women aged 50 to 70 invited within 36 months of previous screening, or previous invitation if they did not attend

NHS Digital is responsible for publishing official statistics for the NHS Breast Screening Programme.

NHS Digital has allowed the Screening Quality Assurance Service (SQAS) to publish this provisional data for 2015 to 2016 data based on in-house analysis, prior to official publication expected February 2017.

Please note that it is possible these SQAS figures will be different to the validated official statistics.

Number of tests and uptake are based on screening records held for women of all ages. Screening round length is based on women aged 50 to 70 only, by definition.

NHS Bowel Cancer Screening Programme (gFOBt) <sup>i</sup>	
Number of people invited <sup>ii</sup>	4,281,958
Number of people adequately screened <sup>iii</sup>	2,408,144
Number of people definitively gFOBt abnormal <sup>iv</sup>	46,601
Uptake <sup>v</sup>	56.2%
Positivity <sup>vi</sup>	1.9%
Number of people diagnosed with cancer <sup>vii</sup>	3,057
Number of people diagnosed with high risk adenomas <sup>vii</sup>	4,041
Number of people diagnosed with intermediate risk adenomas <sup>vii</sup>	5,270
Number of people diagnosed with low risk adenomas <sup>vii</sup>	8,365
Number of people diagnosed with abnormal findings <sup>vii viii</sup>	11,605

These data relate to the invited population only. Episodes which originate from requests for screening / attendance at programme surveillance tests are excluded.

<sup>i</sup> gFOBt is the guaiac faecal occult blood test used in the bowel cancer screening programme.

<sup>ii</sup> One invite sent per screening subject episode. A screening subject can have multiple episodes during their 'bowel cancer screening lifetime'. Number of people invited does not include requests for screening such as over-age self-referral, later responder or opt back-in episodes.

<sup>iii</sup> Of those invited, the number reaching a definitive gFOBt outcome of either 'normal' or 'abnormal' from potentially multiple gFOB test kits. Screening subjects can receive and return more than one test kit within an episode

<sup>iv</sup> Of those invited and adequately screened, the number reaching a definitive gFOBt outcome of 'abnormal' from potentially multiple gFOB test kits. People who reach a definitive outcome of gFOBt abnormal are then referred for a colonoscopy fitness assessment

<sup>v</sup> Percentage of people adequately screened (<sup>iii</sup>) out of those invited (<sup>ii</sup>) for gFOBt screening. No adjustment is made for undelivered letters and/or test kits.

<sup>vi</sup> Percentage of people with a definitive gFOBt outcome of 'abnormal' (<sup>iv</sup>) out of those who were adequately screened (<sup>iii</sup>) via gFOBt screening. Positivity is calculated from the invited population only. No adjustment is made for undelivered letters and/or test kits.

<sup>vii</sup> The episode outcomes presented here are for the invited (<sup>ii</sup>) population only (for the specified fiscal year). Specifically, those invited (<sup>ii</sup>) who were found to be definitively gFOBt abnormal (<sup>iv</sup>), who went on to have a diagnostic test (one or more) within the episode. It is important to note that episode outcomes are calculated from the findings of potentially multiple endoscopic / radiological tests within the episode. A patient can only have one episode outcome per episode.

<sup>viii</sup> Abnormal findings can be for any of the following results:

- non-neoplastic diagnosis (such as diverticular disease, haemorrhoids, inflammatory bowel disease)
- non-adenomatous polyp (such as hyperplastic, inflammatory, Peutz-Jeghers polyp)
- non-adenomatous polyp & non-neoplastic diagnosis
- people who have polyps seen at a radiological test only, so no histological confirmation is possible

NHS Bowel Cancer Screening Programme data is extracted from the Bowel Cancer Screening IT system (BCSS), using the reporting tool OBIEE.

Data extracted on 26 October 2016.

## 2015 to 2016 screening data

NHS Cervical Screening Programme	
Number of eligible women <sup>i</sup>	14,436,410
Number of women invited for screening <sup>ii</sup>	4,208,888
Number of women tested	3,086,175
Coverage <sup>iii</sup>	72.7%
Number of screen positive women <sup>iv</sup>	186,901

**Data source:** Cervical Screening Programme: England, Statistics for 2015-16 bulletin, published by NHS Digital on 15 November 2016. This data is now in the public domain.

<sup>i</sup> The registered female population minus any women ceased for clinical reasons (such as after a hysterectomy).

<sup>ii</sup> Number invited for screening is only a part of the eligible population as women are screened at 3-year (aged 25 to 49) or 5-year (aged 50 to 64) intervals.

<sup>iii</sup> This is the headline figure from NHS Digital which is the % of eligible women who were screened adequately within the previous 3.5 years, for women aged 25 to 49, and 5.5 years for women aged 50 to 64.

<sup>iv</sup> Number of screen positive women equals number of tests minus (number of inadequate samples plus number of negative samples)

NHS Diabetic Eye Screening Programme	
Eligible people with diabetes known to programme	3,083,401
Offered screening (routine digital screening)	2,590,082
Tested (routine digital screening)	2,144,007
Uptake	82.8%
New registrations to programmes	326,587
Urgent referrals (R3A) <sup>i</sup>	7,593
Routine referrals (R2M1, R2M0, R1M1) <sup>i</sup>	52,597
Rate of retinopathy per 100,000 screened (R3A, R2M1, R2M0, R1M1) <sup>i</sup>	2,807

**Data source:** programme performance reports and programme screening to treatment timeline trackers

**Data collected:** October 2016

The Kent and Medway diabetic eye screening service moved to the common pathway in July 2015, so its data is not complete for the year.

In November 2015 the London programmes were reprocurd and the Bexley, Bromley and Greenwich service was moved on to the common pathway as part of the formation of the new South East London service. Its data may also be incomplete for the year.

The Peterborough and Cambridgeshire, South East Essex and Southwest and West Essex ceased on 31 March 2016 and their data has not been validated

<sup>i</sup> See the NHS Diabetic Eye Screening Programme's information sheet for health professionals for definitions of the RxMx grading system

NHS Fetal Anomaly Screening Programme	
Number of tests performed	508,900
Number of women at higher risk	13,920
Number of sonographers going through DQASS	2263
DQASS <sup>i</sup> % red flags	0.2%
DQASS % red4 flags	2.2%
DQASS % amber flags	35%
DQASS % green flags	60.5%
DQASS % no flags	2.4%

<sup>i</sup> DQASS is the Down's syndrome Screening Quality Assurance Support Service. DQASS aims to improve the calculation of antenatal screening risk for Down's, Edwards' and Patau's syndromes by supporting and assisting local screening programmes. DQASS has been running for 10 years.

Flags are assigned to a dataset of nuchal translucency (NT) and crown rump length (CRL) measurements. These flags indicate the bias of the dataset. This is the extent of the measurement deviation from the Fetal Medicine Foundation (FMF) reference curve. The flag system is designed to help to identify where to focus training efforts. Green flag: NT bias less than or equal to 0.10mm. Amber flag: NT bias between 0.11mm and 0.40mm. Red flag: NT bias greater than 0.40mm. Red4 flag: assigned if fewer than 25 paired measurements over 4 cycles. No flag: assigned if a trainee sonographer has fewer than 25 paired measurements.

NHS Infectious Diseases in Pregnancy Screening Programme	
<b>HIV</b>	
Uptake	Not available <sup>i</sup>
Eligible population	627,963
Number of tests	622,089
Coverage	99.1%
Number of positive results	Not available <sup>i</sup>
Percentage newly diagnosed	Not available <sup>i</sup>
<b>Syphilis</b>	
Uptake	Not available <sup>i</sup>
Number of tests	Not available <sup>i</sup>
Number of positive results	Not available <sup>i</sup>
<b>Hepatitis B</b>	
Uptake	Not available <sup>i</sup>
Number of tests	Not available <sup>i</sup>
Number of pregnant women with hepatitis B	2,911
Seen by specialist within 6 weeks of identification	73.4%
Percentage newly diagnosed	Not available <sup>i</sup>

These figures are based on annual KPI data for ID1 and ID2. Trusts are excluded where complete data was not submitted for all 4 quarters. Exclusions made are: ID1: 23 out of 144 (16%); ID2: 2 out of 144 (1.5%).

<sup>i</sup> Due to some data irregularities, the National Antenatal Infection Screening Monitoring (NAISM) data was not available at the time of publication.

# 2015 to 2016 screening data

## NHS Newborn Blood Spot Screening Programme

Cystic fibrosis		Phenylketonuria (PKU)	
Babies tested	667,443	Babies tested	672,766
Screened positive 1st sample <sup>i</sup>	142	Babies screened positive <sup>i</sup>	77
Screened positive 1st sample and 1st appt within 28 days	90	Screened positive and 1st appt within 17 days	71
Screened positive 2nd sample <sup>i</sup>	99	<b>Medium-chain acyl-CoA-dehydrogenase deficiency (MCADD)</b>	
Screened positive 2nd sample and 1st appt within 35 days	42	Babies tested	672,766
<b>Congenital hypothyroidism (CHT)</b>		Babies screened positive <sup>i</sup>	71
Babies tested	672,872	Screened positive and 1st appt within 17 days	67
Screened positive 1st sample <sup>i</sup>	270	<sup>i</sup> excludes babies clinically diagnosed before screening	
Screened positive 1st sample and 1st appt within 17 days	189	<b>Coverage of the newborn blood spot programme was 94.3%. This is the % of newborn babies tested and recorded on the Child Health Information System at 17 days.</b>	
Screened positive 2nd sample <sup>i</sup>	290		
Screened positive 2nd sample and 1st appt within 24 days	94		

## NHS Newborn Hearing Screening Programme

Number of screens completed	660,279
Percentage of babies tested (coverage) <sup>i</sup>	98.1%
Percentage declining screening	0.06%
Number of referrals <sup>ii</sup>	17,936
Percentage referred to hearing services (target ≤3%)	2.6%
Percentage referrals who attended follow-up within 4 weeks (target ≥90%) <sup>iii</sup>	87.4%
Number of babies with confirmed hearing impairment in both ears	595
Rate of babies with confirmed hearing impairment in both ears per 1,000 screened (yield)	1.1

**Data source:** eSP/PMS **Data extracted:** 22 November 2016

Figures exclude babies born or currently in Wales

<sup>i</sup> coverage is the KPI data for NH1. It excludes babies currently less than 90 days corrected age and deceased babies

<sup>ii</sup> immediate referrals from the screen, includes incompletes who require a referral

<sup>iii</sup> excludes babies currently less than 30 days corrected age and deceased babies

## NHS Newborn and Infant Physical Examination Programme

Number of eligible babies	352,498
Number of eligible babies tested	338,233
Screening outcome set within 72 hours	329,343
Percentage outcome set within 72 hours	93.4%
Screen complete within 72 hours	312,309
Percentage screen complete within 72 hours	88.6%
Declined screen	36
Percentage declining	0.01%
Referrals - hip	33,606
Percentage of eligible babies referred - hip	9.5%
Referrals - heart	5,672
Percentage of eligible babies referred - heart	1.6%
Referrals - testes	3,017
Percentage of eligible male babies referred - testes	1.7%
Referrals - eyes	827
Percentage of eligible babies referred - eyes	0.23%

**Data source:** NIPE SMaRT **Data extracted:** 22 November 2016

Please note that NIPE SMaRT is not rolled out across the country, so this is not full cohort data. On 1 April 2015, 42 out of 139 providers were using NIPE SMaRT. This rose to 97 by 31 March 2016.

## NHS Sickle Cell and Thalassaemia Screening Programme

Antenatal screening		Newborn screening	
Antenatal samples screened	706,041	Newborn samples screened	667,800
Coverage	99.1%	Screen positive results	265
Percentage of women declining	0.20%	Rate of screen positive babies	1 in 2,520
Percentage of women tested by 10 weeks	51.80%	Percentage declining	0.20%
Screen positive pregnant women	13,870	Carrier results	8,579
Rate of screen positive women	1 in 51 women screened		
Percentage of fathers tested	60%		
High risk couples detected	772		
Prenatal diagnostic (PND) testing	Not available <sup>i</sup>		
PNDs performed	Not available <sup>i</sup>		
Affected fetal results	Not available <sup>i</sup>		

<sup>i</sup> Sickle cell and thalassaemia data on prenatal tests was not available at the time of publication.

# Quality assurance interventions make

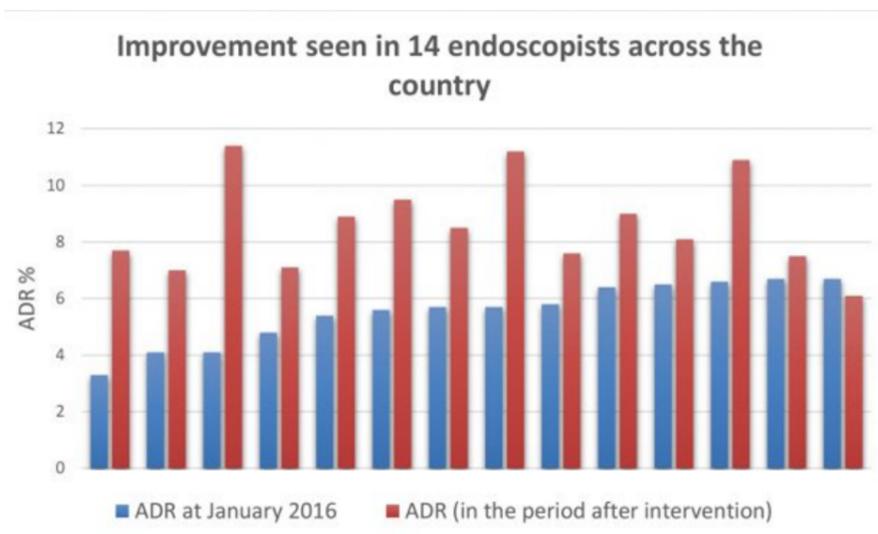
The success of the NHS Bowel Cancer Screening Programme (BCSP) depends on the early detection of cancers or patches of bowel (polyps or adenomas) that could develop into cancers.

This year, the **Screening Quality Assurance Service (SQAS)** worked with local screening services and supported clinicians in finding more adenomas in the bowel scope screening element of the programme.

Screening to reduce or prevent bowel cancer requires expert endoscopists who look into the bowel to find cancers, polyps or adenomas. This task requires skills and experience.

The evidence suggest that for the programme to be effective each endoscopist should find adenomas in a certain proportion of people that they test. This is known as the adenoma detection rate (ADR). The BCSP measures each clinician's ADR performance and supports them if they need more help.

The bowel scope screening programme has set an ADR minimum standard of 6.8%, with a target of 10%, based on research from pilot studies. Findings from these studies suggest endoscopists get better at detecting adenomas as they perform more procedures. However, research also suggests that once endoscopists



## Bowel cancer screening

achieve a certain level they do not continue to improve.

“ *This work will directly increase the number of bowel cancers caught early or prevented.* ”

In some cases this level is below our minimum standard of 6.8%. SQAS works with screening centres to support endoscopists who are not reaching the minimum standard.

A variety of approaches are used to raise individual ADRs, including:

- regular monitoring of ADR data and sharing this information with screening centre clinical directors
- asking screening centre clinical directors for action plans for endoscopists who are not reaching the minimum standard
- putting on workshops to help endoscopists understand how to improve their ADR – tips include taking longer to examine the bowel and withdraw the scope

# major impact in preventing cancers



Action plans to improve ADRs include the following successful interventions:

- regular sharing and discussion of endoscopists' key performance indicator data with comparisons to other endoscopists' data
- mentors or clinical directors observing endoscopists' bowel scope procedures so they can pass on advice and support
- bowel scope endoscopists observing screening colonoscopy lists (within the BCSP) to appreciate the lengths colonoscopists go to in order to find adenomas and polyps
- further training for particular elements of practice such as polypectomy (the technique used to remove polyps)

The chart above left shows the improvement seen in 14 endoscopists who were below the minimum standard of 6.8% in January 2016.

Following action plans and interventions, most endoscopists then performed above the

minimum ADR standard, with many performing above the national average. To continue this improvement, we expect screening centre clinical directors to monitor the ADR performance of bowel scope screening endoscopists regularly. SQAS teams will continue to support this process.

Billie Moores, national QA lead (NHS Bowel Cancer Screening Programme), said: "This work will directly increase the number of bowel cancers prevented."

"This work shows that, if the right level of monitoring and support is put in place, those falling below the minimum standard can improve their performance. We must continue to work with screening endoscopists in a supportive way, as they are in short supply. We must also be mindful that certain minimum standards for the programme must be met so the ultimate outcomes for bowel scope screening are achieved."

# Focus on training and recruitment plans to solve significant workforce challenge

Breast screening requires a large workforce that is highly skilled. Mammography – the specialised medical imaging that provides digital images of the breast tissue – is the fundamental component of the NHS Breast Screening Programme.

We screen around 2.1 million women every year and that number is growing. Over the next 10 years, we expect the number of women aged 50 to 70 eligible for screening to increase by 8%. If the upper age limit for routine screening is extended to 79 as part of the age extension trial, then we expect the number to increase by 28% on top of that.

The breast screening workforce is made up of 4 types of professionals: assistant practitioners, radiographic practitioners, advanced practitioners and consultant practitioners. It is essential for the programme’s future that we have plans in place to recruit, train and retain enough staff in all these roles. That will ensure we can screen all those eligible women who choose to participate and detect breast cancers at the earliest stage to ensure the best possible health outcomes.

The first hard evidence of the scale of the challenge we face came in the Royal College of Radiologists’ (RCR) breast imaging and diagnostic workforce report, published in November 2015.

- The report looked at radiologists, breast physicians, consultant practitioners and advanced practitioners. It found:
- over a third of radiologists were due to retire over the next 10 years
  - staff were doing a significant amount of clinical work outside their contracted activity
  - vacancy rates were running at over 10%



## Breast screening

Anecdotally, we know services struggle to recruit staff. Increasing incidence of breast cancer and demands from women who present to services with symptoms add to that pressure.

This year, we embarked on a major project to tackle this challenge. First, we planned and designed a web-based survey to assess all the radiographic workforce. This first workforce survey since 2002, scheduled for April 2016, was aimed at all radiography managers across the 80 breast screening units in England. It included questions on the age of staff, vacancy

rates, training and qualifications, barriers to entry, career aspirations and rates of long-term leave.

The survey results will give us a detailed picture of our workforce challenges nationally and regionally. We will use this information to inform training and recruitment planning in consultation with the Society and College of Radiographers (SCoR), Health Education England, the Royal College of Radiologists, national breast screening training centres and NHS England.

- Future training and recruitment plans could, for example, include:
- a new higher apprenticeship for assistant practitioners in mammography

“ We need suitable training and recruitment plans to mitigate any risk to the programme. ”

- recruitment of more consultant radiographers
- maximising the expertise of the existing workforce through continuing professional development
- recruitment drive at entry and radiographer levels

Jacque Jenkins, national programme manager of the NHS Breast Screening Programme, said: “This is the biggest challenge facing breast screening. There is no quick fix and we clearly need suitable training and recruitment plans to reduce any risk to the programme.

“We will be working with all our stakeholders to put together a coordinated strategy to plan effective training courses to ‘plug the gap’ for the next 10 years and plan effectively for the future.

“The emphasis will be on ensuring individuals are offered the most appropriate training, in the shortest time, at the best cost for the NHS, to ensure we can continue to offer an excellent quality of service provision.

“The programme certainly faces a challenging time. But, due to the enthusiasm and professionalism of staff currently employed in the programme, I have no doubt we will all work together to provide robust plans to ensure the NHS Breast Screening Programme remains, for many, the envy of the world.”

# Pilot proves pulse oximetry screening is

Each year, around 3,500 babies – or 1 in 200 of all those born in England – have some kind of heart defect.

Babies born with serious heart problems (critical congenital heart disease) are at significant risk of disability or even death if not diagnosed soon after birth.

Historically, we have used antenatal fetal anomaly ultrasound and newborn clinical examination to screen for congenital heart defects. We know that even with the best techniques life-threatening defects can go undetected in newborn babies.

Research has shown that a simple additional screening test – pulse oximetry – could help identify cases of critical congenital heart disease (CCHD) that would otherwise go undetected. Pulse oximetry is quick, painless and safe. It uses a light sensor to assess the level of oxygen in a baby’s blood.

Following a public consultation, the UK NSC proposed a pilot study to:

- understand the impact of implementing newborn pulse oximetry screening on NHS services
- find out if we could roll out pulse oximetry in England as an addition to the existing newborn and infant physical examination (NIPE) screening tests

## Newborn and infant physical examination

The NHS NIPE Programme piloted pulse oximetry in 15 NHS trusts in England during the final 6 months of 2015. The pilot team and pilot trusts worked hard to implement the test or align their existing newborn pulse oximetry screening pathway with the pilot within tight deadlines.

Almost 33,000 babies underwent newborn pulse oximetry screening as part of the pilot.

About half of the 239 screen positive babies had short-term clinical issues, which resolved spontaneously, as they were making the

transition from fetal to newborn blood circulation.

A total of 115 babies were admitted to neonatal units for further assessment. Of these, 86 had an illness that required medical intervention, 8 of whom had CCHD.

The pilot demonstrated in general that it is feasible to introduce pulse oximetry screening in an NHS environment. Pilot trusts described some extra work for staff and occasional pressures on admissions. However, all were able to undertake newborn pulse oximetry screening.

Identifying babies with conditions other than CCHD could be an important additional benefit of pulse oximetry screening. However, it may be that these babies would be picked up in the

# feasible but we need to do more work



normal course of clinical care or even get better on their own without the need for a formal screening programme.

For these reasons we need to consider carefully the balance of risks and benefits for these babies and could only introduce routine pulse oximetry screening after resolving these important issues.

The UK NSC has decided more work needs to be done to understand whether these ‘extra screen positive’ babies get more benefit than harm and to be sure that the money and workforce time would not be better spent on other types of health care.

“ *It is important to identify the cost effectiveness of pulse oximetry screening if it were introduced into routine practice.* ”

Professor Andrew Ewer, whose team carried out the 2012 research that was the basis for the pilot, said: “The pulse oximetry (PO) pilot has

demonstrated that it is feasible to introduce PO screening for critical congenital heart disease in all levels of maternity units.

“The data was similar to published research studies. It is now important to identify the cost effectiveness of PO screening for all babies, rather than just those with heart disease, if it were introduced into routine practice. This work is ongoing.”

## Making best use of data helps improve

We offer all eligible pregnant women a mid-pregnancy scan to assess the risk of a baby being born with certain physical (structural) problems (fetal anomalies).

This scan, part of the NHS Fetal Anomaly Screening Programme (FASP), usually takes place between 18 weeks and 20 weeks plus 6 days of pregnancy.

The programme offers women information to allow them to decide whether they wish to be screened or not. Training of professionals makes this very clear. Our patient and public information is deliberately non-directive. Some women choose not to be screened at all and this choice is respected.

If a woman decides to be screened, the scan aims to identify abnormalities which:

- indicate the baby may die shortly after birth
- may benefit from treatment before or shortly after birth

Identifying conditions that benefit from early treatment means delivery can be planned in an appropriate setting. It also means treatment can be optimised after birth.

During the mid-pregnancy scan, we examine the fetal heart to try to identify if it is developing as expected. We specifically look for structural anomalies that might indicate the baby has a heart defect.

We focus on 4 serious cardiac anomalies in our programme standards:

- hypoplastic left heart (HLH)
- transposition of the great arteries (TGA)



### Fetal anomaly screening

- tetralogy of Fallot (ToF)
- atrioventricular septal defect (AVSD)

Early detection of these conditions is important as affected babies need access to fetal cardiology services immediately after birth. FASP sets a target for local services to detect at least 50% of these serious cardiac anomalies before birth.

We have also introduced a new national standard measuring the detection of the 4 serious heart conditions. This will be reported nationally using data supplied by the Network of Congenital Anomalies and Rare Diseases Registers (NCARDRs) on an annual basis as part of the annual FASP standards report starting in April 2017. Until recently, NCARDRs, which collects and reports outcome data, covered less than half

## detection of serious heart conditions

of England. From April 2016, NCARDRs has expanded to cover the whole of England.

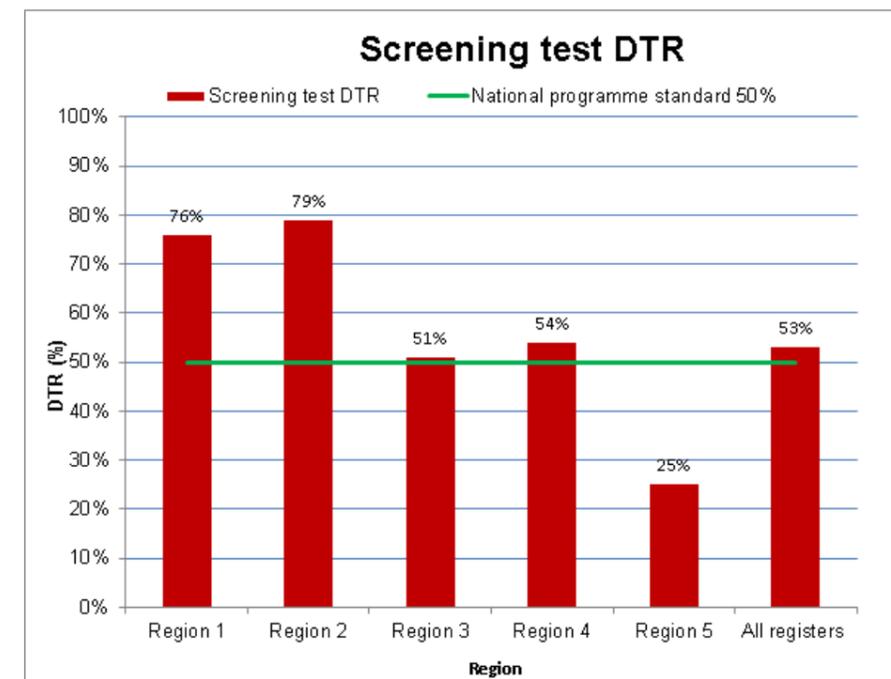
PHE Screening's fetal anomaly screening outcomes project on cardiac anomalies published a report in April 2015 using data from 5 congenital anomalies registers for 2012.

The report showed wide variation in the detection rate of the 4 cardiac anomalies – from 25% to 79% between regions (see chart). As a result, a number of changes were implemented that will help improve the detection of fetal heart anomalies and reduce regional variation.

Research suggests the addition of a more detailed look at the heart, known as the 3 vessel trachea (3VT) view, increases the detection of serious fetal heart anomalies.

We worked with NCARDRs and an expert clinical group, which included fetal medicine specialists and fetal cardiologists, to add the 3VT view to the mid-pregnancy scan protocols. To support the implementation of this view, we developed an online educational resource for all staff who examine the fetal heart as part of the mid-pregnancy anomaly scan.

We delivered theoretical and practical training



for cardiac champions from every sonography provider in England. We also provided resources to help them cascade training to their colleagues at a local level. We expect all providers to implement this view by December 2016.

“ We know that prenatal diagnosis has the potential to improve outcomes for the newborn baby. ”

Pran Pandya, fetal medicine specialist and chair of the

FASP advisory group, said: “There is a steady improvement in the prenatal diagnosis of major congenital heart defects in England.

“The addition of the 3VT view in screening the fetal heart will further improve our national detection rates for major congenital heart defects where we know that prenatal diagnosis has the potential to improve the health of the newborn baby.”

# Celebrating 10 years improving the life

The NHS Newborn Hearing Screening Programme (NHSP) celebrated the 10th anniversary of its full implementation across England this year. During those 10 years, screening has played an important role in identifying hearing loss in newborn babies.

Prompt referral, diagnosis and treatment of babies who do not get a clear response at their screening test has given these children a better chance of developing speech, language and communication skills from an early age.

During the 10 years, more than 13,500 babies have been diagnosed with a hearing impairment thanks to screening. We have screened more

## Newborn hearing screening

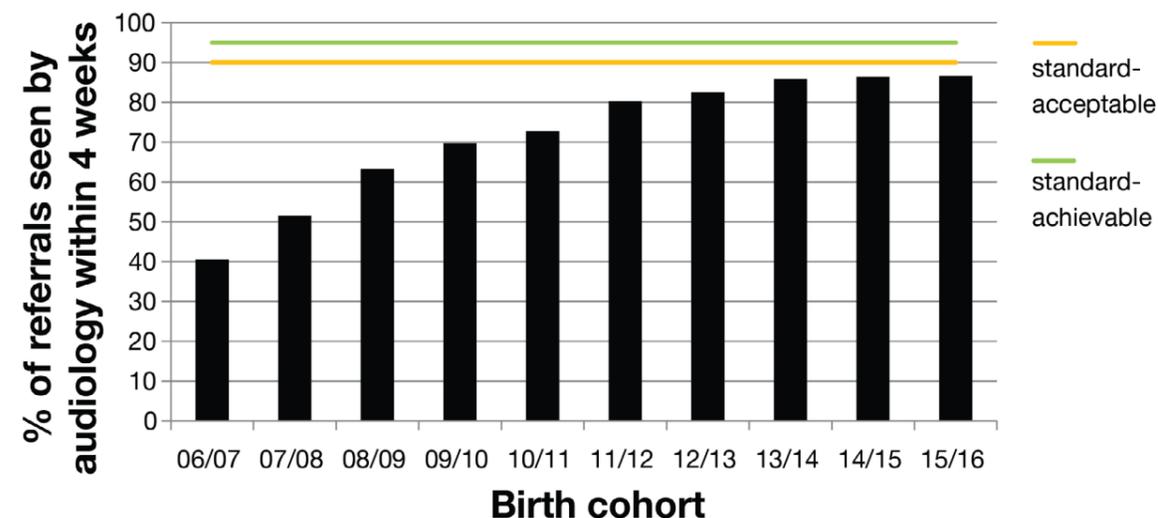
than 7 million babies since the full roll-out of the programme and now screen around 1,800 every day.

Before the introduction of screening, half the cases of moderate and profound hearing loss were not identified until 18 months of age, while a quarter were not identified until children were aged 3½.

Now, with the routine offer of screening to all babies, the average age of diagnosis is just 60 days and the average age an affected child gets fitted with a hearing aid is 90 days.



# chances for babies with hearing loss



We aim to:

- screen babies within the first few weeks of life
- identify those with moderate, severe or profound bilateral (in both ears) permanent childhood hearing loss
- start appropriate intervention by 6 months of age

One to 2 babies in every 1,000 are born with permanent hearing loss in one or both ears. Hearing loss can significantly affect development.

Finding the condition early is very important and appropriate care has a positive effect on their social and emotional development.

The programme's success depends on these babies being followed up quickly by high quality audiology teams. It is easier to complete diagnostic tests with babies who are a few weeks old compared to a few months old.

Early access to audiology services also minimises the period of uncertainty for parents following referral from screening. What happens

at these assessments can affect the rest of a child's life.

Newborn hearing screening coverage – the percentage of newborn babies screened – is very high. This year, we screened 98.1% of babies by 5 weeks and 99.1% by 3 months.

Local screening teams use a variety of methods to maximise coverage, including organising screening appointments for babies who do not complete the screen in hospital and enlisting the support of primary care professionals to contact families that are hard to reach.

We refer about 3% of screened babies for follow-up in audiology. Between 1 April 2015 and 31 March 2016, 87.2% of referred babies (just short of the target of 90%) received an audiological assessment within 4 weeks (see chart above).

Early intervention for these babies is now well within the first 6 months of life and, for most, within the first 3 months. This represents an enormous improvement brought about by universal newborn hearing screening.

# Consistent comparable data is central

Consistency and high quality in screening services are essential to delivering the best outcomes for the public. Central to maintaining that consistency and quality is data. In 2013, we introduced a common screening and referral pathway for the NHS Diabetic Eye Screening (DES) Programme. This aims to ensure people with diabetes receive the same service and care wherever they live in England.

The common pathway included a number of operational changes. It also introduced a standard dataset and reporting template. This means data from each of the 3 DES software systems in England is comparable. Our 70 local screening services now submit data quarterly to the national team for the DES key performance

indicators (KPIs) and programme standards. The local services have improved the quality of the data by checking (validating) their figures and working with the IT companies to improve

reporting. Analysis of data collected since 2013 suggests consistency of the service is improving.

We analysed the consistency of local services by looking at:

- screening uptake
- percentage of ungradable images (images of not good enough quality)
- rate of urgent referrals

This analysis shows that regular collection and feedback of data has helped:

- improve data quality
- increase the attainment of quality standards
- improve access to screening and treatment

## Diabetic eye screening

Uptake appears to have improved due to better quality data – the result of quarterly feedback between local services and software suppliers. Performance improved as programmes moved to common pathway compliant software between November 2013 and November 2015.

We also stopped local services submitting KPIs directly, instead asking them to submit to a single national contact so data submitted is now comparable in terms of definition. Some providers had previously changed data before submission because they misunderstood the inclusion and exclusion criteria.

Operational changes in the common pathway have helped reduce the proportion of retinal photographs that cannot be used to assess the extent of diabetic eye disease.

We have also seen improved consistency in the proportion of patients referred urgently for treatment and the number of treated people who return to routine annual screening.

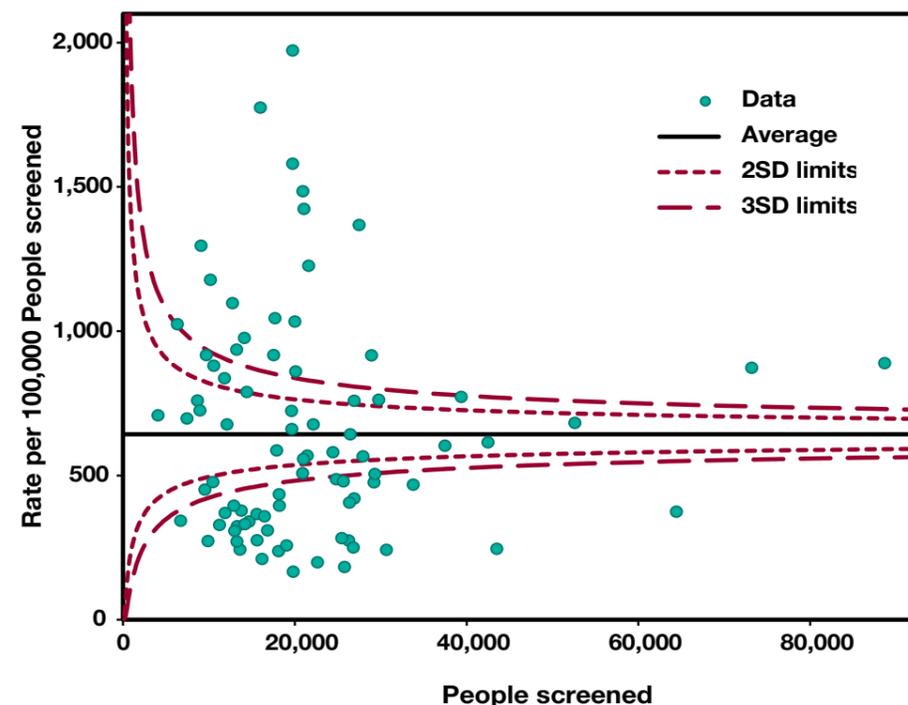
Challenges remain in getting timely and accurate information from hospital eye services to ensure patients with referable disease are seen by a consultant and treated appropriately. Variation also exists between local providers.

We need to do more work but have made significant progress thanks to the introduction of the common pathway and the regular collection and feedback of data.

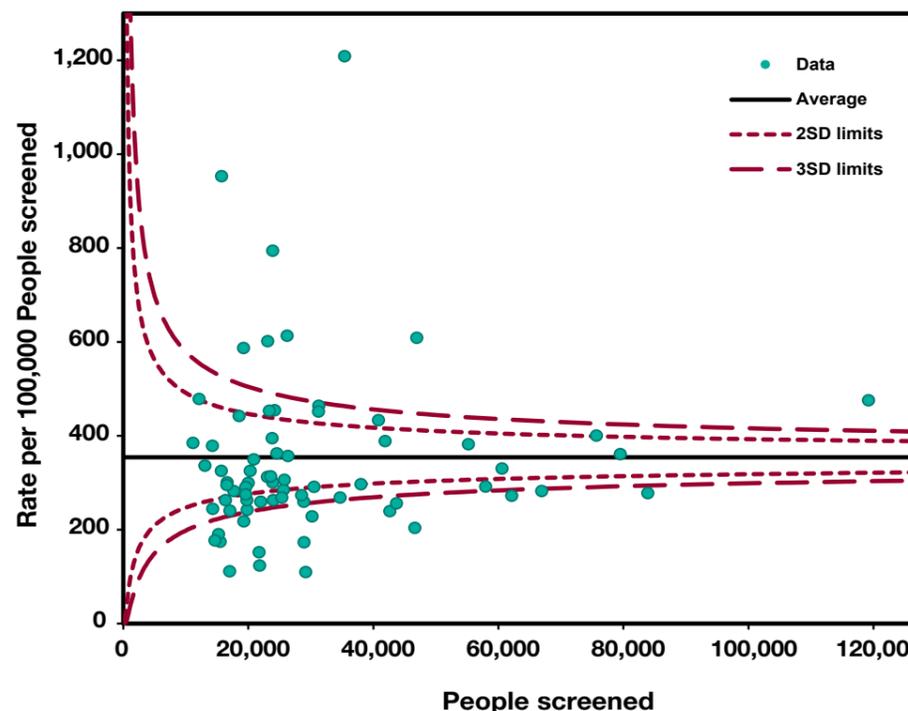
“ Analysis of data collected since 2013 suggests the common pathway is improving consistency. ”

# to reducing variation between services

Rate of fast track referrals (R3) per 100,000 screened  
1 April 2012 to 31 March 2013



Rate of urgent referrals (R3A) per 100,000 screened  
1 April 2015 to 31 March 2016



Each green dot on the funnel plots on the left shows the rate of urgent (formerly fast track) referrals to hospital eye services for each of the local diabetic eye screening services in England. While we expect some variation due to differences in the populations covered, the majority of services should fall between the upper and lower red lines (data within 3 standard deviations of the mean) if they are grading the extent of the disease in the eye consistently. The funnel plot for 2015 to 2016, following the implementation of the common pathway, clearly shows a reduction in variation compared to the funnel plot for 2012 to 2013. The improvement in consistency is partly due to the introduction of the common pathway's definitions of R3A (active proliferative retinopathy) and R3S (stable after treatment) that replaced the single definition of R3.

## The end of antenatal rubella screening

We only screen for a condition if evidence proves it meets UK NSC criteria. This ensures screening does more good than harm. Likewise, we only stop screening for a condition if evidence proves screening no longer meets UK NSC criteria.

On 1 April 2016 we stopped screening for rubella (German measles) susceptibility in pregnancy. This marked a significant public health success in combatting rubella infection and congenital rubella syndrome (CRS). Since 1997, the UK has seen less than one case of congenital rubella per 100,000 births, meeting the World Health Organisation target for elimination of CRS. This is due to the success of the MMR vaccination programme – which protects against measles, mumps and rubella.

Joff McGill, from the charity Sense, set up by parents affected by rubella, said: “Congenital rubella syndrome births are now rare thanks to the childhood immunisation programme and high levels of MMR uptake.

“Stopping rubella screening in pregnancy will not lead to an increase in cases of congenital rubella syndrome.”

Stopping rubella susceptibility screening was the culmination of careful planning between the NHS Infectious Diseases in Pregnancy Screening (IDPS) Programme, PHE’s Immunisation team and the National Infections Service.

In January 2014, the IDPS programme and PHE immunisation team established a joint working group. They worked with NHS England and the Department of Health to plan how to stop screening and instead concentrate on immunisation to protect pregnant women.



### Infectious diseases in pregnancy screening

Following ministerial approval in January 2016, the IDPS team held a series of regional events over the next 3 months to prepare maternity units for the end of antenatal screening for rubella.

The team updated IDPS information, including:

- programme standards, laboratory and programme handbooks and other guidance
- ‘Screening tests for you and your baby’ booklet for parents
- screening and immunisation information for parents on NHS Choices
- e-learning resources
- our pocket-sized resource cards that have helpful screening information for midwives

The public health strategy to keep rubella levels low now focuses on promoting awareness of immunisation. This includes appropriate management of rash and rash illness.

The IDPS programme continues to offer and recommend screening for HIV, hepatitis B and syphilis to all eligible women.

## Research: cervical screening is working

Research has shown numbers of cervical cancers in women aged between 20 and their first screening invitation at 24½ fell during 2014 and 2015 to their lowest since at least 2006.

However, the Office of National Statistics cervical cancer data showed the number of cervical cancer cases in women aged 20 to 24 in England rose from 66 in 2013 to 82 in 2014. This was unexpected, so PHE asked Peter Sasieni, Professor of Biostatistics and Cancer Epidemiology at the Queen Mary University of London, to investigate if this increase was a cause for concern and how it could be explained.

Prof Sasieni concluded that the increase in cervical cancer cases followed the NHS Cervical Screening Programme’s decision in December 2012 to start inviting women in England for screening at the age of 24½ rather than on their 25th birthday. This meant that some cancers were found in women aged 24 (rather than 6 months later when they were 25). The detailed examination of the figures found that the numbers of cancers in women aged between 20 and their first screening invitation at 24½ actually fell during 2014 and 2015 to their lowest since at least 2006.

It was encouraging that there was also evidence of a reduction in the number of CIN3 (severe cell) abnormalities in screened women aged 20 to 24. This was probably due to the introduction of the HPV vaccination programme for teenage girls in 2008.

### Cervical screening

Ruth Stubbs, national programme manager of the NHS Cervical Screening Programme, said:

“The fact that we don’t see increased cervical cancer rates in women younger than 24 and a half supports our current age for first invitation to screening. It is also reassuring to see the reduction in CIN3 in the 20 to 24-year age group which may be a result of the HPV vaccination.”



The data showed higher cervical cancer rates in women aged 25 to 29 between 2006 to 2008, and 2010 to 2012. This was

mainly in women aged 25 and, again, only in stage 1 (early stage) cancers. In 2020 the first cohort of women vaccinated at school will enter the programme. We expect the data following this to show evidence of further impact of the HPV vaccination.

It is important to remember that screening is not the same as testing for cancer in symptomatic patients.

We encourage women of any age who have gynaecological symptoms such as unusual bleeding, discharge or pain to seek GP advice rather than wait for their first or next cervical screening invitation. Their GP can then refer them to a gynaecologist for tests if needed.

## Thousands helped over past decade

Screening has made a big improvement to the health of children born with sickle cell disease (SCD) over the past decade.

2016 marked the 10th anniversary of the full roll-out of newborn screening for SCD in England as part of the newborn blood spot test. Between 1 April 2006 and 31 March 2016, we screened more than 7 million newborn babies. Of them, about 3,600 (1 in 2,000) screened positive for SCD. We also detected nearly 270 cases (approximately 1 in 27,000) of beta thalassaemia major, another serious inherited blood disease.

SCD is the name for a group of diseases, the most serious of which is sickle cell anaemia. These diseases affect the quality of haemoglobin and the blood's capacity to carry oxygen around the body. People with SCD can have attacks of severe pain, get serious, life-threatening infections and are usually anaemic (their bodies have difficulty carrying oxygen). They need specialist care throughout their lives.

Screening is crucial because it enables early identification and treatment of SCD, which helps prevent serious illness.

Babies with SCD can receive vaccinations and antibiotics which, along with support from their parents, allow them to live a healthier life.

One mother of a baby born with SCD identified by screening said: "We must not be ignorant. You can prevent complications if you know. If you don't know and your child is sick then you will not know how to look after your child properly."

### Sickle cell and thalassaemia screening

The introduction of the NHS Sickle Cell and Thalassaemia (SCT) Screening Programme in England has driven many improvements in the quality of care for children and families.

These include:

- the introduction of clinical networks and specialist treatment centres to ensure all individuals affected by SCD or thalassaemia disorders can access the best available care regardless of where they live
- improved awareness through outreach work, led by patient organisations Sickle Cell Society and the UK Thalassaemia Society, in communities most affected by the conditions
- national standards for clinical care for children and adults

Since the implementation of the screening programme, the national clinical standard that babies identified with a disease should be referred to a designated local healthcare professional by 8 weeks of age is being met in 99% of cases. 85% are seen in a specialist treatment centre by 3 months.

Consultant haematologist Kate Ryan said: "There is always room for improvement but I think we can confidently say that the outlook for a child born in 2016 with sickle cell disease is so much better than for a child born before the introduction of newborn screening."

## Driving up blood spot testing quality

The collection of good quality samples is vital to the success of the NHS Newborn Blood Spot (NBS) Screening Programme.

We screen babies for 9 rare but serious conditions by taking blood from the baby's heel using a special device. We place this sample on to a blood spot card (see photo) and send it to a lab for testing.

Poor quality blood spots could lead to a result being missed where a serious condition is suspected. This could mean delayed care and treatment for an affected baby.

Good quality samples also prevent the need for avoidable repeat tests and repeat samples, which can cause anxiety for parents, distress to babies, delays in the screening process and waste NHS money. About half of avoidable repeat samples are due to inaccurate or incomplete information on a blood spot card.

In April 2015, screening laboratories agreed stricter criteria for accepting samples with the aim of improving blood spot quality across England.

During the year, we reviewed and updated the guidelines for newborn blood spot sampling, which explain why blood spot quality is important and why laboratories might reject some samples. This involved consulting and working with midwifery, neonatal and health visiting colleagues.

### Newborn blood spot screening

The updated guidelines include tips on obtaining good quality blood spots first time. They also describe what can happen if a baby with a condition is not screened and treated early.

In addition, there is guidance on what to do if a woman declines screening, information on blood transfusions and clarification of the congenital

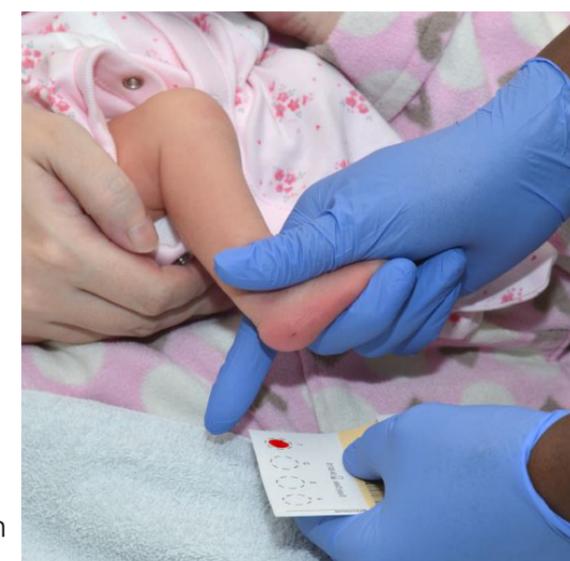
hypothyroidism preterm policy. Copies of the short version of the guidelines can be ordered for free from our national print supplier.

We have also developed a new online learning module for sample takers. This module includes a video of the 'journey' that samples take through the laboratory, while a community midwife describes how she

improved her sampling technique.

Sample takers can complete an interactive blood spot card to double check how they should fill in details on it accurately. Other work to improve blood spot quality has included targeted training and laboratory visits organised for midwives and health visitors.

Thanks to all the above initiatives and everyone's hard work, monthly data shows that the avoidable repeat sample rate fell during the year, improving the service we provide for parents and babies.



## IT system ensures programme safety

IT systems are central to the provision of consistent, safe and effective screening programmes. We continually aim to improve these systems. A single national IT solution – AAA SMaRT – has underpinned the NHS Abdominal Aortic Aneurysm (AAA) Screening Programme since we started rolling out the national programme in 2009. In the past year we have made major changes to AAA SMaRT that will both support screening staff and help ensure the best possible outcomes for men with aneurysms detected by screening.

### Referral management and tracking

The success of AAA screening depends on ensuring the best possible outcomes for the men we refer for surgical treatment to repair large aneurysms detected by screening.

The national AAA screening pathway includes 2 outcome standards (each has an achievable threshold at which the service is likely to be running effectively and an acceptable threshold which is the lowest level expected to ensure patient safety and effectiveness):

- % of referred men seen by a vascular specialist within 2 weeks (acceptable more than or equal to ( $\geq$ ) 90%, achievable  $\geq$ 95%)
- % of referred men with large aneurysms operated on within 8 weeks (acceptable  $\geq$ 60%, achievable  $\geq$ 80%)

Tracking men and reporting these standards used to be a time-consuming manual process that was prone to error. We have now replaced this with an automatic referral management and tracking module in AAA SMaRT.

The new IT programme allows services to track men who have been referred for surgery and

### Abdominal aortic aneurysm screening

alerts them about any delays. A quarterly tracker report now includes all referrals, subsequent appointments and tests and operations with the number of patient and hospital delays where required. This report is used to audit treatment standards.

### Staff management module

We have introduced a new staff management IT module that supports the day-to-day provision of local services, including the ability to manage staff absence, training and qualifications. It now also issues an alert if a screener needs to renew their skills (revalidation). We introduced this in response to an incident where a screener's revalidation had lapsed.

### Search function

We have made the system more user friendly with redesigned search screens that include the ability to search by referral information. Local services can now search for men who are eligible for screening and live within a specific distance from a clinic or postcode. This helps services plan clinics more efficiently. It will also help improve screening uptake because appointments can be set up as close to men's homes as possible.

National programme manager Lisa Summers said "We have made many improvements to SMaRT in response to lessons learned from incidents, improved failsafe processes and suggestions from users. The results are a safe, more effective, higher quality service that will continue to ensure the best possible outcomes for the men we invite for screening."

## Finances

### NHS Fetal Anomaly Screening Programme

Pay costs: £330,009  
Non-pay costs: £381,810  
Total costs: £711,819

### NHS Infectious Diseases in Pregnancy Screening Programme

Pay costs: £194,215  
Non-pay costs: £160,841  
Total costs: £355,056

### NHS Newborn Blood Spot Screening Programme

Pay costs: £360,463  
Non-pay costs: £508,736  
Total costs: £869,199

### NHS Newborn Hearing Screening Programme

Pay costs: £325,741  
Non-pay costs: £1,456,400  
Total costs: £1,782,141

### NHS Newborn and Infant Physical Examination Screening Programme (including pulse oximetry pilot study)

Pay costs: £406,091  
Non-pay costs: £1,106,300  
Total costs: £1,512,391

### NHS Sickle Cell and Thalassaemia Screening Programme

Pay costs: £222,182  
Non-pay costs: £339,421  
Total costs: £561,603

### Young Person and Adult (YPA) Screening Programmes \*

Pay costs: £1,352,342  
Non-pay costs: £53,787,104  
Total costs: £55,139,445

- \* The YPA programmes include:
- NHS Abdominal Aortic Aneurysm Screening Programme
  - NHS Bowel Cancer Screening Programme
  - NHS Breast Screening Programme
  - NHS Cervical Screening Programme
  - NHS Diabetic Eye Screening Programme

# 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](http://www.gov.uk/phe)

Twitter: [@PHE\\_uk](https://twitter.com/PHE_uk) Facebook: [www.facebook.com/PublicHealthEngland](https://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/topic/population-screening-programmes](http://www.gov.uk/topic/population-screening-programmes)

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

For queries relating to this document, please contact: [phe.screeninghelpdesk@nhs.net](mailto:phe.screeninghelpdesk@nhs.net)

© Crown copyright 2016

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](https://www.nationalarchives.gov.uk/open-government-licence/). To view this licence, visit [OGL](https://www.nationalarchives.gov.uk/open-government-licence/) or email [psi@nationalarchives.gsi.gov.uk](mailto: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 December 2016

PHE publications gateway number: 2016480

