

# **INDEPENDENT REVIEW OF NATIONAL CANCER SCREENING PROGRAMMES IN ENGLAND**

**INTERIM REPORT OF EMERGING FINDINGS**

**PROFESSOR SIR MIKE RICHARDS**

**MAY 2019**

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Last year was a difficult period for screening services. In May, a serious incident in breast screening services was called when a mistake was uncovered which was initially thought to affect nearly half a million women. Around the time Lynda Thomas and Professor Martin Gore were finalising recommendations of their independent review into this incident, another serious incident was reported in cervical screening services. In November 2018, I was asked to undertake a further independent review of national cancer screening programmes in England.

Despite this challenging background, I would like to be clear from the outset that there is much to be proud of in cancer screening services in England. These services save almost 9,000 lives each year through prevention and early diagnosis – with even more years of life being saved. They are built on a very strong evidence base and as a country, we have a solid history of conducting important research in this field.

Above all, we have a hugely committed and diligent screening workforce. This is clear in the way those working in breast screening services came together to respond so effectively to the incident last year, working many additional hours to

support those affected. Their commitment to patients and to the services they deliver is clear.

Furthermore, the UK compares reasonably favourably with other countries on uptake and coverage of cancer screening. That said, we can undoubtedly do better. Maximising the uptake and effectiveness of screening programmes is essential to delivering the ambitions for cancer set out in the NHS Long Term Plan, which build on the Prime Minister's earlier commitment that three-quarters of all cancers will be diagnosed at Stage 1 and 2 by 2028. As such, cancer screening must be a key consideration alongside diagnostic capacity for cancer more generally.

My focus is on reviewing the management and improvement of cancer screening programmes across the board to identify issues which need to be tackled to achieve this aim. I am talking to many stakeholders as well as taking the findings of earlier reviews into account, including the National Audit Office's recent investigation into the management of health screening and the subsequent report of the Public Accounts Committee, published earlier this month.

This interim report sets out emerging findings of my review to date. At this early stage, I suggest these are treated as preliminary and share them to form ongoing engagement as my review enters its next phase. I can however already make two clear recommendations.

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Firstly, whilst the number of people being screened has increased over time as the population expands, the long-term slow decline in the proportion of eligible women taking up the offer of breast and cervical screening must be halted. This can be achieved by systematically implementing interventions for which a clear evidence base already exists and I strongly recommend that local systems across the whole country take action on this now. It would be premature to set new aspirational standards at this stage, but this should be kept under close review as the impact of additional interventions becomes known. This will no doubt have cost and resource implications – which I will assess further through my ongoing review – but will save lives.

Secondly, national stakeholders must take action now to ensure IT systems for GP registrations and screening are fit for purpose. At a national level, inadequate IT makes monitoring the safety and quality of current screening programmes difficult, if not impossible. At a local level, these same deficiencies make it difficult to ensure that those who should be invited for screening are being called and recalled at the right intervals. This needs to change as soon as possible.

Other issues outlined in this report are rooted in the question of governance and accountability. Many people have asked me ‘who is in charge of cancer screening?’. The answer is not

obvious. Expertise on cancer screening largely resides within Public Health England, while responsibility for commissioning and the performance management of delivery rests with NHS England. Communication between the two bodies can be suboptimal with numerous different committees operating under the auspices of either body, resulting in duplication of effort and confusion. This includes the key issue of delays in implementation, where the UK is lagging behind other countries when it comes to how quickly we mobilise ourselves to implement advances in screening programmes. Future options for governance and related issues will be another key focus of my final report, and it is advantageous in this respect that the remit of my review is currently being extended to include wider screening programmes.

Through this first part of my review I have focused largely on engaging with national organisations and I am immensely grateful to all those who have made time to speak to me about their experiences and knowledge of cancer screening programmes to date, and in particular for their openness and candour. I look forward to continuing this conversation with wider stakeholders across the NHS – particularly those operating at a local level – as I enter the next phase of my review. My report and recommendations will be published later this year.



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National screening programmes in England target large population groups to assess whether there are any early signs that cancer is present, or to identify abnormal cells which may develop into cancers. The aim is to lower incidence and improve early diagnosis and outcomes for patients.

Each year, over 7.9 million screening appointments are attended. The three national cancer screening programmes offered are:

- **Cervical screening:** This is offered to women aged 25 to 64 (every three years to women aged 25 to 49 and every five years from the ages of 50 to 64). Cervical screening saves around 5,000 lives per year.<sup>1</sup> The incidence of cervical cancer is expected to fall further as the effects of HPV vaccination start to emerge.
- **Breast screening:** This is offered to women aged 50 to 70, with women over 70 able to self-refer. Breast screening saves one life for every 2,000 women screened, or up to 1,300 lives per year.<sup>2</sup>
- **Bowel screening:** This is offered to men and women aged 60 to 74, with another one-off screening test offered to men and women at the age of 55 in some parts of England. Bowel cancer screening saves around 2,400 lives per year.<sup>3</sup>

**Despite progress made, cancer screening programmes have experienced some well documented challenges...**

<b>May 2018</b>	Secretary of State for Health and Social Care announces major failure in breast screening. <sup>4</sup>
<b>Nov 2018</b>	Secretary of State informs Parliament of another serious incident in cervical screening. <sup>5</sup> NHS England commissions an independent review of the national cancer screening programmes.
<b>Dec 2018</b>	Findings of the Independent Breast Screening Review by Lynda Thomas and Professor Martin Gore are published. <sup>6</sup>
<b>Jan 2019</b>	The NHS Long Term Plan states findings of the current review will be taken forward as part of its implementation. <sup>7</sup>
<b>Feb 2019</b>	The National Audit Office publish their investigation into the management of health screening (including an additional focus on abdominal aortic aneurysm). <sup>8</sup>
<b>Mar 2019</b>	The Public Accounts Committee hold a hearing on adult screening. NHS England announce that the management of the cervical screening ‘call and recall’ service is to be brought back in-house. <sup>9</sup>

This interim report is presented in line with Terms of Reference which were initially set in November 2018. Additions are currently being made to these terms in recognition of the fact that the work of the review will have implications for the organisation of other screening programmes (see ‘Next Steps’). Key aims as currently described are to assess:

- current strengths and weaknesses in the **current commissioning and delivery arrangements** for the national cancer screening programmes in England, in view of the current available evidence.
- **diagnostic capacity** for cancer (screen detected and symptomatic) taking account of the Faster Diagnosis Standard and likely future models of care.

The review will also make recommendations based on the findings from the above and on other areas including:

- the **allocation of responsibilities between NHS England, Public Health England and the Department of Health and Social Care** to translate screening policy into implementation;
- how **future** screening programmes should be **commissioned, delivered, performance managed and quality assured**;

- how to ensure that the necessary **workforce** is both available and appropriately trained to deliver the programmes;
- **procurement** of screening technologies (e.g. FIT);
- how **IT systems** support the ambitions of the cancer screening programmes;
- opportunities for the use of **artificial intelligence and stratification** in screening, likely timescales and implementation approach;
- how best to maximise **uptake** of screening, and iron out **variation** in uptake rates between **different geographical areas** and **different population groups**;
- how best to integrate **research** and **evaluation** within screening;
- how best to ensure that screening supports the wider efforts being led by the NHS Cancer Programme to promote **early diagnosis** of cancer; and
- approaches to increasing **diagnostic capacity** both for screening and symptomatic diagnosis of cancer.

A full copy of the [Terms of Reference](#) can be accessed on the NHS England website.

The review is working to take into account the views of key partner organisations including arms length bodies, regulators, local government, local services, charities and patient representative groups. Since being established, the review has:

- reviewed **recent reports** on cancer screening in England.
- reviewed **service specifications** and reports published by Public Health England.
- undertaken a **limited literature review** on interventions which increase uptake of screening, supported by discussions with key experts in the field.
- held **meetings** with over 70 senior personnel.
- held **ten round tables** involving over 300 personnel.
- attended and spoken at relevant existing meetings including the **UK National Screening Committee** and other advisory committees related to individual cancer screening programmes.
- run an open **call for evidence**.
- led a **focus group with people affected by cancer**.
- initiated work on **diagnostic capacity**.

Emerging findings from this initial activity are set out in the next section of this report.

**People we've spoken to:**

Department of Health and Social Care  
Public Health England  
NHS England  
NHS Improvement  
NICE  
NHS Digital  
Health Education England  
Royal Colleges  
Patients  
Charities  
Academics  
Industry experts  
Local public health professionals  
GPs and primary care professionals  
and more....

**Governance and accountability**

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**Governance and accountability of cancer screening programmes has evolved with the introduction of the 2012 Health and Social Care Act<sup>10</sup>. Whilst this has undoubtedly had some benefits, implementation of the public health functions agreement (known as Section 7a services) also appears to have blurred the lines of ownership and accountability.**

Since 2012, expertise on cancer screening has resided with Public Health England (PHE), with NHS England (NHSE) holding responsibility for commissioning and the performance management of delivery. This is widely seen by stakeholders to have improved cancer screening practice through the standardisation of specifications and more robust approaches to quality assurance.

However, the recent Independent Review of Breast Screening Services found that despite “relatively clear governance structures”, a senior responsible owner to ensure the system was functioning correctly was lacking.<sup>6</sup> A key recommendation was that governance be considered as part of a future review of screening programmes. In their February 2019 report, the National Audit Office similarly noted concerns about the effectiveness of governance arrangements.<sup>8</sup>

Fundamentally, the issue is one of oversight. The Department of Health and Social Care continues to act as the overall steward of

**Impact**

- ❖ Increased risk of serious incidents
- ❖ Delays in implementation and delivery
- ❖ Sluggish response to falling uptake and coverage

the system but neither of the organisations it holds to account have a clear overview of the system as a whole. This manifests in the running of screening services in a number of ways, with sometimes serious consequences.

Local commissioning teams and quality assurance staff generally report good working relationships but their ability to carry out their work is no doubt impacted by suboptimal communication at national level. Numerous different committees operate under the auspices of either NHSE or PHE, resulting in duplication of effort and confusion. When incidents do occur, it is not always obvious which organisation should take the lead on investigating and responding. This provides little assurance and crucially, it follows that no one person can take overall responsibility for ensuring learning from both national and local incidents is acted on and used to systematically improve services.

The current complex and multi-layered arrangements are illustrated overleaf. Options for resolving the challenges they present will be considered further through the ongoing review.

**Governance and accountability cont.**

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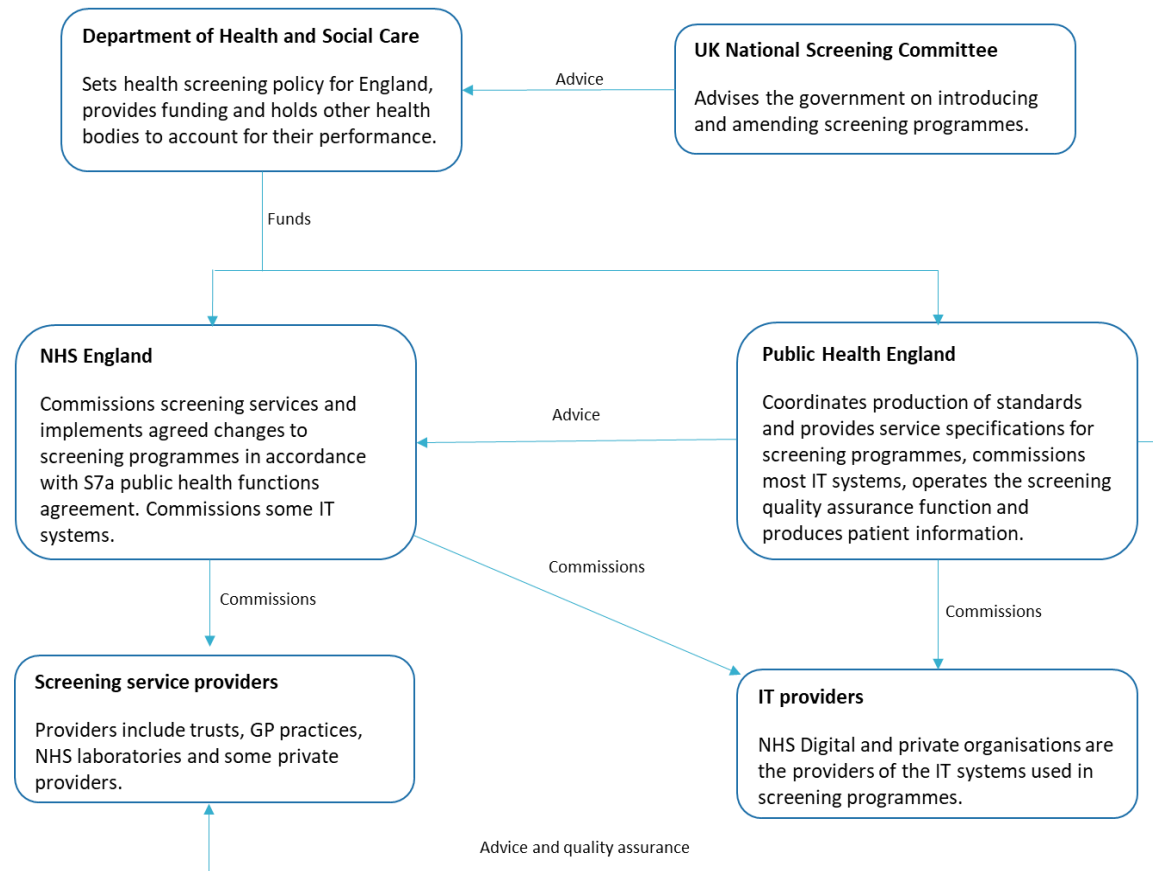
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**Organisations involved in delivering screening programmes**



Source: Based on diagram in NAO’s Report into Management of Adult Screening Services, February 2019.

DHSC is the overall steward of the system and holds NHSE and PHE to account for delivery.

The annual NHS public health functions agreement<sup>11</sup> between the Secretary of State for Health and Social Care and NHSE sets out NHSE’s responsibilities for screening and other Section 7a services, enabling it to commission certain public health services that will drive improvements in population health. NHSE has a specific role to commission the public health services set out in this agreement and to hold providers to account to ensure that they deliver the contracts that have been agreed.

Direct commissioning of public health services by NHSE is based on national service specifications<sup>12</sup> that have been produced by PHE and agreed with NHSE, drawing on the best evidence in order to provide the public with evidence-based, safe and effective services.

PHE has a quality assurance role in relation to screening programmes and provides support to local commissioning teams through the embedding of PHE staff. PHE provides DHSC with expert evidence and advice, and supports NHSE with information, expert advice, capacity and support at national and local level. PHE also holds an operational delivery role for some functions within the system.

Further detail on the commissioning of IT systems is set out later in this report (see ‘IT’).



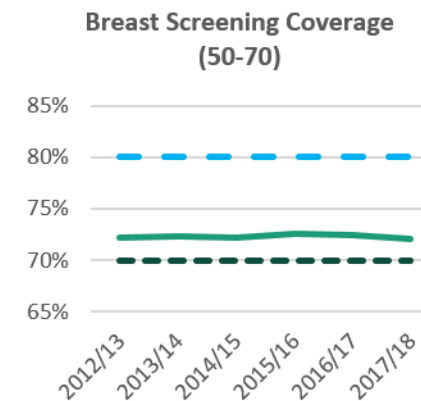
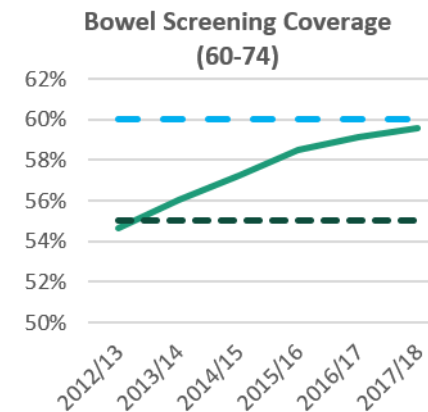
The proportion of women responding to an invitation to participate in breast and cervical screening programmes has declined over time, a trend which can also be seen internationally. Performance against bowel screening standards is improving, but from a low starting point.

An international trend is emerging that, in both breast and cervical screening programmes, a decreasing proportion of eligible women are being screened. Compared to other countries, the UK’s performance on breast screening is in the middle of the ‘pack’: neither in the top cohort, nor in the lower performing group. On cervical screening, the UK is ahead of the pack and slightly below the top performer. Further detail is presented in **Appendix A**.

Whilst these trends may not be unique to the UK – and the UK compares reasonably well to similar countries – the end result remains a missed opportunity to save yet more lives.

Agreed standard and lower threshold targets are currently in use in this country: none of the cancer screening programmes met their standard target in 2017/18. Although bowel and breast screening did meet their lower threshold targets, cervical screening did not. **Appendix B** sets out further detail on current rates of uptake and coverage, as well as the standard and lower thresholds for the three cancer screening programmes.

Source: PHE Public Health Profiles – Cancer Services<sup>13</sup>



**Impact**

- ❖ Few cancers diagnosed at an early stage.
- ❖ Increased risk in hard to reach groups.
- ❖ More potential years of life lost.

National performance: ——— Lower Threshold: - - - -  
Standard : - - - -

Delving deeper, coverage and uptake are lower still in some urban and deprived communities, and in certain groups within society, including Black, Asian and Minority Ethnic groups, people with physical or learning disabilities and LGBT+ communities.<sup>14,15,16</sup>

**This long-term slow decline can be halted and importantly, should be reversed.** First and foremost, evidence-based interventions which have been proven to increase uptake need to be quickly and systematically adopted across the whole country. This includes relatively simple measures such as sending text reminders of appointments. Unfortunately, some areas of the country currently lag well behind others.

We also need to take all possible steps to make screening more acceptable to those being screened. 'FIT' will help to achieve this for bowel screening by making home testing simpler. In a similar fashion, self-sampling is likely to do so for cervical screening in future.

Convenience is another key factor. Examples include on-line booking of appointments or providing screening in settings that suit people going about their everyday lives (e.g. closer to work), as advocated by Jo's Cervical Cancer Trust through their ['Computer says no'](#) campaign. Offering out of hours screening is cited as a key factor that made the successful recall of women possible during the breast screening incident last year.

We also need to build the evidence base for other emerging interventions, particularly those that may encourage uptake in harder to reach groups of our society. Novel approaches that have been introduced locally appear to be having some success. Follow up evaluation is now urgently required to test whether

these results can be replicated on a wider scale. Examples include:

- The ['No Fear' campaign](#) in Middlesbrough and Newcastle which raised uptake in cervical screening.
- A [social media campaign](#) in Stoke on Trent which has increased uptake of breast screening by more than 10%.
- A [programme in Cornwall](#) which increased screening uptake for people with learning disabilities to the level expected for the rest of the population.

Further evidence on these and other interventions will be gathered as the review progresses. This will include specific work with faith and ethnic groups, experts on physical and learning disabilities and with LGBT+ communities on their specific concerns about screening, with a particular focus on the transgender community.

On increasing coverage overall, it would be premature to set new aspirational thresholds at this stage but these should be kept under close review as the impact of additional interventions becomes known. Work to increase uptake and coverage will inevitably carry some cost and resource implications but will save lives. These pressures can be minimised if strong governance, partnership working and effective IT is in place and further analysis will be undertaken through the ongoing review. This will include a look at the role of provider incentives in improving uptake and coverage.

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Whilst the UK compares reasonably favourably with other countries on the coverage of cancer screening programmes, changes to screening programmes have been subject to long delays in implementation, with the UK lagging behind when it comes to how quickly we mobilise ourselves to implement advances in screening programmes.

The UK National Screening Committee (UK NSC) is responsible for assessing new developments and recommending that they be adopted. Public Health England has generally assumed the lead on piloting these new approaches whilst NHS England has often, but not always, been responsible for overseeing full implementation.

Delays in implementation resulting from this phased approach are common and lead from a variety of factors. These range from the time taken in some instances for the UK NSC to come to a decision, to poor planning and resourcing leading up to, during and after the decision to progress has been made.

Early planning for implementation is particularly lacking, with little clarity on who is responsible. Service specifications may be written, for example, but associated service planning is sub-optimal leading to uncertainty around key issues such as workforce planning, procurement, impact on existing services and the financial consequences of implementation. The result is serious and ongoing delays. Notable examples include:

**Impact**

- ❖ Difficult to drive systematic improvement.
- ❖ Every delay leads to more lives lost.

- **Bowel scope:** In 2011, the UK NSC recommended that one-off bowel scope screening be introduced for people aged 55 years.<sup>17</sup> By September 2018, less than a half of people due to be targeted had been invited, due in part to workforce constraints and the availability of new training places funded by Health Education England.
- **HPV testing:** In 2015, the UK NSC recommended introducing primary human papillomavirus (HPV) testing as a first stage test for cervical cancer.<sup>18</sup> Roll out is currently expected by December 2019.
- **FIT testing:** In January 2016, the UK NSC recommended changing the existing faecal occult blood test and introducing a new test called faecal immunochemical testing (FIT).<sup>18</sup> Following delays in procurement, roll out is currently expected by June 2019.

Future funding for these services will need to align with the demands being placed on these services. Given the strong link to governance, recommendations on this issue will be considered further as part of the next stage of this review.

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The IT landscape is complex due to the variety of organisations responsible for different parts of the overarching system, and the age, complexity and number of current IT systems in use. Some of these systems – especially those used in breast and cervical screening – are little changed since 1988 and are no longer fit for purpose.

Core to the cervical screening approach is the National Health Application and Infrastructure Services (NHAIS) system – a grouping of 83 databases of GP registrations which is managed by NHS Digital (NHSD) and amongst other purposes, used to identify people eligible for screening and invite them to screening appointments. The Department for Health and Social Care concluded NHAIS was not fit for purpose in 2011.<sup>8</sup> NHS England (NHSE) initially planned a replacement by March 2017 but the project is currently running two years behind schedule as Capita have been unable to deliver agreed milestones.

On breast screening, NHSD manages the system used to call and recall women for screening, whilst a private provider hosts the system used to record the outcome of appointments. Bowel screening is the only programme where the full screening pathway is managed within a single system. Trusts are in turn responsible for locally based IT systems such as those that test screening samples. Further detail is set out overleaf.

### Impact

- ❖ Increased risk of serious incident.
- ❖ Decreased ability to monitor and respond to performance issues.
- ❖ Complicates medical assessment - hard to track histories when people move across organisational boundaries.

Many of the systems in use are outdated and interoperability can be poor. At a local level, these deficiencies make it difficult to ensure that those eligible for screening are being called and recalled at the right intervals. Clinicians and other staff are also faced with considerable inefficiencies in the day-to-day delivery of safe screening services as they attempt to obtain relevant information from multiple systems. For example, a histopathologist reporting on a possible cervical cancer may have to seek information from other hospitals relating to colposcopy findings and yet more systems to find a woman's screening history. Similarly, communication with GP IT systems also needs to be improved.

At a national level, poor IT makes monitoring the safety and quality of current screening programmes difficult, if not impossible. These deficiencies will become even more marked as we move towards more targeted screening techniques which will rely on accurate and accessible data to identify those who would benefit most from screening. **Developing and funding new systems for GP registrations and cancer screening must be seen as an urgent priority.**

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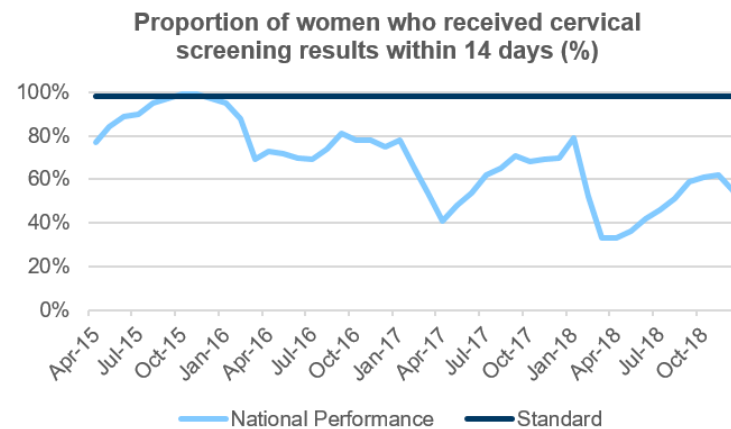
Glossary and acronyms

## IT in the context of cancer screening programmes

Type of screening	Commissioned by	Delivered by
Breast	Public Health England	<p><b>Call and recall:</b> Breast screening services in the UK are supported by NHS Digital who provide the software to manage the call and recall of women who are eligible for breast screening. Further information on the Breast Screening Select system can be found here: <a href="https://digital.nhs.uk/services/screening-services/breast-screening-services">https://digital.nhs.uk/services/screening-services/breast-screening-services</a></p> <p><b>Recording results:</b> A private provider (Hitachi) provides the National Breast Screening System (known as NBSS) which is used to record the outcomes of breast screening appointments and a woman’s screening history.</p>
Cervical	NHS England	<p><b>Call and recall:</b> On 1 September 2015, Capita plc. took on responsibility for delivering NHS England’s primary care support service – now called Primary Care Support England (PCSE) – including delivery of the ‘call and recall’ service for cervical screening (<a href="https://pcse.england.nhs.uk/services/cervical-screening/">https://pcse.england.nhs.uk/services/cervical-screening/</a>). It was announced in March 2019 that NHS England would bring delivery of the call and recall service back in-house, beginning in June and with a phased transition through the rest of the year.<sup>9</sup></p> <p><b>Recording results:</b> Cervical screening is currently supported by NHS Digital (via NHAIS) until its replacement as part of the Primary Care Services Transformation Programme.</p>
Bowel	Public Health England	<p><b>Call and recall:</b> NHS Digital runs a single Bowel Cancer Screening System for England which: maintains organisation<sup>9</sup>related information; manages the lists of people eligible for screening; sends invitations and manages appointments; sends out test kits; records test results and provides operational and strategic reports. Further information can be found here: <a href="https://digital.nhs.uk/services/screening-services/bowel-cancer-screening-services">https://digital.nhs.uk/services/screening-services/bowel-cancer-screening-services</a></p> <p><b>Recording results:</b> As above (end-to-end system).</p>

Poor performance in meeting other key performance indicators – such as cervical turnaround times and breast screening round-length – is symptomatic of the wider pressures faced by the system that prevent it from meeting expected standards.

In February 2019, only 46% of women received their cervical screening results within 14 days against a target of 98%. While this is unlikely to have clinical consequences, it largely relates to a challenging period for this screening programme, with major changes to its configuration underway (see ‘Workforce’ section). This should start to improve once the changeover to HPV testing has been achieved later this year. Seasonal spikes in turnaround time around December are thought to reflect increased activity as general practices seek to achieve their Quality and Outcomes Framework target.

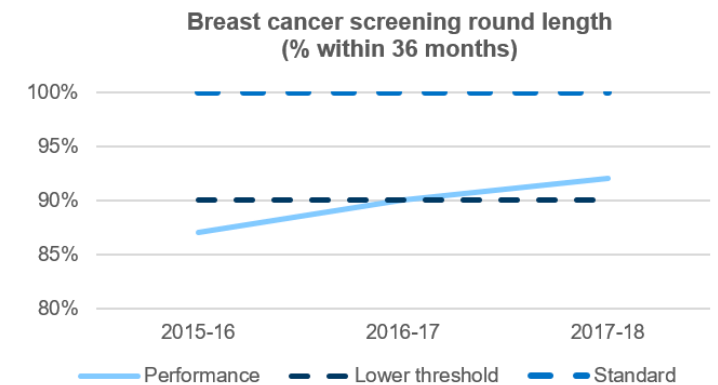


Source: National Audit Office

Impact

- ❖ Increased breast screening roundlength means some cancers may not be diagnosed and treated in time.

In 2017/18, 8% of women waited more than 36 months between breast screening appointments. The National Audit Office also note variation across the country, highlighting that in 2017/18, 22 out of 79 providers did not meet the lower threshold target of inviting at least 90% of eligible women for a screening appointment within 36 months of their previous appointment.<sup>8</sup>



With a strong link to the more deeply rooted issues of IT, governance and workforce, recommendations will be considered as the review progresses.

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The current division of responsibilities between the UK National Screening Committee (UK NSC) and the National Institute for Health and Care Excellence (NICE) can make it difficult for the system to adopt both population and targeted screening approaches and deliver both to a high quality.

The UK NSC normally only assesses programmes which could be applied to a whole population. In contrast, NICE provides guidance on screening or surveillance for a range of conditions where individuals are at higher than average risk of a condition (e.g. breast cancer based on family history, or bowel cancer where a genetic marker for Lynch syndrome is present).

In the near future, more and more high-risk groups are likely to be detected based on genomic markers. This raises important issues with regard to equity and the evidence needed to determine whether screening programmes should be implemented or extended. It also raises significant challenges around the workforce, IT and procurement needed to support timely implementation. Data will need to

### Impact

- ❖ Slow adoption of new approaches to screening.
- ❖ Variable quality of targeted screening compared to population screening.
- ❖ Lives lost from delays in access.

be systematically collected, for example on vaccination history, smoking history and genomics, and made available to screening programmes to ensure that patients are identified and can benefit maximally.

Taking this further, clear definitions of surveillance screening (i.e. ongoing monitoring of the patient) and cascade screening (i.e. follow-up screening for family members) in the context of targeted screening will be needed to inform and support future implementation. This also applies to the relationship between screening programmes and other programmes known as 'health checks' more generally.

These issues will be considered further as part of the next phase of the review.

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Services are under considerable strain at present as eligible populations for screening increase in parallel to an aging and evolving workforce. With no robust national picture of the current workforce for adult screening services, development and planning of future requirements presents a challenge.

As already highlighted in this report, stakeholders are clear that staff delivering cancer screening programmes are highly committed and should be commended. Moreover, staff have achieved this in demanding circumstances with each of the screening programmes having their own specific workforce challenges:

- **Bowel screening** Successful implementation of FIT is highly dependent on colonoscopy capacity which has not increased sufficiently to meet demand. Bowel screening also places increased demand on pathology services. Insufficient workforce numbers are considered a key issue in the slow roll-out of bowel scope.

**Impact**

- ❖ Fewer patients receive screening, leading to more lives lost.
- ❖ Leads to more staff leaving and difficulties in recruiting for temporary posts.
- ❖ Lack of workforce planning could prevent screening ambitions being fulfilled.

- **Breast screening** Both the radiology and radiography workforce have an aging profile, leading to the parallel challenge of retaining the expertise of these staff in the workforce as well as recruiting new members in.
- **Cervical screening** The current changeover to primary HPV screening is putting significant strain on the service, which is reflected in longer turnaround times. Primary HPV testing reduces the need for cytology, and to maintain efficient and effective service delivery, services are being consolidated. This has led to staff leaving their roles in hospitals which will no longer provide this service. The primary care workforce – essential for cervical sampling – is similarly under strain.

Closer joint working and more robust workforce planning at local, regional and national level is clearly lacking, including plans to retrain and upskill the workforce. Consideration of the future use of artificial intelligence (AI) is also needed, which may alleviate some workforce pressures by freeing up staff capacity for other tasks. For example, a future mammography service may make use of AI to reduce workforce requirements for reading scans. Planning for future technology will be considered in the next phase of this review, alongside more immediate recommendations to inform current development of the national Workforce Implementation Plan.



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Having a national health service means that England is uniquely placed to be on the forefront of screening research, leading advancements in technology and uptake to support prevention, early diagnosis and treatment.

Existing screening programmes in the context of the NHS provide a unique platform for research which can be better exploited. Some worthy examples as to what is possible include:

- Between 1996 and 2001, Dame Valerie Beral<sup>19</sup> led a team of researchers at the University of Oxford to undertake a study of women’s health, analysing data from more than one million women aged 50 and over. The [Million Women Study](#) was a fantastic example of using a screening cohort to address other important epidemiological issues.
- The [Age Extension \(AgeX\) trial](#)<sup>20</sup> is already the largest randomised controlled trial for any condition anywhere in the world and will provide definitive answers on the benefits, or otherwise, of providing additional screening below the age of 50 and above the age of 70. If resources can be made available, a very strong case can be made for extending the trial to include one further round of screening (for women aged 74 to 76).

- As part of their [Grand Challenge](#) awards, Cancer Research UK have funded potentially ground-breaking research which is planning to use samples obtained through the bowel screening programme to look at the human microbiome.

However, current processes and management of data hinder rather than enable continuing research in this field. Researchers express concerns that the wealth of data collected on screening is difficult to access, hampering progress. In addition, research to determine how to maximise benefit from a programme may be slow to get underway.

The cadre of high quality researchers working in this field can help to put England at the forefront of research of cancer screening and other conditions. We can and must do more to realise our true potential in this field.

**Impact**

- ❖ Limited access to data can hinder progress.
- ❖ Not maximising the full potential of the NHS to support vital research.

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The focus of the review to date has been on engagement with a variety of stakeholders at national level plus a review of available literature. The review has also led an open call for evidence which closed on 18<sup>th</sup> April. Sincere thanks are extended to over 100 organisations and individuals - including members of the public, researchers, charities, Royal Colleges and Cancer Alliances - who have taken time to submit their views. Each individual response will now be fully considered.

As well as continuing engagement with national stakeholders, the review team will focus on greater engagement with local services going forwards. Visits are currently being planned, which are expected to provide further ideas on solutions to the problems identified so far.

Whilst this list is not exhaustive, the following areas have been identified as key areas of focus in the next stage of the review:

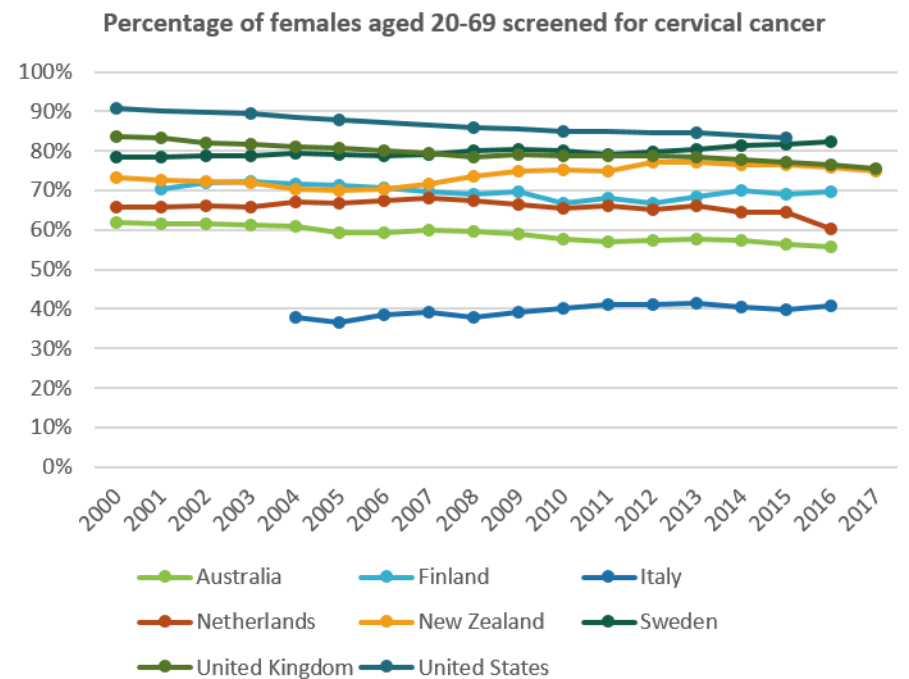
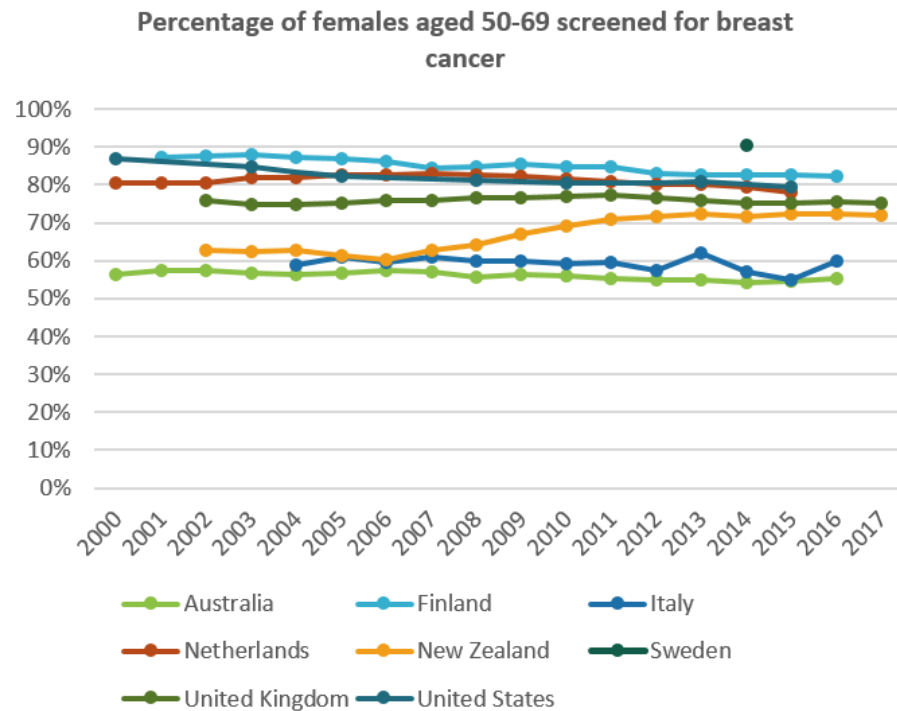
- options for future streamlined governance and related issues
- increased emphasis on diagnostic capacity
- further work on the impact of artificial intelligence
- further focus group sessions
- developing specific recommendations.

The work and recommendations of this independent review of cancer screening programmes will have wider implications. In recognition of this fact, the remit of the review is currently being extended to include an additional focus on other screening programmes. Updated terms of reference and timescales for further phases of this review will be made available on the NHS England website in due course.

Any comments or reflections on this interim report are welcomed and should be sent to:  
[england.richardsreview@nhs.net](mailto:england.richardsreview@nhs.net)

# Appendix A: international comparisons on breast and cervical screening coverage

The charts below present international performance comparisons for the UK, highlighting countries which are judged to be most comparable to the UK. Countries supply the Organisation for Economic Co-operation and Development (OECD) with survey data and programme data. Where possible, programme data is used in these graphs, and survey data used only where there is no programme data available. For breast screening, Sweden and the USA supply survey data out of the countries included below. For cervical, only the USA supplies survey data out of the countries included in this comparison.



Source: Organisation for Economic Co-operation and Development <sup>21</sup>

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## Appendix B: Coverage and current thresholds for breast, cervical and bowel screening in 2017/18

Screening Programme	Eligible population (millions)	Number invited 2017/18 (millions)	Number screened 2017/18 (millions)	Uptake (%)
	<i>See Note 1</i>	<i>See Note 2</i>	<i>See Note 3</i>	<i>See Note 4</i>
Breast	7.2	2.51	1.8	71.1
Cervical	14.9	4.46	3.18	71.4
Bowel (FOBT)	8.7	4.4	2.5	57.7

Coverage (%)	Lower Threshold (%)	Agreed Standard (%)	Direction of change since 2016/17
<i>See Note 5</i>	<i>See Note 6</i>	<i>See Note 7</i>	<i>See Note 8</i>
72.1	70	80	Static
71.1	75	80	Declining
59.6	55	60	Increasing

### Notes

1. The total eligible population for each type of screening in 2017/18.
2. The number of the eligible population invited for screening in 2017/18.
3. The number of individuals taking up screening of those invited.
4. The percentage of the eligible population taking up screening invitations out of those who have been invited.
5. The percentage of patients screened within designated time period out of the total number eligible.
6. The lower threshold is the lowest level of performance that screening programmes are expected to attain to assure patient safety and service effectiveness.
7. The agreed standard is set for continuous improvement, enabling providers and commissioners to identify where improvements are needed.
8. Direction of change since 2016/17. 2017/18 data shows bowel and breast screening did meet their lower threshold targets for coverage, cervical screening did not.

Source: Multiple sources <sup>11,13</sup>

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Key terms	Acronym	Definition
Age extension trial	AgeX	Established in 2009 to test the benefits of extending the breast screening programme to women from age 47 to 73.
Bowel Scope	-	A test for people aged 55 where a thin, flexible tube with a camera at the end is used to look inside the bowel.
Department of Health and Social Care	DHSC	A Ministerial Department which leads on health and social care, supported by 28 Arms Length Bodies and other agencies.
Faecal Immonochemical Test	FIT	A revised bowel cancer home testing kit which tests for hidden blood in stool samples, which can be an early sign of bowel cancer.
Faecal occult blood test	FOBT	Current home-testing test in use to detect small amounts of blood in the stool, which you would not normally see or be aware of. This is being replaced by FIT (see above).
Health Education England	HEE	Supports the delivery of healthcare and health improvement to the patients and public of England by ensuring that the workforce of today and tomorrow has the right numbers, skills, values and behaviour.
Human papillomavirus testing	HPV testing	HPV primary screening is currently used as the first test on cervical screening samples in some areas of England and is scheduled to be introduced across the country in 2019.
National Audit Office	NAO	Scrutinises public spending for Parliament.
National Health Application and Infrastructure Services	NHAIS	NHAIS is a system of 83 databases of local GP registrations. It is used across the NHS, including for the invite system in cervical screening and for identifying the eligible population in the four screening programmes we have examined.
NHS Digital	NHSD	Supplies information and data to the health service, provides vital technological infrastructure, and helps different parts of health and care work together.
NHS England	NHSE	Leads the National Health Service (NHS) in England. It sets the priorities and direction of the NHS and encourages and informs the national debate to improve health and care.

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Key terms	Acronym	Definition
National Institute for Health and Care Excellence	NICE	A non-departmental Public Body which provides national guidance and advice to improve health and social care.
Public Health England	PHE	An executive agency of the Department of Health and Social Care; its responsibilities include supporting local authorities and the NHS to plan and provide health and social care services such as immunisation and screening programmes, and to develop the public health system and its specialist workforce.
Quality and Outcomes Framework	QOF	Part of the General Medical Services (GMS) contract for general practices. It aims to improve the quality of care patients are given by rewarding practices for the quality of care they provide.
Round length	-	Screening round length is the interval between the date of a woman’s previous screening mammogram and the date of her next first offered appointment. This should be thirty-six months.
Section 7a	s7a	Sets out for commissioners and healthcare providers notice of NHS England’s commissioning intentions for certain Public Health services, commissioned as part of the NHS Public Health Functions Agreement under s.7A of the NHS Act 2006. This is an annual agreement between the Department of Health and Social Care and NHS England.
UK National Screening Committee	UK NSC	Advises ministers and the NHS in the four UK countries about all aspects of population screening and supports implementation of screening programmes.