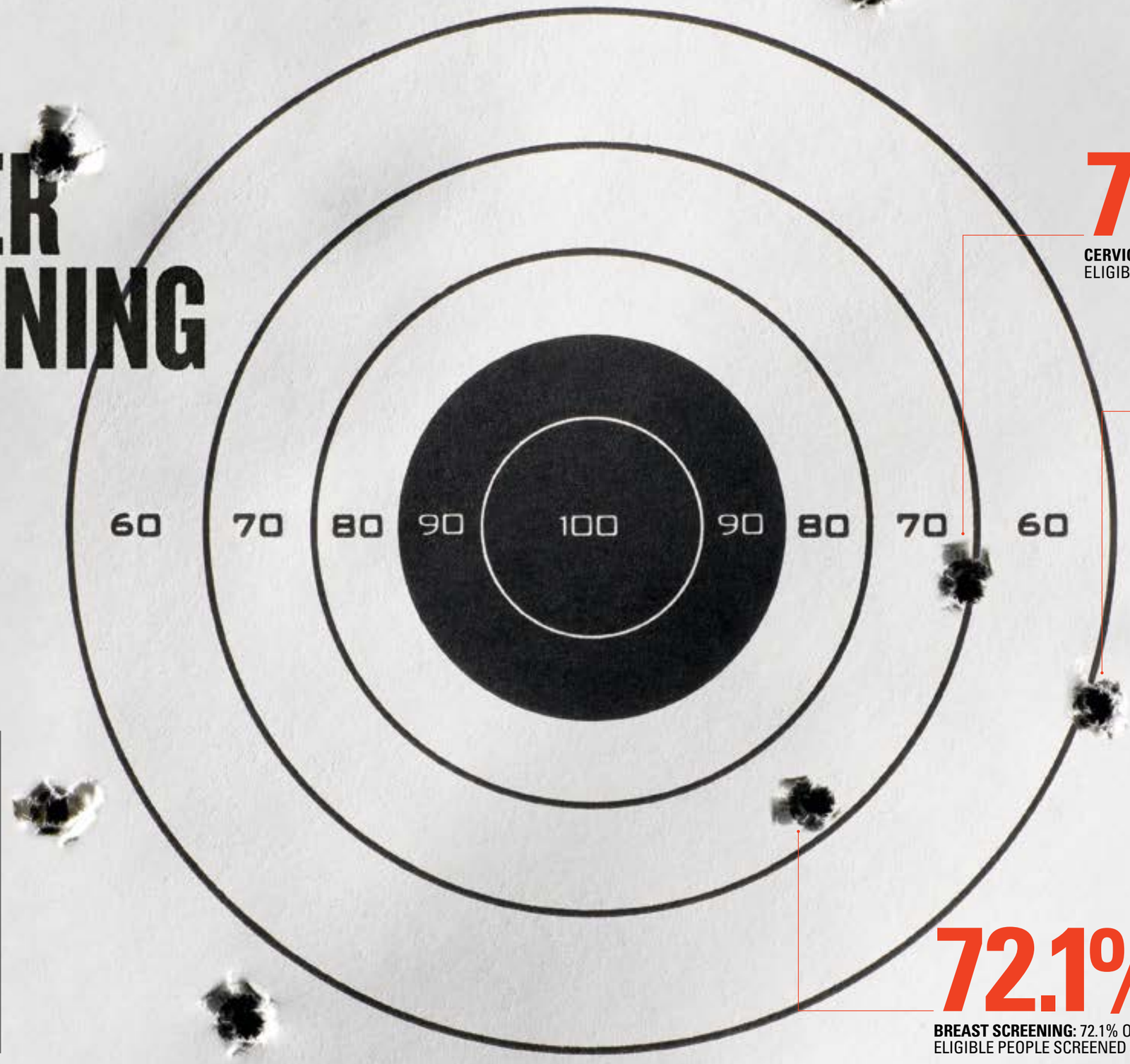
CANCER SCREENING

With a new report showing that targets for cervical, breast and bowel cancer screening programmes in England have been missed, we explore the limitations and ask what action is needed.



71.7%

CERVICAL SCREENING: 71.7% OF ELIGIBLE PEOPLE SCREENED 2017-18

59.6%

BOWEL SCREENING: 59.6% OF ELIGIBLE PEOPLE SCREENED 2017-18

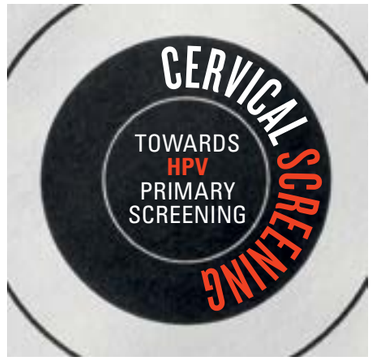
72.1%

BREAST SCREENING: 72.1% OF ELIGIBLE PEOPLE SCREENED 2017-18

Nearly 8 million people were screened for breast, bowel and cervical cancer in England between 2017 and 2018. Yet, none of these screening programmes met their targets, according to a recent report by the National Audit Office (NAO).

This independent investigation was published after two events raised concerns about the management of England's screening programmes. In May 2018, it was revealed that more than 120,000 women aged 69 to 71 had not been invited for their final breast screening between 2009 and 2018, due to a failure in the computer algorithm used to manage these invitations. A failure in the cervical screening programme was also identified, with more than 40,000 women believed not to have received an invitation, and a further 4,500 women not getting their results in the post.

Since the Health and Social Care Act 2012, the delivery of screening programmes has been delegated by the Secretary of State for Health and Social Care to NHS England. The National Audit Office's report looked at how this delivery was carried out for the three main screening programmes based on age – bowel, breast and cervical – as well as their performance and oversight. It identified number of problems, including the fact that all rely on complex and ageing IT system, based on 83 databases of GP registrations, collectively known as National Health Application and Infrastructure Services (NHAIS). The delivery of the programmes also appears to be characterised by important inequalities between different areas of England, with London consistently scoring poorly in terms of screening coverage.



For the first time, in 2017-18 two standards were set up to assess the performance of programmes. Known as the "lower threshold" and the "standard threshold", they are respectively the lowest level of performance that programmes are expected to attain, and the level at which programmes are likely to be running optimally.

Although none of the programmes reached their standard threshold, the cervical screening programme was the only one that failed to also attain its lower threshold. It achieved a coverage of 72% of the population eligible for screening, against a standard target of 80% and a lower threshold of 75%.

It is worth noting that twice as much is spent on bowel screening and breast screening than on cervical screening, but also that multiple factors can explain why reaching out to the women can be difficult.

IT systems

The report suggests that the use of unreliable IT systems to send invitations out is particularly problematic.

Cervical screening started in 1988 in England, so the programme relies on many IT systems which are more than 30 years old.

Additionally, the high number of databases that are used in order to identify women who need to be invited adds complexity to the whole system, which goes some way towards explaining some of the missed opportunities to contact them.

There is, however, no simple solution to this. Dr Allan Wilson, Lead Biomedical Scientist in Cellular Pathology and Advanced Practitioner in Cervical Cytology at Monklands Hospital, says: "Attempts to move to a single database face considerable challenges as coding has been done locally in many areas, so it's very difficult to move forward to a single database. The cervical screening programme needs retrospective data, which exists in a number of different IT systems, using different codes; putting them in a robust single database will be extremely challenging, as the data is inconsistent and fragmented."

Lack of awareness in the population about the relevance of cervical screening is also a problem. To address it, the first cervical screening advertising campaign was launched in England at the beginning of March 2019 to raise awareness in the population targeted by the programme. "Most of the cancers that are arising now are in women who had never been screened or have attended infrequently. We will only make significant reductions in incidence and mortality if we focus on engaging with those individuals," Wilson says.

Pressure on labs

However, some experts are concerned that this type of campaign will result in more pressure for the cytology labs responsible for analysing the tests.

At present, women who do manage to attend screenings are often faced with delays to receive their results, as labs are overwhelmed with the volume of samples they have to analyse.

At least 98% of women should receive their results within 14 days of their cervical screening appointment, but this target has not been met since 2015, and as of December 2018, just over half of women were getting their results on time.

Estimates suggest that there is currently a backlog of more than 97,000 samples waiting to be tested.

HPV primary screening

It is thought that these delays are directly linked to staffing changes in labs, and to concerns about the move to HPV primary screening. Announced in 2016, this measure involves testing women for HPV first, to identify those who would benefit from further analyses. It is expected to reduce the number of labs carrying out cytology analyses from 48 to nine.

"There has been a closure of many cytology labs and workload has transferred to large centralised centres, which were hard to reach for a lot of the staff who chose not to transfer with the workload.

"The move to HPV primary screening will lead to an 85% reduction in the cytology workload. Consequently, staff are facing an uncertain future, with a number already leaving the service ahead of the transition. The effect of this loss is a gradual reduction in screening capacity," Wilson points out.

In the long term, HPV primary screening is nevertheless expected to reduce pressure on the remaining labs, as well as delays for women to receive their results, and to move on to treatment if need be, by leading to more efficient triage and to analyses of only of the most problematic samples.

80%

IS THE STANDARD TARGET FOR CERVICAL SCREENING COVERAGE. HOWEVER, THE PROGRAMME ACHIEVED 71.7%.

"This is a worrying phenomenon, and it may merit a campaign similar to the one currently occurring for cervical screening"

Stephen Duffy, Professor of Cancer Screening at Wolfson Institute of Preventive Medicine

The breast cancer screening programme achieved a coverage of 72.1 % in 2017-18, surpassing its lower threshold of 70%. As the report points out, the proportion of the eligible population screened for breast cancer has remained broadly static in recent years, but there are areas of concern. Stephen Duffy, Professor of Cancer Screening at Wolfson Institute of Preventive Medicine, in London, says : "In world terms, 72% is good performance, and is above the recommended 70%. However, it is lower than it was 10 years ago, and uptake of the screening is even lower for first screening invitations. This is a worrying phenomenon, and it may merit a campaign similar to the one currently occurring for cervical screening."

So, what are the clinical implications of not reaching the target? Dr Nora Pashayan, a Senior Clinical Lecturer in Applied Health Research at University College London, and colleagues have tried to get an idea of the potential impact of a lower screening uptake, by taking the worst case scenario – assuming women who do not get screened at 50 never attend a screening after that – and modelling the likely outcome of screening.

"If we take 10,000 women aged 50 (and the worst case scenario where a proportion never attends screening) there would be 14 fewer breast cancer diagnoses and there would be six more deaths from cancer, if we achieve a coverage of 70% than if we achieve a coverage of 80%. But you would also have three fewer over-diagnoses," Pashayan explains.

Just like for the cervical screening programme, many factors may explain why the standard target is difficult to achieve. Ageing IT has also been blamed for failing to send invitations out to the women between the age of 50 and 71 years old who are targeted by the programme. In fact, the 2018 Independent Breast Screening Review suggested that the IT on the breast screening programme is "dated and unwieldy", with about 5,000 women not invited to their final breast screening because of errors in the system.

Range of solutions

However, focusing only on IT issues will not solve the problems faced by the programme entirely. Increasing the number of women attending screening will require a range of solutions, as well as research into what motivates them to engage with the programme. "The question we need to ask ourselves is who are the women we are missing. We

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SUMMARY OF THE NAO REPORT

- **The funding the Department** provides to NHS England to deliver its delegated public health functions is ring-fenced.
- **NHS England's objectives** for health screening include commissioning high-quality services and reducing health inequalities.
- **All the screening programmes** rely on a complex and ageing IT system to identify who to invite for screening.
- **None** of the adult screening programmes met their 'standard' coverage target during 2017-18.
- **Levels of coverage** in screening programmes are inconsistent.
- **Performance** on screening programmes is below expected levels.
- **Women should be invited** for a repeat breast screening within 36 months of their previous appointment.
- **At least 98% of women** should receive their results within 14 days of their cervical screening appointment, but this target has not been met since November 2015.
- **NHS England** has delegated responsibility for managing the performance of screening providers to local teams.
- **Public Health England** reviews screening quality but does not have the power to enforce recommended changes.
- **The events reported to Parliament** in 2018 have raised concerns about the effectiveness of the governance arrangements, which assume that all the eligible population have been invited for screening.
- **Delivery of health screening** is subject to significant and ongoing change.
- **The roll-out of primary HPV testing** was announced in 2016 and is not expected to be fully introduced until December 2019.
- **Public Health England and NHS England** has succeeded in implementing bowel scope screening with 64 out of 65 screening centres operational at the end of 2016-17.

don't know whether people are not coming because of their personal preferences, after deliberating about the potential benefits and harms of screening, or because they just don't have the time in their lives, or fear having a diagnosis of cancer. So, we don't know how much of it is an informed decision. It may be that some people are not sure about the purpose of screening and its relevance to them, or they are, but they think that whatever they do, cancer will necessarily have a bad outcome," Pashayan says. Another area of improvement is linked to the time women wait between two screenings. The breast screening programme in England was set up with the idea that women should be invited for a repeat breast screening within 36 months of their previous appointment. However, the standard target of 100% women invited within this timeframe has never been reached.

Public campaigning

Not everyone agrees that a large public health campaign may be the best solution to push women towards screening. "We need to be talking to women individually, at a community level, about their own risk, their own beliefs and their own situations, and the potential benefits and harms of screening. It's a time to move on from one-size-fits-all approach to a more personalised approach, in both screening and in raising awareness about screening – screening targeted to those who would benefit most and who would be harmed least," Pashayan concludes.

80%

IS THE STANDARD TARGET FOR BREAST SCREENING COVERAGE. HOWEVER, THE PROGRAMME ACHIEVED 72.1%.

In 2017-18, bowel screening narrowly missed its standard target, achieving a coverage of 59.6% against a target of 60%. Spending on bowel screening increasing by £57.5m in England since 2013-14, which may explain this. However, these numbers hide important geographical inequalities. "If we look at overall uptake, then around 60% uptake in England is relatively good for a programme like bowel screening, given that we know some people are put off by the idea of testing their bowel motions for hidden blood. However, it is important to be aware of uptake across the population and how an average uptake can mask very poor levels in particular groups or communities. The least well off are significantly less likely to take part in bowel screening than the most well off and we know men are less likely to take part than women," says Jennifer Darnborough, lead of all screening programmes in Lanarkshire, Scotland.

The bowel screening programme has also been subject to changes in delivery. In 2011, the UK National Screening Committee recommended that a one-off bowel scope screening should be introduced for people aged 55 years in addition to the existing bowel screening test. To allow for these new arrangements, the opening of 65 new screening centres across England was planned, 64 of which were open as of 2017. Yet, the report suggests that fewer

60%

IS THE STANDARD TARGET FOR BOWEL SCREENING COVERAGE. HOWEVER, THE PROGRAMME ACHIEVED 59.6%.

people than expected have received this one-off bowel scope screening, as less than half of all GP practices are presently linked to these centres.

Increasing engagement

Another change in the programme was the decision to move from the existing faecal occult blood (FOB) test to faecal immunochemical testing (FIT) by April 2019. "The introduction of FIT is a step forward, as this screening test is viewed more positively than the FOB test.

"With FIT, only one sample is required (as opposed to three separate samples with FOB) and it appears to be less offensive and simpler to do to the public. However, as with FOB testing, there is a high volume of false positives, which puts pressure on diagnostic colonoscopy services," says Darnborough.

Running more targeted campaigns in geographical areas where screening uptake is low may be a solution to increase engagement with the programme, with the support of community health educators or with people who have gone through the screening programme and could work locally with in the public. This may involve explaining why screening is relevant but also responding to people's concerns. "We know that, for some individuals, their response to a screening invitation is not always rational. Some may have a very strong emotional response which professionals need to be able to recognise and engage with on an emotional basis. A previous bad experience can be very powerful," Darnborough concludes. BMS