



Screening review

Submission to NHS England Screening Advisory Body Task and Finish Group

April / 2020

This submission is in two parts. Firstly, as requested, a personal submission from Professor Carrie MacEwen, the Academy Chair, in her role as an individual members of the Screening Advisory Body Task and Finish Group (Section A), secondly general comments and collated comments from Academy member organisations (Section B).

SECTION A

Personal submission from Professor Carrie MacEwen

National screening programmes are fully supported by clinicians, recognising the benefits of early detection and therefore prevention of more complex, secondary effects of more advanced disease in many cases. Currently all national programmes are based on evidence that fulfils multiple criteria to provide programmes that are as effective as possible.

The impact of the risks of screening due to the possibility of false positives (unnecessary investigations, interventions and stress) or false negatives (false reassurance) is a clinical concern due to the morbidity caused as well as the consumption of clinical time that could have been better used. The nature of screening — to approach a 'normal' person who has not requested medical assistance based on population data — makes this risk particularly concerning, compared with false positives being picked up on symptomatic patients.

Most of the issues on the current screening programmes from a clinical perspective relate to issues of inadequate delivery, rather than of the nature of the programmes. These include,

- Inability to call patients on time due to IT or resource problems
- Delays in time to deliver the results of screening — especially a positive test
- Delays in follow up tests/appointments due to lack of resource to deliver
- Inability to deliver the management programme initiated by a positive test
- Inadequate information — around risks as well as outcomes.

The use of resource to deliver screening programmes that have a low return — due to the population at risk being insufficiently targeted or too frequently screened (based on current criteria) is less of a concern but any route to safely reduce frequency would be welcome. Similarly screening programmes for a number of conditions that might benefit from earlier identification due to recognised effects of early detection in a pre-symptomatic phase, but do not meet current evidence base required, could lead to an improvement in patient outcomes.

By stratifying certain populations at higher risk to select those for more frequent screening in current programmes — and, at the same time, reducing the frequency for the (much larger) group makes clear clinical and economic sense. The criteria for 'higher risk' would need to be subject to the same evidence base as current criteria, as would the frequency of screening for each group.



The mechanisms to detect such groups as well as the ability to hold them on a data base (can the specific population be identified?) would also be important.

Similarly, if whole population screening is not required for certain diseases that otherwise fulfil the criteria for screening, then specifically targeting at risk populations, assuming they can be safely and securely identified and included in the programme, would be positively viewed.

The risks of stratified or targeted screening in not including – and therefore not identifying – someone who does not fulfil the criteria for either and therefore is not part of the limited dataset, but develops the disease, would also require careful clinical handling.

Changes to national screening programmes may impact on clinical practice, especially in primary care, but if based on robust evidence and adequately resourced, would positively impact on patient care. They would be a systematic improvement on incidental case finding where suitable and reduce unnecessary tests to improve individual experience and make better use of limited resources.

SECTION B

Comments from Royal Colleges and Faculties regarding current programmes

Common themes from Colleges

Advantages of screening to benefit patients,

- Potential long-term reduction in disease burden if screening is effective
- Earlier diagnosis and less invasive/extensive treatment required
- Independence and strength of an independent screening committee to make explicit, ethical, evidence based decisions will benefit patients.

Challenges/disadvantages for patients

- Equality of uptake, coverage and impact of screening
- False positives/negatives
- Incidental findings
- Lead time bias
- Patient expectation that being screened is the same as being healthy.

Issues regarding delivery,

- Adequate equipment and staffing for screening
- Uncertainty of frequent commissioning of programmes
- Issues relating to staffing, training, and IT plus monitoring and recall systems
- Further imaging assessment, biopsies, staging [CT/MR/PETCT]
- Post treatment surveillance programmes for different cancers involve a variety of imaging techniques – there should be an evidence base for undertaking significant amounts of imaging 'quasi screening' for recurrence.



Specific comments from individual Colleges

Faculty of Public Health

- The introduction of stratification into population screening programmes makes sense where the evidence supports it, can lead to efficiencies and may reduce the harm caused by unnecessary screening tests in those who stand little chance of benefit
- The introduction of targeted screening (that which is not aimed at all those at risk) has some merit but needs careful planning and execution to achieve cost-effectiveness, and avoid inefficiency and inequity
- The resources required to undertake multiple new targeted screening programmes on a mass scale could be very considerable and the net benefits quite small for some such schemes. At a time of scarcity the value for money of these approaches needs to be compared with investment in other approaches to prevention (as for example those detailed in the NHS Long term plan)
- Clarity on the definitions of different types of screening and consistency in use of those terms is crucial in allowing informed debate
- Transparent reporting of the quality and outcomes of any new targeted or stratified screening programme should be a condition imposed by the new advisory body.

Royal College of Ophthalmologists

- Diabetic eye screening is the key programme for adult ophthalmology
- There is good evidence for NHS England's proposal to risk stratify diabetic eye screening so that low risk groups are screened every two years (those with no diabetic retinopathy on 2 consecutive screens) and everyone else annually.

Royal College of Anaesthetists

- Preoperative assessment could be viewed as a screening process - the pre-op team do bloods and ECGs on people looking for previously undiagnosed conditions
- There are some rare conditions which might require targeted screening relevant to anaesthesia eg malignant hyperpyrexia

Royal College of Physicians of Edinburgh

College Fellows agree that the UK National Screening Committee (NSC) has provided a very good framework and set of criteria for population screening in the UK in an area where the focus must remain on measurable population and patient outcomes. The recommendations regarding considering stratified approaches to current screening programmes and the development of new targeted screening programmes are supported.

Royal College of General Practitioners

The RCGP only approves of evidence-based screening programmes that adhere to the Wilson and Junger Criteria. The RCGP supports shared decision making when helping patients make the choice of whether to take up screening and this approach should be included within the terms of reference of the committee rather than simply looking to increase the uptake in screening.



Benefits of screening programmes when applied to clinical general practice:

- Patient empowerment to protect themselves
- Patient agency over their own health
- Increased patient contact with primary care e.g. women with cervical smear sampling enabling relationship-based care to be developed
- Increased opportunity for opportunistic health intervention when screening in primary care e.g. long-term condition management, sexual health education.

Risks of screening programmes when applied to clinical general practice:

- Diversion of resources (time, staff and money) in primary care away from core services
- When patients are not fully informed of risks / benefits, or if there is a lack of evidence on long term health implications of the screening programme, increases in workload and diversion of resources (time, money and staff) away from core primary care services can occur with further information being requested from primary care
- Potential increased secondary care referrals and invasive intervention in secondary care with false positives on initial screening e.g. PSA and prostate biopsy
- If results are delayed due to lack of infrastructure or funding, increased delays may increase patient anxiety, health seeking behaviours, avoidance of other screening processes and clinical time/ resources as a result
- Devolved nations taking different approaches to screening can confuse clinicians who work across countries and lead to inequality in UK wide patient care

Benefits of the proposed changes to screening when applied to clinical general practice:

- A single advisory body is a positive step to ensure one body is responsible for the whole of England, but communication links needs to be in place with the devolved nations to ensure equity of screening across the UK
- Updated IT system is essential to improve the screening process, but NHSX must ensure this integrates into current primary care IT systems to enable effective recalls and coding of data to streamline primary care administration of screening programmes
- Providing financial incentives to providers of screening in primary care to improve numbers of patients informed about screening is positive, but must be fully funded to cover all primary care costs and take into account the current workforce crisis in primary care if this is to be adopted widely. Financial incentives should not be linked to uptake of screening but to opportunities for patients to make an informed decision

Risks of the proposed changes to screening when applied to clinical general practice:

- Lack of independence from the funding body (i.e. NHS England) could over time risk screening being based more on cost-benefit rather than patient / disease benefit
- NHSE already supports non UK NSC approved population screening (e.g. NHS health checks) despite lack of evidence of effect. Independent reviews of screening programmes are essential to ensure only evidence-based screening programmes are implemented.



Royal College of Physicians / British Thoracic Society

Lung cancer screening will be risk-based and the NHS England targeted lung health check programme has identified the best current risk model/ age cut off for selection into such a programme. There is an opportunity to explore targeted screening using lung health checks as an exemplar. Increasing the robustness of implementation funding and standards and QA by close working relationships between NHSE and the PHE NSC would be a sensible approach to this.

The QA document, standard protocol and incidental findings [documents produced by the CT screening advisory committee and published by NHS England](#) are available and are based on expert consensus and the best current evidence to ensure that lung cancer screening is managed in the most appropriate way and harms are mitigated. The agreement is that any programmes should follow these guidelines.

Population level approaches to invitation, risk stratification and active research into novel detection tools are all priorities. Non lung examples include multi-modal prostate screening in high risk cohorts, Cancer tool in colorectal screening and HPV/EBV based detection and triage tools might all be plausible innovations.

Screening programme stratification for entry and also personalisation for recall frequency are in general, notable opportunities for research from both the AI and laboratory science communities. NHSE and PHE should actively facilitate and encourage research trial integration to national pilots, participation and recruitment of screening participants, particularly where this can galvanise multi-centre collaboration to give rise to very large patient cohorts. At times there is active discouragement of research in case it might interfere with clinical pathways. This is less likely than the harm from not taking up research opportunity.

Faculty of Reproductive and Sexual Healthcare

- More than 1 in 4 women do not attend cervical screening when invited, and the proportion is even higher for ethnic minority groups, lesbian and bisexual women, younger women and women aged over 50*
- The Cervical Screening in Integrated Sexual Health Clinics Task and Finish Group was set up and has developed a service specification for the purposes of contracting services
- Detail on other recommendations can be found in the joint [FSRH, RCOG, BSCCP and Jo's Trust position statement](#).

* [NHS Screening programmes in England Health Matters - Cervical Screening: It's your choice](#)

Royal College of Radiologists

Screening Programmes

How changes to screening programmes may help patients and/or their clinical practise

- **Prostate screening:**
 - Prostate-specific antigen (PSA) is currently the 1st line test — in future it may be liquid biopsy [proteomics]
 - Current recommendation is stratified screening based on PSA, using multiparametric magnetic resonance imaging (MpMRI) but depending on the results of ongoing studies may reduce to biparametric [without contrast] which would speed up throughput and reduce cost and risk of contrast
 - MRI & PSA density used to give cut off for those requiring MR guided/targeted biopsy — reducing the required number of samples as part of an agreed active monitoring programme



- Prostate-Specific Membrane Antigen (PSMA) PETCT may play a role
- At present, screening does not reduce mortality.
- **Ovarian screening:** CA125 stratified (but only for postmenopausal women); a trial of screening is about to publish which shows a mortality benefit; there is good evidence that therapy for ovarian cancer has improved 1 – 5 year outcomes but 10 year outcomes remain much the same – so is this a lead time bias? Need to use TVUS – which many patients will not find acceptable (especially in the more elderly populations).
- **Lung cancer screening:** natural progression from NELSON trial; equipment and staffing issues relating to lung screening rollout; lung nodule detection software; incidental findings; image guided biopsies and treatment will all require funding and staffing.
- **Breast screening:**
 - Outcome from Age X trial – still likely to be age stratified whole population screening in light of prevalence
 - Incorporation of AI based computer-aided detection [CAD] systems into mammography screen reading (in a manner as yet undetermined)
 - Development of risk – genetic risk stratification (including SNPS) and mammographic density adapted screening rather than the 'one-size-fits-all' model we currently have
 - High risk screening for post radiotherapy population – case ascertainment
 - Moderate risk and post cancer surveillance – within cancer screening programme
 - Stop referrals for physical examination
 - Need to emphasise that these changes must be evidence-based – both are currently the subject of active research
- **Bowel cancer screening:** genetic stratification; CTC with polyp detection software.
- **Hepatocellular Carcinoma (HCC):** currently large numbers of ultrasounds are undertaken – would benefit from 'regularising' into a formal funded screening programme if there is evidence of benefit. Further assessment with MR [CT].
- **Rapid access diagnostic centres (RDCs):** CTs for vague symptoms – an alternative form of stratified screening.
- **Coronary artery disease:** Calcium scoring CT is used as a tool in some patients deemed to be at intermediate risk for coronary artery disease based on classical cardiovascular risk factors to help better classify them into a low/intermediate/high risk group. This is in effect a refinement of the typical screening process.
- Much oncology follow-up falls into screening a high risk population for new primaries as well as recurrence
- Non-cancer – Osteoporosis?

Royal College of Pathologists

The Royal College of Pathologists submitted a [detailed response to Sir Mike Richards Review](#)

Royal College of Paediatrics and Child Health

Programmes of screening for neonates and children are vital opportunities for ensuring children



have the best start in life. Early warning for possible function and development delays enables health teams to respond early, and for new parents, it is imperative that confidence is maintained.

Every infant and child should receive a universal programme of screening. These include (but is not exhaustive):

- Newborn Blood Spot Screening Programme
- Newborn Hearing Screening Programme
- Newborn and Infant Physical Examination Programme
- 6 week check
- Retinitis of prematurity screening programme
- Healthy Child Programme
- National Child Measurement Programme
- Targeted screening programmes for groups with chronic illness / syndrome specific.

Not only do these programme ensure the best start for children, they enable early detection of developmental concerns to allow medical assessment of underlying causes. This results in early educational interventions leading to better developmental, educational and behavioural outcomes.

Screening programmes for children with existing chronic illness, or those with a syndrome, target treatable health conditions that are more common in these particular groups and if go untreated will cause significant health problems impacting on the child's physical and mental health and wellbeing.

Research and evidence is crucial to support and underpin screening programmes. This, supplemented by IT systems that are interoperable, is important to guaranteeing connectivity between primary and secondary care settings.

Academy Patient/Lay Group

- The greater stratification of screening programmes to select for those at higher risk sounds very reasonable, but changes would need to be carefully explained to the public a) so there was no feeling of injustice or discrimination by those not selected for screening and b) so that the population at large did not see a screening programme as less important because it did not target all or most of a population.
- Increased screening opportunities can be beneficial but can also feel burdensome to patients, some of whom feel they are being offered various screening and health checks rather too often. Can access to any screening tests be grouped together (e.g. those requiring blood tests) so that the patient has more of a one-stop-shop approach to being screened if they wish?
- The RCGP helpfully mentions and supports shared decision making but this should be an explicit aspect of all kinds of screening programmes — with the use of whatever decision making tools may be helpful and relevant to particular contexts.