Commentary
Population screening in the NHS: a systematic pathway from evidence to policy formulation

Robert Sherriff, Lesley Best and Paul Roderick

Summary
In 1994 the Chief Medical Officer of England set out a framework for the evaluation and implementation of national screening programmes in the National Health Service (NHS). The framework highlighted the importance of the link between research evidence and the formulation of national policy. It also stressed the necessity for monitoring, evaluation and quality control as integral components for all new screening programmes. There is now an established link between the Health Technology Assessment programme of the NHS Research and Development Directorate and the NHS’s new policy advisory group, the National Screening Committee. The objective of this systematic approach is to ensure that screening programmes are not introduced into the NHS unless there is robust evidence that benefit outweighs harm. The Population Screening Panel, an advisory panel of the NHS Health Technology Assessment programme, has the responsibility for determining priorities in research on proposed or existing population screening programmes. The National Screening Committee has a remit to consider this research evidence and to advise government ministers and the NHS on the appropriateness of the implementation, development and modification of national screening programmes. The example of prostatic cancer screening is presented as an illustration of how the NHS is developing a systematic approach to the implementation of screening policy based upon the strategic commissioning of research evidence.

Keywords: screening, Health Technology Assessment, National Health Service, policy

Introduction
In 1994 the Chief Medical Officer of England, Sir Kenneth Calman, set out a framework for the evaluation and implementation of national screening programmes in the National Health Service (NHS). The framework recognized that screening is a complex intervention which incorporates not only the scientific issues of effectiveness, but also ethical dimensions and the issues of organizational and quality assurance infrastructure. In particular, it highlighted the importance of the link between research evidence and the formulation of national screening policy. The framework also stressed the necessity to ensure that monitoring, evaluation and quality control were integral components of the implementation plan for all new screening programmes.

The objective of this systematic approach is threefold: (1) to ensure that screening programmes are not introduced into the NHS unless there is robust evidence that benefit outweighs harm; (2) to ensure that new programmes meet the recognized criteria for population screening programmes; (3) to ensure that programmes are implemented with built-in management plans, quality assurance and explicit quality standards. It is hoped that this third point will prevent any future screening programmes from being introduced in an ad hoc fashion with the resulting variation in local practice, standards and organization.

The intervening years have seen the implementation of this framework to the extent that there is now an established link between the Health Technology Assessment programme of the NHS Research and Development programme and the new policy advisory group, the National Screening Committee. This paper will describe the collaborative process and will use the example of prostatic cancer screening as an illustration of how the NHS is developing a systematic approach to the implementation of screening policy based upon the strategic commissioning of research evidence.

Population screening and the Health Technology Assessment programme
The Health Technology Assessment (HTA) programme, established in 1993, is the largest single programme of work within the NHS Research and Development strategy. The National Screening Committee Secretariat, NHS Executive Anglia and Oxford, 6–12 Capital Drive, Linford Wood, Milton Keynes MK14 6QP.

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programme is a systematic, needs-led approach which aims to commission research in those areas of greatest importance to the NHS. Questions on the effectiveness and cost-effectiveness of health technologies are the primary focus of this programme, which commissions both primary and secondary research. A 'bottom-up' approach is adopted for the identification of potential HTA research questions eliciting the concerns of purchasers, providers and users of health care services, as well as the academic community and professional bodies (Table 1 lists the consultation sources for the 1997 identification round). Research questions may relate to specific screening programmes (thereby considering the performance of screening tests, effectiveness of early interventions, acceptability to participants, compliance, facilities for implementation, and quality assurance mechanisms) or to generic issues affecting all screening activities (e.g. factors affecting uptake, impact of false-negative results). Research is considered on both new (e.g. fragile X) and existing screening programmes (e.g. child health surveillance).

The Population Screening Panel has an important role in that it is required to judge the merits of each topic in terms of the importance to the NHS. Explicit criteria are laid out to aid this
Figure 2 Stages of the HTA research cycle.

decision-making, including consideration of the burden of
disease, current levels of uncertainty, importance of early
assessment, pace of diffusion, and the value for money of the
research. The panel is also guided by the Wilson and Jungner
criteria for the assessment of screening programmes. The
Population Screening panel has 12 expert members represent-
ing a wide range of screening expertise including antenatal and
neonatal screening, child health surveillance, cancer and
cardiovascular disease, women's health, the psychosocial and
economic impact of health care interventions, and genetic
screening.

Current research given priority by the Population Screening
panel (and commissioned by the HTA programme) includes
both new and existing programmes and is largely in the form of
systematic reviews, e.g. screening for cystic fibrosis, screening
for stroke through detection and management of hypertension,
screening for fragile X, preschool vision screening, and
screening for Down's syndrome. Some major randomized
controlled trials given priority are being taken forward by the
Medical Research Council, namely screening for colorectal
cancer by flexible sigmoidoscopy and screening for abdominal
aortic aneurysm in men aged 65–74 years.

The entire HTA programme is supported by the National
Coordinating Centre for HTA (NCCHTA), based at the Wessex
Institute for Health Research and Development, University of
Southampton, in collaboration with partners at the Centre
for Health Economics and Department of Health Sciences
and Clinical Evaluation, at the University of York. The
NCCHTA supports the six HTA panels and the Standing
Group by co-ordinating consultation, compiling key informa-
tion to aid priority setting, managing the commissioning
process, monitoring current research and publishing completed
work.

The cyclical nature of the research process within the HTA
programme is illustrated in Fig. 2. Once topics are given
priority by the Standing Group, the majority are advertised
nationally for interested parties to work up proposals.
Institutional curriculum vitae and outline proposals are short-
listed by the Commissioning Group, whose remit is to advise on
the quality and value of work, and relevance to the HTA
priority. Proposals are refereed by external experts before
selection and commissioning. Current research is monitored
through site visits and the submission of progress reports, to
ensure the quality and timeliness of work. Completed research
is publicly available, after peer review and revision as
necessary.

Within the HTA programme, the area of population
screening is unique in that the knowledge outputs of the
programme are automatically considered for implementation,
following the establishment of the National Screening Com-
mittee. This important link between high-quality research and
controlled implementation will be pivotal in promoting
evidence-based population screening policies.

The National Screening Committee

The National Screening Committee, which first met in July
1996, has a remit to advise Department of Health ministers,
the Government's Chief Medical Officer (CMO) and the
NHS Executive on the timeliness and appropriateness of the
implementation, development, review and modification of
national screening programmes. The basis for this advice is
evidence on clinical and cost-effectiveness, population need,
medical ethics and clinical outcomes.

Potential screening programmes exist in every specialty and
sub-specialty of clinical practice, and for this reason it would
not have been possible to have every group represented on the
National Screening Committee. Members were therefore
selected to form a body which would be able to consider
screening programmes in their broadest perspective. The
Committee, chaired by the Chief Medical Officer (CMO) of
England, has a membership including the CMOs of Northern
There is currently no organized national screening programme for prostate cancer. The cost-effectiveness of screening for prostate cancer from both the Population Screening and Diagnostics and the diagnosis and management of early prostate cancer arose as part of a formal research trial. A press launch organized by the NHS Centre for Reviews and Dissemination, University of York, was held in February 1997, to publicize these systematic reviews (available from National Coordinating Centre for HTA, The Wessex Institute for Health Research and Development, University of Southampton, Biomedical Sciences Building, Bassett Crescent East, Southampton SO16 7PX; http://www.soton.ac.uk/~wi/hta), and to release summary reports aimed at patients, clinicians and purchasers.6,7 Subsequently, the reports received coverage in The Lancet,8 where issues were raised about the importance of patient views and the merits of consensus conferences in the formulation of health policy. The HTA reports (and programme) received both praise and criticism in the letters that followed.9,10

The two systematic reviews were considered by the National Screening Committee in early 1997. In particular, the Committee focused on the criterion that there must be evidence that benefit from screening outweighs harm. In light of the lack of evidence to support this, the National Screening Committee concluded that population screening for prostatic cancer should not be offered to the public. This advice, having been accepted by ministers and the NHS Executive, was subsequently disseminated to the wider NHS in the form of an Executive Letter.11

An example of the work so far: screening for prostate cancer

The diagnosis and management of early prostate cancer arose from both the Population Screening and Diagnostics and Imaging HTA panels in 1993. An important part of this topic was the cost-effectiveness of screening for prostate cancer (including the use of the prostatic-specific-antigen (PSA) test). There is currently no organized national screening programme for prostate cancer. An urgent assessment was required as ad hoc PSA testing was known to be taking place.
Conclusion
This paper has described a systematic and strategic approach to the commissioning of research and the formulation of an evidence-based national screening policy. It is anticipated that this process will continue to form a useful and robust mechanism for developing NHS screening policy into the twenty-first century.

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References

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