Social Market Foundation

SMF FORESIGHT

THE PREVENTION OF CARDIOVASCULAR DISEASE

A report of an expert discussion held on 11 June 2008

David Furness

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THE SOCIAL MARKET FOUNDATION

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INTRODUCTION

On 7 January 2008 Prime Minister Gordon Brown promised an NHS that delivers "a more personal and preventative service… one that intervenes earlier." Nowhere is this more important than with cardiovascular disease. Despite recent advances in treatment, mainly due to the National Service Framework, heart disease remains one of the biggest killers and challenges facing our health services. And while the right and timely treatment is important, we know that behavioural patterns early in life have a big impact on an individual's risk of developing cardiovascular disease – making prevention a priority too.

Investing in more screening for disease is part of the answer but not the full picture. The NHS is undertaking an ambitious programme of risk assessment – helping individuals to understand their risk better, and then intervening with those who have a strong chance of developing serious health problems. Following the announcement of this programme the Social Market Foundation was very pleased to host a discussion, in partnership with Bristol Myers Squibb and sanofi-aventis to discuss the next steps in the prevention of cardiovascular disease. The report below details the content of our discussion and raises a number of key points about the way in which a programme of risk assessment should develop in the future. We hope that it will be a useful contribution to the debate, and help to shape a programme that has a tremendous opportunity to have a positive impact on one of the biggest health challenges of our time.

The report presented here represents a summary of the discussion that took place, and does not necessarily reflect the views of any particular attendee or their employers.

Ian Mulheirn
Director, Social Market Foundation

EVENT DETAILS AND ATTENDEE LIST

The prevention of cardiovascular disease took place at the Social Market Foundation on 11 June, 2008. The attendees were:

Professor Roger Boyle, Department of Health
Dr Andrew Foulkes, West Sussex PCT
David Furness, SMF
Barney Gough, SMF
Sue Griffith, Department of Health
Dr Mike Knapton, British Heart Foundation
Dr Gillian Leng, NICE
Dr Tom Marshall, University of Birmingham
Lyndsay Mountford, SMF
Dr Henry Purcell, Royal Brompton Hospital
Dr Azhar Rana, Bristol-Myers Squibb
Professor Gerard Stansby, Nuffield Hospital, Newcastle on Tyne and Chair of Target PAD Group
Dr Tony Whitehead, sanofi-aventis
Professor David Wood, Imperial College London

KEY RECOMMENDATIONS

The discussion reported below reflects the challenges and opportunities of assessing risk for cardio-vascular disease – an approach that goes beyond our traditional ideas about screening for disease. It is clear that a great deal of work is needed in this area, and there are some clear conclusions from the discussion as to where this should be focused.

The SMF therefore recommends that ministers, policymakers and clinicians focus on the following areas in order to improve the lives, and life-chances, of patients with cardiovascular disease.

- A more sophisticated approach to both continuity of risk and different treatment strategies is required. We need a better understanding of the many different forms of cardiovascular disease, including heart disease, stroke, peripheral arterial disease and kidney disease. Patients may have more than one of these problems and they need to be dealt with in a holistic way.

- Risk assessment must be followed by appropriate interventions. This is a challenge both of information (making sure it is shared between professionals) and implementation (making sure interventions are delivered effectively).

- While the GP record is a good starting point for identifying people at risk of disease, we need to remember that hard-to-reach groups may not be covered by this approach. More work is needed to identify them.

- Better communication between patients and GPs is needed. A full discussion of the implications of an individual's risk assessment enables a patient to fully understand their risk and be involved in decisions over how best to manage it.

- Greater investment in early years prevention is needed. Poor lifestyle habits are ingrained early in life, and we need to be sure that we are not targeting people when it is already too late for them to change.
- Robust outcome data must be developed or we will not know what has been achieved, and how to improve on the inevitable weaknesses of any new programme.
- Understanding the importance of motivation and coaching in helping an individual to change their lifestyle. Information for patients is only one part of the challenge – we need to offer the means to change as well as the reason for doing so. This applies to carers and family members too – the whole family can make healthy changes and support each other in lowering their risk of serious health problems.

PROFESSOR ROGER BOYLE – ASSESSING RISK, NOT SCREENING FOR DISEASE

The event began with a presentation from Professor Roger Boyle, the National Clinical Director for Heart Disease. His edited remarks appear below.

The Department of Health (DH) is developing "a systematic process of assessing cardiovascular risk" which is different from screening for disease. The recommendation to assess total cardiovascular risk was first made by the British Cardiac Society in 1998, alongside three other professional societies. So the principle, at least amongst the professions, has been established for many years, even though in reality it has never been implemented in the NHS.

It has also been a long-standing ambition of the DH to move away from artificial "disease silos" and into a collective process for making sure that health promotion and the mechanics of prevention are dealt with in a more holistic way – not just treating heart disease but looking at the entirety of an individual's health.

One important milestone in the development of the national strategy was the recently-published National Institute for Health and Clinical Excellence (NICE) guidelines on the management of lipids; moving on from (successful) national secondary prevention policies to a more systematic approach to primary prevention.

Additionally, the transition in government from Tony Blair to Gordon Brown led to renewed political focus on preventative healthcare. This interest was manifested in a policy of vascular checks for all people over 40, along with funding to support the programme. This national programme of assessing risk will include components around diabetes and chronic kidney disease and, as it is probably unique anywhere in the world, it will become the focus of quite a lot of international attention. It will not, however, invent anything new and will build on work which is already in progress: identification of

risk factors attributable to age, gender, smoking status, physical activity, family history, ethnicity, body mass index, cholesterol and blood pressure.

The main challenge is going to be to work out the detail of the screening programme, and in order to do this the DH is consulting widely and seeking advice and help in terms of how the programme will work.

DISCUSSION: THE KEY CHALLENGES IN CARDIO-VASCULAR RISK ASSESSMENT

1) REDUCING INEQUALITIES

One of the founding objectives of the National Health Services has been "to universalise the best" - making sure that high quality healthcare is available to everyone, regardless of their income or where they live. However inequalities in health and healthcare remain. This is due in part to the unequal distribution of healthcare, but also because of lifestyle factors that have a profound impact on people's health. Through a programme of risk assessment combined with medical and lifestyle interventions, it is hoped that we can make an impact on entrenched inequalities in healthcare. Participants in the discussion highlighted both the challenges and opportunities of this programme.

Social inequalities

Addressing the inequalities that exist in cardiovascular disease as well as pulling off the biggest public health intervention that has ever been invented is a massive challenge. It will be about systems that can achieve access to the people who most need help. There will need to be a process of prioritisation in finding people at highest risk first, which will be in line with the forthcoming NICE guidelines on reducing cardiovascular disease in hard-to-reach groups.

About 30% to 40% of overall difference in life expectancy can be attributed to inequalities in the impact of cardiovascular disease on premature death. That men in Bournemouth live longer than men in Manchester can largely be attributed to vascular health. At the same time, the latest data from the Health Survey for England 2006 show a decline in cardiovascular mortality over the last decade, which has also had a positive effect on inequalities. There has been a reduction in prevalence for all age groups, men and women, in stroke and coronary heart disease - admittedly from self-reported diagnoses but this is the best data currently available.

One of the potential problems of a national programme of risk assessment is that it might exacerbate health inequalities. This is because those motivated to attend risk assessments and change their lifestyle as a result may well be those individuals who are not at greatest risk of developing cardiovascular disease. The challenge is in reaching those unengaged groups who are at high risk.

Geographical inequalities

The new programme combines medical and lifestyle interventions to improve health. One primary objective of this is to reinforce the national character of the NHS as it relates to preventative healthcare. We need to make sure that the simple lifestyle advice available around the country is consistent. People need clear advice, and interventions such as exercise programmes, dietary advice and smoking cessation need to adhere to national standards. This is particularly important in making sure that those areas in greatest need have access to good quality preventative healthcare.

2) TARGETING THE RIGHT INDIVIDUALS

Participants in the discussion agreed that a key challenge of risk assessment is to ensure that the right people access the services they need to help them stay healthy, not least because of the concerns for social and geographic equality outlined above. As well as the social case for targeting people in greatest need there is also an economic reason to do so. The Department of Health is currently modelling different approaches to targeting to establish which offer the best value for money. However, there is no doubt that the simple interventions envisaged, including therapeutic interventions, will be extremely cost effective at around £3,000 to £4,000 per QALY.

Risk Targeting – a multi disease approach?

Just as we do with cancer or mental health, we sometimes talk of cardiovascular disease as though it stands apart from other areas of medicine and healthcare. There is evidence to show that this "silo" approach is not helpful in identifying patients who would benefit most from preventative interventions.

The Reach Registry has investigated the prospects of patients traditionally known as the "secondary prevention group" – people who have had heart attacks and strokes, and are therefore at greater risk of suffering another event. Fewer than one in seven of these patients will die or be hospitalised because of another major cardiovascular event in the year following their initial heart attack or stroke. One in five patients with established peripheral arterial disease will die or be hospitalised within a year from another cardiovascular event.

However additional factors not recognised in the current design of our health system can massively increase risk. Some patients have polyvascular disease, meaning that they have coexistent disease in two or three territories – coronary, cerebral and/or arterial. A patient who has peripheral arterial disease (PAD) as well as another type of vascular problem typically has their risk of death or hospitalisation increased by 50%. One of the issues

which has concerned the Target PAD group of clinicians is that there has been no real recognition of this in most guidelines or indeed in the Quality of Outcomes Framework (QOF). Some participants argued that the QOF would be by far the best mechanism to encourage doctors to identify and treat patients in the most appropriate way.

Reach Registry vascular data shows that 16% of patients had disease in more than one vascular bed. Patients with vascular disease in one bed have a 13% risk presentation of a further event. Those with vascular disease in three beds have a 26% risk.[1] Would this concept of multi-vascular disease be a helpful additional concept to bring attention to this disease and perhaps help break down the silos? While there is clearly merit in recognising the different levels of risk for different patients, some participants questioned whether anything practical would change as a result. We have a suite of interventions that are the same for every patient whether they suffer from polyvascular disease or not.

Targeting people at the right age

Children and prevention

Patterns in health are set very early in life. It is known that the changes in the arteries which will result in a heart attack are initiated at a very early stage. Post mortems on people in their teens and twenties can show early evidence of fatty infiltration of vessels. There is evidence that other factors such as genetics, weight at birth and parenting all influence the development of heart disease, strokes and so on at a much later stage of life.

Some participants felt that prevention in early childhood must go hand in hand with interventions aimed at people in adulthood, and that attempting to alter habits and risk factors after 40 years may already be too late.

1. Steg PG, Bhatt DL, Wilson PWF, 'Agostino R, Ohman EM, Rother J, et al. *One-year cardiovascular event rates in outpatients with atherothrombosis.* JAMA. 2007;297:1197-1206

We need to be thinking about a continuum of risk and a continuum of disease progression. Even with a big vascular risk assessment programme which aims to find people at high risk, there needs to be a lot more research about how to identify that single individual who is going to end up on the wrong track, and find ways of intervening early on.

Participants also highlighted the time that students at university spend damaging their health. People often become less physically active than they were at school, and adopt bad habits in terms of drinking, smoking and illegal drugs. What could be done to promote better health at university?

Lifetime risk

It is natural and proper that the Health Service focuses on the disease that an individual suffers from. However, such an approach can sometimes obscure their overall health risk. This might mean that interventions are not maximally effective as they are based on a partial understanding of an individual's health. For instance, if someone has a stroke the immediate focus is to do things to stop them from having another stroke. A lot of the research on stroke is designed from that perspective. However, lifetime risk of dying is, in fact, more likely to be death from a heart attack than a stroke. This suggests that perhaps we should focus on a different criterion - total lifetime risk.

There is not yet enough of a focus on preventing further ill health in people who have had heart attacks and strokes, the target groups for the screening programme, such as 40 to 70 year olds. Is it possible to actually weigh up the treatment of established disease against the screening programme and comment as to what actually will produce the most benefit in terms of money spent for the NHS? Is our focus on the treatment of existing disease skewing our priorities?

The DH was keen to be able to identify the cohorts that are going to develop serious vascular disease, particularly poly-vascular disease at a young age. However it is not yet possible to assess lifetime risk and a risk engine of some kind will have to be used for the moment, in order to find those people that are going to most benefit from special attention. Participants agreed that a greater focus on known multivascular risk factors, such as symptoms of peripheral arterial disease, was vital in this regard.

3) COMMISSIONING AND PROVIDING RISK ASSESSMENT SERVICES

In our reformed NHS responsibility for providing services rests predominantly with commissioners – PCTs and GPs. Their challenge is to identify need, design services to meet it and then deliver those services effectively.

The role of PCTs

Many participants highlighted the opportunity that better risk assessment presents for PCTs. An effective risk assessment programme offers the prospect of improved population health as well as providing very good value for money. As long as there are systems for dealing with all the people who have been evaluated for cardiovascular risk, to make sure that they are all integrated into the same programme for tackling their lifestyle issues appropriately and comprehensively, there is no reason why this could not be turned into a successful initiative.

The DH is currently working towards voluntary enhanced services frameworks which, as part of a good practice guideline, allow early identification of Peripheral Arterial Disease (PAD). Many of the participants agreed that inclusion in the Quality and Outcomes Framework would be even more appropriate to tackle this issue of identification, which can change significantly an individual's risk profile.

However the picture is not uniformly positive. PCTs have their unique problems and it is likely that a proportion will struggle to put in place the necessary financial levers and to design interventions that reach individuals who do not seek out healthcare. There will be different opportunities in different localities, and different challenges depending on whether it is an inner city or a rural area.

The role of GPs

Some participants in our discussion argued strongly that the GP record has to be the ultimate resting place for all the information on an individual patient, including any information resulting from risk assessment. Consequently it will be necessary to have made a decision about which search engine to be used to identify those at high risk by April 2009. This will need to be built into GP systems – either via Directed Enhanced Service (DES) or preferably the Quality and Outcomes Framework. The important thing is to have a specification and then to require Primary Care Trusts to stage manage it and make sure there is effective quality assurance. Clearly there is huge opportunity for gaming by the unscrupulous (i.e. counting people who do not exist) and there are huge issues around information flows if there are external groups doing some of the cardiovascular risk assessment.

On the other hand an exciting part of this initiative will be harnessing synergies between pharmacies, general practice and other organisations to provide services in innovative ways. This integration will be the key to a successful assessment programme. Electronic communications will help enormously, enabling results to be communicated across providers. For example, if somebody goes to a High Street pharmacy to get their blood pressure checked, it is crucial that the information comes back to the general practice.

Pilot programmes taking place across the country in combination with consultation should help in the development of models on best practice that can be built on across the country.

4) SUCCESSFUL INTERVENTIONS

There is no point in identifying people at risk and then commissioning services unless they are delivered successfully. But what do successful interventions look like?

Harnessing the available expertise

Participants highlighted the need for preventative measures at a range of levels: societal, environmental, organisational and with individuals. The limiting factor will not be finances, but capacity. Consequently, DH is exploring the options for using pharmacists as an extra set of expertise in the high street, of promoting health in the workplace, and finding other innovative ways of working. In short, the DH does not see this as entirely a primary care based activity – we need to look beyond the traditional sources of information and intervention.

Other participants reminded us that there will, however, clearly be a big impact on GP practices, because there will be people identified by this process who will need intervention and supervision in the long term. Hopefully it will be possible to reassure GPs that this is not a piece of work that is being "done to them" but actually it will be carried out in conjunction with GPs. It will be important to convince those few GPs who aren't interested that a holistic attitude to the health of their population is part of their overall responsibility. Whilst perhaps 80% of practices will be keen to implement this new programme, 20% are going to have difficulties.

Consequently, an important challenge is to find ways of executing this programme sufficiently well to ensure that it doesn't overburden primary care. That said, even if the programme was all primary care based, the estimates are that it would result in a maximum of seven extra consultations per week per practice.

An important source of expertise for the new screening programmes are existing programmes like cervical screening, breast screening and the new screening for colon cancer. One of the key components of these programmes is the systems they use for tracing people. 98% of the

population is registered with a GP and so to use the GP practice record is a good starting point. The problem with relying on GP practice data is where there is a high-risk group which does not seek out health advice, and therefore do not appear on records. In such cases it will be important to find other ways of getting to people, particularly younger men, whose health could be considerably improved.

Successful interventions

Many participants stressed that there should be no screening for cardiovascular risk without intervention. Clearly if people at high cardiovascular risk are identified and then simply told to stop smoking, given a leaflet on diet, encouraged to be more physically active and sent away to get on with their lives we will not succeed in lowering risk. To offer a light touch intervention, when high risk patients require a sustained and professional approach by nurses, dieticians, physiotherapists, physical activity specialists and so on, would mean that the risk reduction that is possible in these patients would not be achieved. Consequently, there has to be a resource, not just for the screening of risk but for the substantial investment in managing that risk professionally and doing so over the long term.

There are studies which show that patients with claudication benefit greatly from intensive back-up in an exercise programme delivered over a six month period. Importantly, when you stop the advice, the benefit continues for at least a further six months. So people don't necessarily need lifelong support, but there do need to be robust interventions in place to help people alter their lifestyles.

Secondary prevention – putting money in the right places

Our discussion covered the strengths and weaknesses of secondary prevention, where patients who have already suffered heart attack or stroke are helped to avoid further problems. The Health Survey for England self-reported data suggests that around 70% of people who had heart attack or stroke any time in their lives are currently taking statins and

aspirin. Although this is the right direction of travel, there are still 30% of patients missing out on the correct and appropriate treatment.

There is still a long way to go with people who have diabetes and hypertension, where the figures are more like 30%-40% taking statins or aspirin. More than 50% of those individuals whose risk of suffering heart attack or stroke over the next ten years is greater than 20% are on no treatment at all. In fact, there is some evidence that our resources are directed towards people who are at relatively low risk, while we miss out on treating many patients at high risk. This must be tackled, through a holistic multivascular approach to managing these patients.

How can we avoid this problem of misplaced resources? Many participants advocated the establishment of a single vascular prevention programme which can be accessed by both those with established disease and those at high risk of developing problems. It is not just a question of new money. It is a question of reconfiguring resources that are already being deployed, sometimes ineffectively, to provide a truly comprehensive service for these high risk patients.

Case studies and examples of good practice

During the discussion a number of interesting case studies and examples of good practice were discussed. A model used in the West Midlands adopts a very specific approach. The first step is a systematic identification strategy to find people at high risk of cardiovascular disease using electronic records. This is achieved using a Framingham risk analysis. Clinicians noted that, although identification is important, it is irrelevant if patients are not managed properly. Therefore, having identified those people at high risk, two strategies were developed. First GPs were presented with those people who were believed to have greater than 20% risk of problems over the next ten years, and were asked to see them during the course of the year (which GPs had agreed to do as part of this programme).

For the remainder of the group, a nurse was employed to systematically send letters, invitations, make appointments and so on. The results were

impressive. Many more patients were invited for assessment than would have been, had this been left to a more opportunistic method such as, for example, GP consultations about other issues. This systematic approach resulted in a tripling of the number of people receiving preventative treatment.

Some participants pointed out that initial successes of the type described need a systematic follow-up process. Such a process would ensure that the targeted individuals come back every year, or once every six months or whatever is deemed to be appropriate, for their check up and ongoing advice. This is not difficult to achieve, and perhaps health professionals could learn something from insurance companies! All that is needed is a letter offering an appointment slot, just as you receive a renewal letter from insurers.

Reaching the hard-to-reach: interventions in non-traditional settings

The British Heart Foundation has undertaken preventative work in many settings not traditionally seen as bastions of health. They have delivered risk assessments at the Manchester Beer Festival and are piloting 'Heart Health Live': vascular risk assessments in Asda and Co-Op outlets in the North East.

It may be more expensive to offer risk assessments in these settings, but it may also be the only way to reach the 20% of people who will not access services through general practice. This is important because it is likely that the greatest burden of disease will be in that very 20%.

There is also a challenge of efficiency. If people have their blood pressure checked at a beer festival or supermarket, and this leads them to seek further medical advice will we simply be repeating the same tests? Most GPs would want to confirm the results presented to them by the patient. We need to lay the ground with GPs and PCTs to make sure that they can trust data from other sources of health advice, and maximise the efficiency of the overall risk assessment programme.

The NHS has embarked on an ambitious programme of risk assessment for cardio vascular disease. Understanding individual risk factors will enable NHS trusts to design appropriate interventions to improve cardio vascular health, and help to tackle one of the UK's most serious health problems.

The Social Market Foundation brought together a range of experts to discuss the challenges and opportunities of the new cardio vascular disease screening programme. The discussion was led by Professor Roger Boyle, the National Director for Heart Disease. This report includes Professor Boyle's remarks, and a thematic account of the ensuing discussion, including:

- The challenge of reducing inequalities
- The importance of targeting the right individuals
- Commissioning and providing risk assessment services
- Examples of successful interventions

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