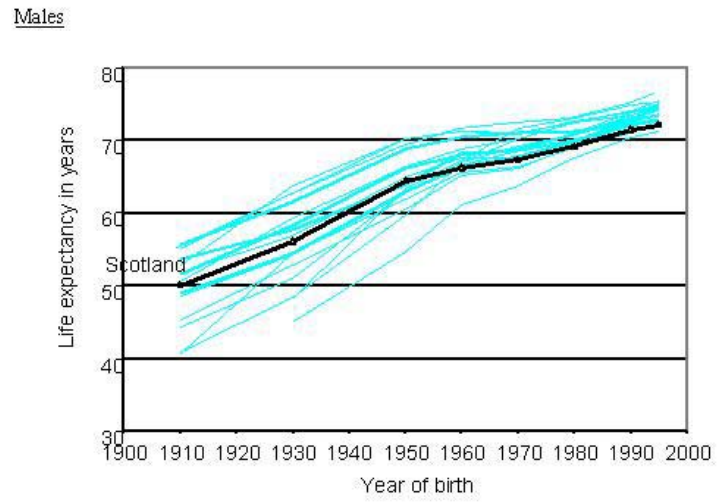
**TACKLING HEALTH INEQUALITIES – AN NHS RESPONSE**

## 1. The problem of health inequalities in Scotland

Scotland's health, when compared to other Western European countries is relatively poor. As judged by life expectancy at birth, only Portugal has a lower life expectancy for males and there are no Western European countries whose females have a lower life expectancy. Figure 1 shows the trend in male life expectancy during the 20th century in Scotland and in 16 other Western European countries. It can be seen that in the early part of the 20th century, Scottish males had a life expectancy which was the average for Western Europe. In keeping with other countries, there were significant improvements until the middle of the 20th century when life expectancy improvements slowed for all countries. The improvement in Scotland's life expectancy slowed rather more than average so that by the year 2000 we had fallen to the bottom of the league table.

*Figure 1*

**20th century trends in life expectancy in Scotland and 16 other Western European countries**




Figures 2 and 3 show the trend in mortality amongst Scots men and women of working age over the same period compared to the best and worst of other Western European countries. Scottish males attained their position as having the highest annual mortality about 1980 while Scottish females have been in that position since the 1960s. For boys and girls under the age of 15, Scotland's health record is actually quite good with mortality rates in both sexes being better than the European average. Whatever is predisposing Scots to be unhealthy seems to affect those of working age most severely.

*Figure 2*

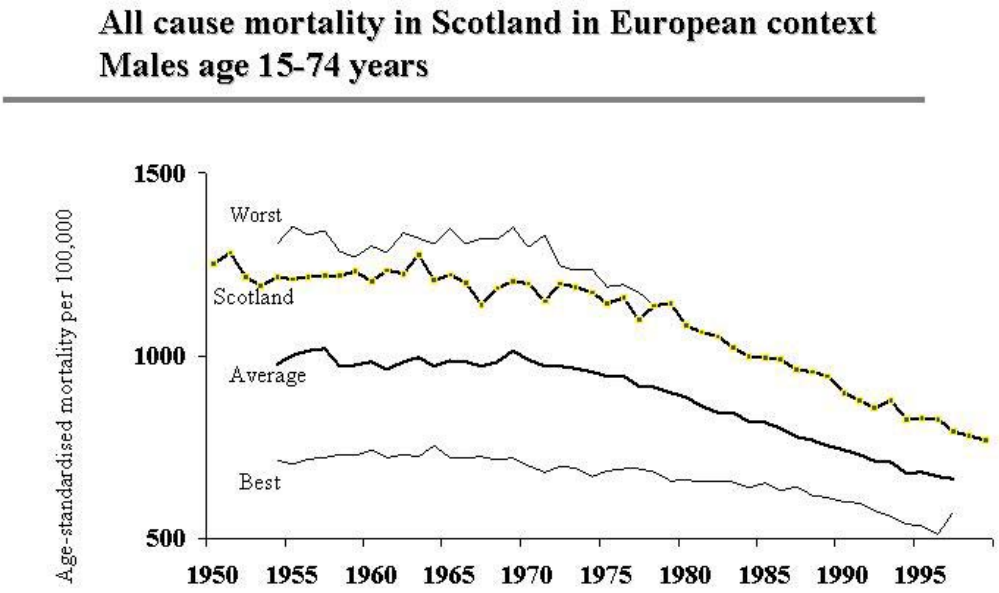
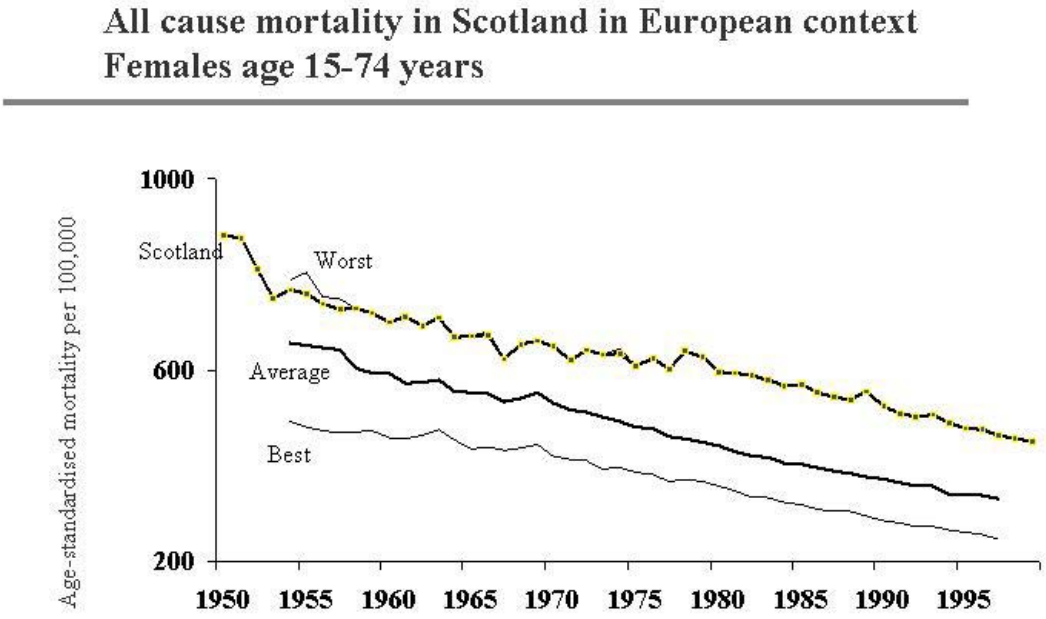


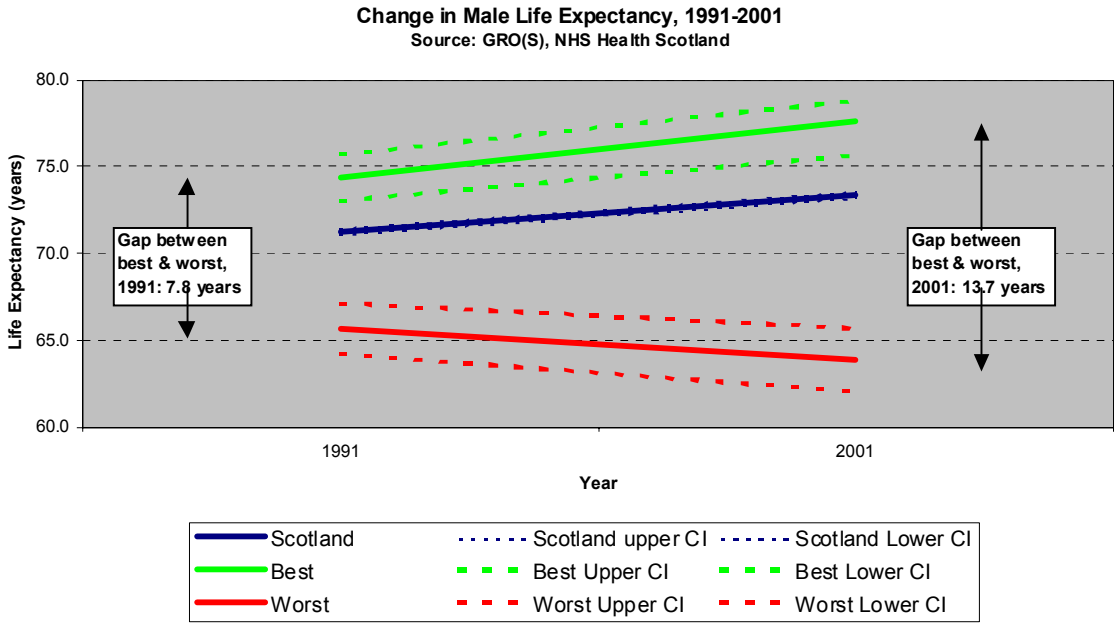

*Figure 3*




While absolute levels of health in Scotland compare poorly with Western Europe, when the most affluent area is compared with the poorest area, the differences *within* Scotland in life expectancy and mortality are significant and widening. In 2002, life expectancy at birth for men living in deprived areas was 69.5 years compared with 78.4 years in affluent areas. The life

expectancy for women was 77.3 years compared with 82.3 years in the affluent areas. These gaps in life expectancy between rich and poor are widening (Table 1) and the gap between best and worst areas of Scotland is now substantial.

*Table 1*




Of significant concern is the evidence that a considerable proportion of the life expectancy of people living in deprived parts of Scotland is spent while living with long-standing illness. In 2001, 21% of women living in deprived areas reported they had a limiting long-standing illness or disability compared to 8% of women in affluent areas. The corresponding figures for men were 21% and 9%.

In summary therefore, these figures suggest that, while Scotland's health is improving, it is improving more slowly than any other Western European country and as a result Scotland is losing ground. It is likely that most of the improvement in life expectancy in Scotland is being enjoyed by people living in more affluent areas and those living in poorer areas are being left behind. For many Scots this relatively low life expectancy is associated with serious health problems which limit their capacity to lead effective lives.

## 2. Explanations for health inequalities

Conventional thinking identifies three broad types of explanation as underlying health inequalities.

(i) The first is that the health of an individual is largely determined by the circumstances in which he or she lives. Poor health is associated with poverty, poor housing, low educational status, unemployment and a variety of other life circumstances. There is a widely held assumption

that by changing these life circumstances improvements in health will inevitably result.

(ii) The second broad group of explanations relates to health related behaviours. Those who smoke, become obese through eating a poor diet or through lack of exercise, and those who drink alcohol in excessive quantities or abuse drugs have poor health. It seems reasonable to expect that persuading these individuals to change their behaviour will improve health. However, there is a link between life circumstances and health related behaviour and it is often difficult to separate the influence of life circumstances as a factor which erodes the psychological capacity of an individual to adopt healthy lifestyles. Behaviour change projects may not, therefore, have the anticipated effects when used in deprived areas.

(iii) The third broad group of explanations for health inequalities relates to the influence of health services. It is this issue that this paper will consider in greatest detail.

## 3. The impact of the NHS

Thirty years ago Thomas McKeown argued that health care only had a limited impact on the health of the population. He suggested that the improvements in life expectancy that were seen in developed countries during the latter half of the 20th century related to improvements in the environment more than improvements in health care. His views have been very influential but many now argue that they have created a nihilistic mindset amongst public health practitioners which has discouraged the application of new approaches to health improvement. This may have been true up until the 1960s and 1970s but considerable medical advance has taken place since then and a number of authors have argued that access to effective health care can have a significant impact on health status and quality of life. The basic principle underlying the creation of the National Health Service was that there should be open access to health care regardless of ability to pay. Evidence suggests that rates of uptake of health care are generally high in deprived areas. The question is, are the rates of uptake high enough to meet the level of need experienced by this population?

A number of studies have attempted to measure whether or not health care systems meet the needs of the population. Early studies in the late 1970s and early 1980s used self-reported illness as a measure of need and, initially, these studies suggested that utilisation of the NHS favoured the more affluent once need was taken into account. The more affluent sectors of the population were using the NHS more, relative to their levels of self-reported illness when compared to the most deprived sectors of the population.

By the late 1980s, however, some studies were emerging to suggest a more equitable pattern of access to health care. When attendance at primary care clinics was examined, studies by Collins and Kline, Puffer, and Evandrew and colleagues found different levels of GP attendance were apparent according to age and sex of the populations examined. By 2002, Sefton was able to report that, on the basis of data extracted from the general household survey in 2000, amongst those who reported limiting long-standing illness, those in the top

two income quintiles reported fewer in-patient stays and fewer GP consultations than those in the bottom three quintiles. In general, these studies offered conflicting evidence about whether access to care is appropriate to need amongst the poorest sectors of the population, and much of this uncertainty may be associated with the methodologies employed. Often, these studies have examined very high level indicators of health.

Of perhaps more immediate relevance are the studies that have been carried out on access and utilisation of specific services. Many of these studies have focused on uptake of surgical treatment but some that have measured access to prevention and screening in primary care have also been undertaken. A number of studies of care for heart disease have concluded that the level of service available to lower socio-economic groups is significantly less than the level of need experienced by those groups. Although intervention rates in terms of coronary artery bypass grafting or coronary angioplasty may have been greater in deprived areas, these gradients were not sufficient to match the socio-economic differential in mortality [*Figure*]. Other studies have shown that those in higher social classes are more likely to attend for health checks for cardiovascular disease and are more likely to use protective drugs such as statins. One study found that smokers were about half as likely to take statins than non-smokers and it has been suggested that since smoking prevalence is strongly correlated with socio-economic status, this close relationship may also create inequalities of access to prevention services for heart disease.

A number of studies have considered the uptake of elective surgery by social class. Several have shown that for conditions such as hernia, gall bladder disease and joint replacement, members of the most deprived sectors of the population may be more likely to consult with a GP but are less likely to receive surgery. At least one study has shown that patients requiring oral surgery are less likely to receive elective in-patient care but are more likely to receive emergency care.

Bunker has argued that amongst the most effective health improving interventions available to a population are immunisation and screening. Charland et al studied immunisation patterns across 28 health authorities in the London region and found that the proportion of lone parent families in each health authority significantly influenced uptake of childhood immunisation. Even after the recent adverse publicity on MMR immunisation, Middleton and Baker found that uptake of MMR was about 2% higher in affluent areas compared to deprived areas. These same authors have also assessed inequalities in cervical screening in England. Screening coverage was consistently higher in affluent areas during the 1990s with the proportion of GPs meeting their targets for population screening in 1991 running at 84% in affluent health authorities compared with 39% in deprived health authorities. During the 1990s, this gap narrowed but the difference between affluent and deprived in 1999 was 99% compared with 76%. Other studies have shown that the uptake of breast cancer screening is higher where full-time employment rates are higher and where car ownership is commoner. In terms of management of chronic disease, few studies have been carried out that assess the quality of chronic disease care by socio-economic status. However, it has been observed that diabetic patients from lower socio-economic groups are less likely to attend diabetes clinics.

The increased risk of adverse outcome amongst mothers and children from deprived areas is well known. Risk of maternal death amongst the most disadvantaged sectors of the community is 20 times higher than amongst women in the most affluent classes. This difference is almost certainly due to differences in uptake of ante-natal care.

Overall, studies which look at the use of services in large populations and use self-reported symptoms as a measure of need are broadly inconsistent in their analysis of the impact of poverty on health care utilisation. Where smaller groups with specific health problems and definable health outcomes are studied, there is clear evidence of the persistence of significant inequalities in utilisation by patients in disadvantaged groups and that failure to receive treatment significantly impacts on their health outcomes.

## 4. How should the NHS respond to this challenge?

The Health Service invests heavily in a variety of activities aimed at improving health. Behaviour change campaigns which focus on smoking, diet and exercise are highly visible and usually have some effect. The fact is, however, that often the individuals best able to respond to invitations to change their lifestyles are the more affluent and, as MacIntyre has pointed out, such programmes, if not adequately thought out and targeted, may actually widen health inequalities.

In recent years the Health Service has had a more obvious hand in tackling adverse life circumstances through involvement in community planning processes and through engagement with a wide range of agencies providing social, educational, employment and housing support to deprived communities. Again, MacIntyre has pointed out that many of the projects that have emerged from multi-agency working have not been properly evaluated and may fail to have the desired effect in narrowing health inequalities. An important action for the Health Service is to ensure that such interventions are appropriately monitored and evaluated and that evidence accruing from such programmes should be shared across NHS Scotland. It may be a task for NHS Health Scotland to assemble evidence for health improvement intervention now that the Health Development Agency in England appears no longer active in this area.

Social and environmental change will, if properly thought out, eventually lead to significant improvements in health inequalities. In the process, great strides will be made in persuading individuals to adopt healthy lifestyles. However, it may take many years for such benefits to be apparent. We know that health care interventions available to the population now are effective and we also have strong evidence that people living in deprived areas have less access to those interventions. The quickest way to make an impact on health inequalities is to target health services to meet need more effectively. If the original concept underlying the NHS was to offer equity of access to health care, we should now be prepared to go a step further and enhance access to care for the most disadvantaged sectors of the population so that they might have a reasonable opportunity of having equity of outcome of care.

## 5. Reversing the Inverse Care Law

The "Inverse Care Law" is a term coined by Dr Julian Tudor Hart to describe his observation that those in most need of health care are least likely to receive it. He worked for many years in a South Wales mining village and adopted a style of clinical practice that might be known as "anticipatory care". This style of practice incorporates aspects of health promotion and disease prevention into the clinical encounter. At the end of his time in his practice, Tudor Hart was able to point to a population with significantly enhanced life expectancy and significantly reduced morbidity when compared to similar practices in adjoining mining valleys. It is proposed that the Scottish NHS should begin to tackle health inequalities by focusing its resource more closely at the early detection and management of problems in deprived communities.

## 6. The rationale for enhancing primary care

Evidence has already been mentioned which indicates that people from more deprived areas have inadequate access to care in relation to their level of need for that care. It can be argued that studies that demonstrate this effect also fail to answer the question of appropriateness of the care that they receive. Early intervention can contribute to better outcomes for many serious illnesses. Patients from deprived areas often present to clinicians with more advanced disease which is harder to cure. They may do this because the service is not responsive or they feel unable to communicate effectively with clinicians. Most studies of access to care would fail to show the degree to which patients benefit from the consultation. There are a number of ways in which deprived patients are less likely to benefit. An interesting study carried out in the West of Scotland (Stirling et al) timed consultation in GP surgeries. They found that average consultation length for affluent patients was around 1-2 minutes longer than for deprived patients. This reduced time available to deprived patients seeking advice from a GP is compounded by the fact that the deprived have more problems than affluent patients. Studies carried out on SMR1 data show that patients from the lowest quintile of postcode sectors are more likely to present for medical care with several significant conditions than patients from the upper quintile. Deprived patients therefore seem to have more problems with less time available to them to have those problems dealt with. Furthermore, patients in deprived areas may be less willing to seek advice for their condition yet the evidence is that intervening early in a range of conditions improves outcome. We suggest therefore that the most appropriate place for the Health Service to begin to narrow the gap between rich and poor is through the systematic adoption of the principles of anticipatory care and preventive medicine. Resources should be selectively targeted to deprived areas to ensure that patients in these areas have enhanced opportunities to be seen and have their problems dealt with at an early stage.

7. **How might this be done?**

NHS Scotland should embark on a programme of enhancing primary care capacity to allow it to meet the needs of the most deprived members of our society.

They should do this by expanding the numbers of people available to see patients and offer them adequate time to discuss their problems and to obtain treatment. However, it also needs to invest in services to identify patients at risk to actively recruit them into intervention programmes and to follow them up to ensure that the process is effective.

What are the components of such a system?

The basis of any such early detection and prevention programme is good community data. Scotland has the basis of such a system as we move towards the full implementation of the Community Health Index and its use in NHS computer systems. We should pursue the creation of an **electronic patient record** for everyone living in Scotland as a matter of urgency. Using this record will improve our ability to identify all those individuals who need to have blood pressure, cholesterol, body mass index and other prognostic factors for chronic ill health examined and identified. This process would allow us, for example, to offer blood pressure checks to all those who have not had them, to offer treatment to all those who have had elevated blood pressure recordings observed but who have not had treatment, and would allow us to monitor treatment to ensure that it is effective. There are many conditions where risk factors for cardiovascular disease, mental illness, respiratory disease, cancer, osteoporosis and a range of other chronic illnesses can be identified and their influence ameliorated through positive case finding. In addition to intervening in those with evidence of early onset of disease, this approach offers the opportunity to intervene on an individual basis with **health promotion** initiatives. For example, an individual with an elevated blood pressure might be offered smoking cessation advice or advice on alcohol consumption. With sufficient resource invested in primary care, these individuals may have access to more than advice. They could be channelled into smoking cessation programmes, exercise schemes, drug rehabilitation schemes or whichever health promoting programme was appropriate. At present, such opportunities are highly dependent on local decisions to create appropriate services and most GPs do not have ready access for all patients who need it.

Much of our thinking on current models of health creation centre on the need to strengthen the capacity of individuals to take control of their own health. The problem which exists in deprived populations is that the self-esteem and confidence of individuals have been eroded through years of unemployment, poor education, poverty and bad housing. Through the creation of Community Health Partnerships it should be possible to expand health and local authority services in a way that offers a holistic approach to individuals who need to build confidence and the ability to control their own lives.

What kind of staff enhancements would be required?

It is unlikely that a primary care system focused on prevention of ill health can be staffed by the creation of more GP principles. It may be that salaried GPs could be recruited in deprived areas but it is much more likely that we develop this capacity through extending the role of nurses, allied health professionals and other staff.

What problems might there be in such an approach?

Inevitably, this approach sees additional resource being targeted at general practices in deprived areas. GPs whose practice contains predominantly affluent patients may still have individuals in their practice living in poverty. They may feel that their patients are being discriminated against. The resource should be made available across a Community Health Partnership to be targeted at individuals who need it. The management of such resource should be left to the CHP to determine. The NHS, however, should not apologise for recognising that deprived patients have been under-served by its existing systems. This approach is aimed at redressing the historical inequity that has existed since the NHS was first set up.

Do we have sufficient staff and is our present estate adequate to support such a system?

Certainly we will need to develop new roles for staff and inevitably it will mean recruiting new individuals to fill many of the gaps we can currently identify. So far as existing buildings are concerned, it is not anticipated that significant change would need to be made to existing primary care infrastructure to allow these developments to happen. These new services would not take place solely within GPs' surgeries. Community pharmacies, community schools and local exercise and recreation facilities would be appropriate to provide many of the services being suggested. It would be important for primary care managers to establish early on in the development of a prevention programme a need for accommodation.

How does this approach apply in rural areas?

Individuals would be identified through general practices. Since almost everyone in Scotland is registered with a GP, patients who should be offered advice and intervention can be traced through GP records. The principles apply equally in sparsely populated areas as they do in areas of urban deprivation.

Is this purely a primary care programme?

No. This is a programme which seeks to bring the NHS together with its local authority partnerships to a position where it can support individuals who have currently had difficulty in accessing services. All the facilities of the NHS are theoretically available and this would mean that hospital doctors, nurses, pharmacists and other professionals should participate in the management of groups of patients as appropriate. An analogy would be with managed clinical networks. Most networks are predominantly hospital focused and have

primary care input. This is a network which is very much community based but would have specialist hospital input as appropriate. We already have such a system in place for the management of diabetes. Most diabetes management is conducted in the GP surgery but highly specialised input is required from time to time. Similar arrangements would be appropriate for a prevention network of the type described.

Critical to the functioning of such a network is the input of epidemiologists and information specialists. This system cannot be taken forward without good population-based data and appropriate analysis of such data. We anticipate significant need for public health specialists in such an arrangement.

**Recommendations**

1. At a policy level

   The Scottish Executive should commit to targeting new investment at deprived individuals to allow them to have enhanced access to a range of health interventions. In the first instance this might be through targeting new resources intended to tackle the problem of unmet need within the Health Service at practices with high numbers of deprived patients.

2. At a national level in the NHS

   Protocols should be developed as a matter of urgency which outline the action to be taken to tackle problems such as undiagnosed or untreated high cholesterol and other risk factors for heart disease. Many such protocols already exist, are already evidence-based and widely accepted. Action should be taken to agree across Scotland that they are the standard approach for GPs acting with CHPs.

   In addition to interventions aimed at improving mortality from heart disease, protocols for the identification of individuals at risk of having cancer should be developed. Local health economies should consider ways in which investigation of these patients can be taken forward in the light of existing waiting time guarantees which will come into operation at the end of 2005.

   The managed public health network being developed by Directors of Public Health and Directors of National Agencies should consider what other conditions within deprived communities are not currently being identified at an appropriate rate. Directors of Public Health should commission work to develop protocols to allow case finding, early detection and appropriate treatment. Such conditions may include chronic obstructive lung disease, osteoporosis, alcohol related problems and significant mental illness.

   Health promotion managers should be asked to consider appropriate interventions which could be aimed at individual patients being seen through this system and which would facilitate behaviour change through smoking cessation and control of substance abuse. Programmes for obesity management through better diet and enhanced exercise should be developed which could be offered to individuals as they pass through this system.

3. Health Boards and Community Health Partnerships

Health Boards should begin to realign management capacity to ensure that appropriate administrative and management support is available to assist GPs in the identification of deprived patients and the management of patients who are identified as having significant health problems.

Health Boards and CHPs should develop information systems to allow monitoring of individuals, collection of data relating to health needs, treatment offered and follow-up data to allow a quantification of the health improvement impact achieved.

Health Boards and CHPs should organise appropriate financial support for individual practitioners to allow systems to function effectively and to permit an eventual calculation of the cost effectiveness of the programme.

Health Boards and CHPs should develop manpower plans to ensure an appropriate skill mix of professionals is available to support GPs in the delivery of this targeted programme of care.

4. Underpinning the process with better information

Essential to the efficient identification of individuals and their appropriate treatment is the creation of an electronic patient record linked to an effective decision support system. The programme can be piloted in selected areas now without a completely electronic information system. However, if we are to ensure that patients across Scotland get the most effective care which anticipates their needs, current NHS information systems need to be significantly enhanced and this needs to be tackled with some urgency.