Everyone's business — everyone's responsibility

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Introduction

IN choosing the topic for this lecture I am conscious of being the first chairman of the College's newly formed Clinical and Research Division. Mackenzie's major work was concerned with coronary heart disease, and it seemed logical to tackle this, the number one killer in the UK.

In 1987 coronary heart disease resulted in the death of 180 000 people — that is 21 an hour, 3500 a week and 15 000 a month. It kills more people in the UK than any other disease, accounting for 30% of deaths in men and 25% of deaths in women.[1] What is more important, however, is that coronary heart disease is one of the two major causes of deaths in the age range 55–74 years. One in five men in this country will have a heart attack before the age of 65 years; half of them will die as a result. Apart from the distress and pain caused by coronary heart disease there are also significant economic consequences for the nation. For example, in 1981/82 coronary heart disease was responsible for the loss of 30 million working days, £940 million in lost production and treatment costs of £355 million.[1]

If coronary heart disease were an infectious disorder, it would have been said to have reached epidemic proportions and appropriate measures taken to check its spread. Yet the government and large parts of the medical profession lack a cohesive strategy in preventing this disease.

Our aim in the prevention of coronary heart disease is not to produce a nation of centenarians nor is it the total elimination of deaths from coronary heart disease. Myocardial infarction is quite a good way to go, at the right age. The aim should be to reduce the unacceptable premature mortality and morbidity from the disease and thus 'to enable people to die young as late as possible' (Ernst Wynder quoting Hippocrates).

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There is now good evidence that a significant impact can be made on reducing the incidence of premature morbidity and mortality from coronary heart disease. Any strategy aimed at reducing the problem, however, has to be based on tackling the known risk factors by developing a comprehensive strategy for prevention.[2] Fragmentation of efforts in the UK has left us behind other countries, such as Australia and America, which have reported major reductions (approximately 40%) both in the mortality from and incidence of the disorder. Even Finland, which was once at the top of the league table of deaths (the top countries are now Scotland and Northern Ireland) is now reporting significant reductions in mortality.

Historical and ethical perceptions of prevention

The roots of preventive medicine lie in antiquity; the bible reveals the emphasis placed on prevention rather than treatment by the ancient Hebrews and Egyptians. Our modern concept of public health and epidemiology originates in the urban expansions of the early nineteenth century.[3,4] The great strides in the development of public health made then were stimulated by changes in social values. These changes were prompted by the realization that disease and squalor affected the lives of the rich as well as the poor and resulted in public health receiving a higher priority from government and from the medical profession.

The history of public health teaches us never to underestimate the massive improvements in the health of populations which have been made by non-medical measures, notably improvements in housing and nutrition — considerations which are still relevant when considering the present problem of coronary heart disease.

Since the nineteenth century, the biotechnical aspects of medicine have made spectacular progress, but the importance of prevention has not diminished. Indeed, our knowledge about the potential for prevention of coronary heart disease and chronic degenerative disease has improved more than our ability to cure them.

The moral issues which arise within the field of preventive medicine fall into two broad groups: (1) The rights and obligations of citizens expressed in the apparent tension between personal freedom and the common good. (2) The relationship between those who pursue preventive measures and their target groups, especially as this affects personal autonomy.[5]

The aim of reflections on the ethics of health care issues is to provide a basis for decision making but only after as comprehensive and critical a survey of the subject area as possible. No single profession or academic discipline can claim an overriding expertise in the field of ethics. Therefore discussion must be both interprofessional and interdisciplinary and should certainly involve the public.

Many of the issues in prevention resolve themselves into questions of degrees of intervention or non-intervention rather than into simple 'yes' or 'no' answers. Some disappear as false antitheses. The lust for absolute proof is dangerous as it prevents us from translating existing scientific evidence into public health policy; and it also prevents us from pursuing research into the social causes of ill health.

Controversial issues in prevention

I realize that there are those who are less than enthusiastic, scep-

tical even, about prevention and that certain questions have to be answered. In trying to develop answers to the questions I will try to work from an ethical but nonetheless practical background, acknowledging that 'we must start from what is known, but things are known in two senses: known to us and known absolutely. Presumably, we must start from what is known to us.' (Aristotle, *Ethics Book I*).

Why prevent disease?

Ensuring its own survival is perhaps the most fundamental aim of society. Since longevity and well-being of individuals are associated with survival of the herd it might be concluded that the value of these attributes is self evident. Surely the prevention of pain, disability and premature death requires no justification? In reality, individuals are relatively unimportant to herd survival and in practice the promotion of health cannot be achieved without cost. Consequently health has to compete with other services in the list of social priorities.

However, there is also the view that, irrespective of cost, prevention is intrinsically worthwhile. This was expressed by Lord Milner in 1909: 'If we believe a thing to be bad and if we have the ability to prevent it, it is our duty to try and prevent it and to damn the consequences'.[1] The benefits of prevention as a strategy for maintaining life and health is a widely held belief — 'an ounce of prevention is worth a pound of cure'.[6] Unfortunately, prevention tends to be highly regarded in theory but neglected in practice, only a small percentage of the total expenditure on medical care goes to health promotion or disease prevention. The reasons for this are complex and are a mixture of social and cultural attitudes combined with economic and ethical factors.

First, there is an understandable tendency for people to be more concerned with the present than with what may not happen in the future. Prevention is therefore often seen as a negative concept. Secondly, the successful outcome of prevention is not dramatic. Saved lives are non-events.

To suggest that prevention is good in theory but impractical or politically impossible in practice is a way of saying that the economic, political or social costs of prevention are too great. Contrast this with the huge sums of money often spent on a single case under treatment. In an ideal society, much more committed to preventive measures than we are at present, few obstacles would prove insuperable.

Treatment or prevention — are they alternatives?

The early architects of the National Health Service (NHS) argued that if unmet needs were identified and catered for, the nation would become healthier and the drain on resources would diminish. We now know that it has not worked out this way. However, the NHS is not a failure. On the contrary, it is a tremendous success, which if it were a commercial enterprise would be rewarded by greater investment.

Criticizing the NHS as an ill health service is also both insensitive and unjust as the full potential for prevention of chronic and non-infective diseases has only become apparent during the past decade.

Certainly, Professor Ian Kennedy in his forthright fashion has argued that if we were designing the health service again, we would place much greater emphasis on health promotion and disease prevention even at the expense of some aspects of curative therapeutic care.[7]

His views and mine diverge. To neglect aspects of curative medicine makes me feel distinctly uneasy. His point of view flies in the face of the vision which led to the setting up of our NHS. Prevention and treatment should not be seen as alternatives — they are, or should be, entirely complimentary. To separate them is a false antithesis.[8]

Will successful prevention leave us with an epidemic of chronic diseases of later life?

The average lifespan during this century has increased from approximately 47 to 73 years, but the change in life expectancy for adults has been minimal, moving upwards by about a month per century. Thus it would appear that the number of very old people living in society is not going to increase if effective preventive measures are adopted. The explanation is that life will end even in the absence of disease. All organisms are made of cells which are constantly regenerating and cells of species which are long lived regenerate for a longer period of time. Studies on human fibroblast cells show that they will regenerate about 50 times, after which they fail to grow and then die.[9] In young adult life the functional capacity of human organs is four to 10 times that required to sustain life. However, measurement of organ reserve over time shows an almost linear decline beginning at the age of about 30 years. As organ reserve decreases, so does the ability to ward off stress and eventually small stresses can result in natural death, even without active disease.[10]

Acute illness, which used to be the major cause of premature death, has now been replaced by chronic illness. The major acute infections, which dominated mortality patterns at the turn of the century, now account for less than 2% of the mortality that they caused in 1900. Chronic illness is responsible for more than 80% of all deaths and for an even higher proportion of total disability.[11]

It seems that premature morbidity and death, of which coronary heart disease and stroke are major causes, are capable of being delayed by a preventive strategy. It should even be possible to forecast clustering of deaths into the 75–90 age years range.[12,13] In total, heart disease reduces the population's life expectation by approximately five years, so the removal of say half the deaths from coronary heart disease would add only perhaps two to three years to total life span (Lewis B, personal communication).

In summary, it would seem that it is possible to achieve a decline in premature death and the emergence of the pattern of natural death at the end of a natural lifespan. Furthermore, this can be a life which is physically, emotionally and intellectually vigorous until shortly before its close. Then the very predictability of death may even prove soothing.

Will individual freedom be endangered by too much paternalism?

There are those who stress individual freedom and values. Then there are the collectivists who have a much greater preoccupation with utilitarianism, with prevention, than with Popper's piecemeal social engineering.[14] Powerful arguments can be advanced by each but even more powerful arguments can be advanced by using both approaches.

I would argue that paternalism to protect the public health is not only compatible with democratic values but that public health restrictions are essential to defend the common life and to promote a sense of community. In fact, the case against paternalism is hard to justify and often results in focussing measures unfairly and ineffectually on certain groups in society, such as the young, or those believed to be mostly responsible for health problems.

Public health paternalism is minimally intrusive to individuals since it consists mainly of controls on the market place. It does not involve restrictions on private liberty because the ends of paternalistic restrictions are shared, promoting group virtues like beneficence and concern for the common good. To make con-

trasts between individual needs and the needs of populations is unwise. In fact, the interests of the individual and of the population of which he forms a part are congruent, and to that extent an antithesis between individual and population medicine is false.[8]

Health legislation is really an expression of a stated health policy and an instrument by which governments seek to strengthen their health-giving activities. The traditional role of the law — in formulating rights and duties, expressing policy, balancing various interests, protecting individuals and the community and setting up norms and standards — extends itself to the field of health.

Is there any evidence that prevention works?

It has been questioned whether the reductions in the mortality from coronary artery disease in Australia and the USA are due not to preventive measures but to better treatment of the acute episode. In Perth, Western Australia, highly significant falls in mortality rates from ischaemic heart disease were found between 1971 and 1979; for men it was 18% and for women 29%.[15] Large changes in survival after receiving treatment would be needed to explain this fall in mortality, yet the four, 26 and 52 week survival rates after hospital admission remained remarkably constant. Also the number of people admitted to hospital for non-fatal myocardial infarction as a proportion of all people suffering from myocardial infarction remained constant between 1971 and 1979 and the rates of non-fatal myocardial infarction in males and females fell in parallel with the rates for fatal myocardial infarction.

Thus it would seem reasonable to conclude that the fall in fatal myocardial infarction was due to a fall in the incidence of this disorder and not to improved treatment.[15] These findings are entirely consistent with similar studies in the USA.

Should we adopt a population or person based strategy?

There has been a good deal of argument about whether prevention should be directed to high risk individuals or to the whole population,[16] but the prevailing view is that the two strategies are complementary and not alternatives.[17]

It is clear that a mass phenomenon, such as coronary heart disease, must be tackled on a population level. The high risk strategy, important though it is, is essentially palliative. It attempts to rectify a condition (that is a high level of risk factors) which should not have developed in the first place. A strategy which relies on the identification of high risk individuals cannot succeed since only half of all myocardial infarctions and sudden deaths occur among persons at high risk. A population strategy, on the other hand, attempts not only to lower risk for those who have identifiable risk factors, but also tries to shift the distribution of risk factors in the total population.[18] For those at particularly high risk, however, the degree of behavioural change achievable by population education is unsufficient. People in the lower educational/economic strata are in the greatest need and are the least responsive to public health education (Lewis B, personal communication).

The enormous potential of British general practice is that it is possible through the list system to develop a third approach which virtually unites the population and the high risk strategies.

Will the cost be prohibitive?

As health care costs have spiralled, so the discipline of health economics has blossomed. Whether or not it is ethical to allow economic criteria to define the objectives of health care,[19] resources are not infinite, and financial considerations will have to play some part.

An overall objective around which we can all unite is to achieve the optimum state of health possible for the population with the available resources. Even agreement about this is hampered by the differing political views on how much of the national wealth can be devoted to health care.

In the political arena there is the danger that a major aim of prevention is seen to be a reduction in total expenditure on health care. This should never be pursued as the sole justification for implementing preventive medicine. For one thing, every success in saving a life after 50 years of age, whether by prevention or treatment, represents a net cost because old people are expensive.

There are immense difficulties in evaluating preventive programmes in economic terms. It is not possible to run controlled trials because of the long time scale involved and even if figures could be attached to changes in mortality, the implications of changes in morbidity concern the quality of life of individuals and their families which are difficult to quantify. We need to evaluate preventive health programmes, but evaluation can only be achieved once a large scale and long term preventive strategy has been implemented.

I now turn to some issues which are less hypothetical. In 1985 coronary heart disease cost the NHS almost £400 million in England and Wales (£213 million for hospital care and £177 million for primary care).[1] Coronary heart disease accounts for 10% of certified days of incapacity for work and this resulted in sickness benefit payments totalling more than £260 million in 1984/85. Linked to this should be the cost of lost production and in 1984/85 this was valued at £1431 million.[1]

Success in postponing or preventing fatal coronary heart disease inevitably means more old people. This will increase the cost of pensions, social supports and certain amounts of medical care. However, as I argued previously, getting people into old age in a healthier state is likely to reduce morbidity and senescence and both these achievements must be worthwhile, but will not balance the extra costs of having more old people. On the other hand, premature death increases the state's burden in caring for families and dependents and I have no figures which would quantify this amount.

The prevention of premature morbidity and mortality from coronary heart disease may not result in a net profit for the nation, but I think it would result in a net profit for humanity which can not be measured in monetary terms.

Issues which should concern government

Health education has grown from being a fringe activity a decade ago to being a big element in the new movement towards better public health. There is increasing involvement of the community, industry and the mass media in promoting health. An issue which I see as being vital to the debate on prevention is the relationship between the government and the Health Education Authority. The government has quite rightly given prominence to preventive measures in its white paper *Promoting better health.*[20] But it must recognize that the Health Education Authority (like the Health Education Council before it) seeks to achieve a shared understanding of the challenges to the public health; and wide participation in the planning and implementation of change.

While the Department of Health and Social Security recognizes this crucial and delicate role, there is a temptation for government to regard the authority as little more than a loud hailer for health education; standing by to amplify the government's message at a moment's notice.[21] Such an attitude not only negates forward thinking, but also negates an effective contribution to improving the nation's health. Furthermore, such a misuse of the Health Education Authority is potentially

destructive to both government and the authority itself. The government must trust the authority to identify major health issues and to develop strategies to combat these. The Health Education Authority should be responsible to the country and not to the current political mood of the country. A degree of tension between government and the authority is an inevitable but healthy situation.

There are three other issues which I feel the government should be more concerned with than at present. These were highlighted by Sir Patrick Nairne in his Green College lecture.[22]

Relationship of the NHS to the public

The NHS should look much more to the public it serves and less to the government that funds it. The public need a clearer idea of just what the NHS can and cannot do. The very successes of medical care bring with them tremendous problems of resource allocation. Recent debates about the NHS have been too politicized and so have obscured the real issues. The glamour of curative medicine is overplayed and the responsibility of the individual for maintaining health underplayed.

Links with private medicine and the health and local authorities

Whether we like it or not about a tenth of the population now have private medical insurance and this figure is growing. What is needed in this mixed economy is a mechanism whereby the interests of those for whom the NHS is the only service are safeguarded — and safeguarded absolutely; and a mechanism whereby the private health service does not bleed the NHS of its doctors and nurses. I would prefer that the NHS could legitimately view the private sector as a source of revenue.

At times, local authorities and health authorities seem to be in conflict, rather than partnership, yet the need for such a partnership has never been greater with the increasing transfer of the elderly and handicapped into the community.

Cooperation within the NHS

One could at times regard the NHS as a coming together of vested interests and the capacity of different arms of the service to criticize each other seems to be infinite. All partners have to recognize the state of indissoluble marriage and the need to work together.

The NHS has an impressively caring face, still dominated by a commitment to aspirations and ideals unequalled in the world. It is a unique strength from which governments should take heart. If they do, I hope that they will also reflect upon the words of a recent Royal Commission:[23] 'We were not convinced that the claimed advantages of insurance finance, or substantial increases in revenue from charges, would outweigh their undoubted disadvantages in terms of equity and administrative costs'.

There may be weaknesses in the present system of funding the NHS but I would warn against the 'seduction by untried and untested proposals'.[24] The challenge is to build on its proven strengths.

The way forward

Up to now I have raised issues, tried to explore them and offer comment. Now I would like to submit for your consideration my way forward.

Clearly it has to be based on those risk factors which are capable of being modified for we can do nothing about those such as increasing age and male sex. The risk factors known so far for coronary heart disease are:

1. Bad family history.
2. Raised serum cholesterol.
3. Cigarette smoking.
4. Raised blood pressure.
5. Raised plasma clotting factors, fibrinogen in particular.
6. Obesity.
7. Stress.
8. Inactivity.
9. Diabetes mellitus.

There seems to be almost universal agreement that each has a role to play in the genesis of coronary heart disease, even if there is no consensus about the relative importance of each.

Of one thing I am certain. Any strategy for the reduction of coronary heart disease must attack all known risk factors. By and large, trials dealing with each risk factor in turn have been disappointing in their yield of prevention and even multi-factorial risk studies have been less successful than hoped for; but is five or even 10 years long enough to assess preventive efforts to combat a disease which takes generations to develop?

The way forward on tackling coronary heart disease prevention should be through a unified approach. All the caring professions should move forward together with a common policy which combines the population and personal approach.

Prevention in childhood

I feel compelled to devote a section of this lecture to children because it is early in life that the prevention of coronary heart disease should begin.

Nutrition and diet

Dietary recommendations for adults have been formulated by the Committee on Medical Aspects of Food Policy and, to a varying extent, accepted. The evidence that children in high risk communities develop higher cholesterol levels than those in low risk communities[25] and the fact that food preferences are established early in life means that there is now a considerable case for extending the COMA recommendations to children. Obesity, which makes a major contribution to adult hypertension, often starts in childhood.

Doubts about the safety of reducing dietary intake of saturated fat and cholesterol from an early age have been refuted. In fact, there is no known nutritional requirement either for cholesterol or for saturated fatty acids in the diet. Hence, the balance of evidence favours the institution of healthy eating habits early in life.[25]

Introducing dietary changes progressively means that by the time of entry to school dietary fat should only make up 30–35% of energy, and carbohydrate approximately 55% of energy.

Clearly the DHSS must persuade influence the Department of Education and Science to improve the content and delivery of school meals, which should certainly be monitored by the school health service. I also think that there is much to be said for checking cholesterol levels of children whose parents show premature evidence of coronary heart disease — that is below the age of 60 years. While personally I would prefer that this be done by general practitioners, there could be a role for the school health service.

Blood pressure

The evidence relating high blood pressure in childhood to the adult risk of coronary heart disease is less complete than that for serum cholesterol, but there is evidence that many children have blood pressures that are high even by adult standards[26-28] and that the geographical differences in blood pressure observed in adult men are mirrored in children.[29]

I think, therefore, that the school health service should be paying much greater attention to blood pressure and certainly general practitioners might consider carrying out opportunistic blood pressure recording on children.

Smoking

The association between smoking and adult risk of coronary heart disease is now universally accepted. Furthermore, it is conceded that, although children rarely smoke large numbers of cigarettes, adult smoking habits are frequently established during the teens. Smoking among young people is also related to other unhealthy lifestyles.[30] There are a wide variety of people who influence children to start smoking: their parents, their friends and perhaps even their teachers.[30] Any attempt, therefore, to reduce the habit must concentrate on helping children to overcome these many background factors.

Exercise

The consensus of opinion seems to be that children do not take enough exercise[31,32] and indeed many equate exercise at school with aversion therapy; we must perhaps get away from the slavish tendency to competitive activities and team games and move towards forms of exercise which can be carried on through adult life. Schools as a whole (not just their physical education departments) should formulate and monitor their own exercise and fitness policies,[33] and the role of exercise in health, growth and development needs greater emphasis in teacher training and continuing education.

There is a need for a large national survey of the activity and fitness levels of children which takes advantage of the experience of other countries. This would provide the first accurate picture of children's exercise and fitness in the UK and establish a baseline for assessing future programmes and progress.

The school curriculum

The American Health Foundation probably has something to teach us. They have instituted a 'Know your body' school health programme in which the risk factors for each child are determined, beginning in the first grade, and recorded in a health passport. Each child receives 30 hours per year of appropriate lessons covering a wide range of health related behaviour and is evaluated in terms of his or her health knowledge, attitude and behaviour. A recent study has shown a reduction of serum cholesterol levels in fourth grade students, followed over five years.[34]

Such educational programmes can, of course, be extended to cover topics such as drug abuse, alcohol abuse, physical activity and the acquired immune deficiency syndrome.

The American Health Foundation believe that education for health should become an integral part of every school curriculum in addition to reading, writing and arithmetic. It is particularly disappointing therefore that there are signs that in the UK education for health will play a lower part in the school curriculum according to recent proposals outlined by the government.

Conclusions

As there is such a weight of evidence for moving forward on coronary heart disease prevention, why are we not acting on it?

I think we should take the example of the consensus development conferences in the USA. I was privileged to be in the States for the launch of their national cholesterol education programme. It had the support of the American Heart Foundation, the American physicians, the family doctors and major nursing, health visiting and public health bodies. Indeed, it seemed that it had the backing of every organization that mattered, which meant, I think, that it carried much greater weight with the public.

Contrast this with the UK. We have 'Look after your heart' mounted jointly by the Health Education Authority and the DHSS and criticized (often justifiably) by the Coronary Prevention Group and seeming to lack support of all the major medical, nursing and public health institutions. To the intelligent layman it must appear that opinion about what to do remains divided whereas, I suspect, more unites than divides us.

If we can coordinate our actions on coronary heart disease, we might then begin to do the same for other major issues affecting the public health. I am certainly not against individual initiatives, nor against what at times can be the entrepreneurial role, but in pursuing these we can often be indulging our whims rather than facing the issues which ought to be concerning us. We need a consensus war on coronary heart disease and this College with its deep concern for individuals and with its expressed concern for practice lists as populations at risk, should take the lead in hosting the initiative.

Let me add a word about research. We meet today to honour the memory of James Mackenzie, to acknowledge the great contribution which he made to general practice in particular and to medicine in general. While pursuing a workload which would have probably kept two of us fully employed, he also found the time to carry out fundamental research. His was not the 'pure' research of the laboratory; his laboratory was not lodged in an academic ivory tower; his laboratory was largely where he was. His tools were basic; an enquiring mind, alert eyes and ears and sensitivity, aided by some rather modest equipment. With these basic and simple tools, he made fundamental discoveries and developed a world ranking reputation. His labours were immersed in clinical research, the research carried out at the bedside, the research spurred by a responsibility and commitment to the welfare of his patients. I believe that his latter day equivalent is Maurice Stone of Leigh in Lancashire. Both have blazed a new trail untrammelled by tradition, vested interest or medical dead wood.

But all is not well with the research community today. We have now moved to a state when the question is not just the future of academic medicine, but whether in its present form it has any future at all.[35] The clinical researcher could become an endangered species just when he is desperately needed to act as the interface between advances in basic science and patient care.[36] We have the paradox of the Secretary of State for Education and Science saying 'Scientific research is recognized to have an outstanding record and to be a major national asset'[37] and yet almost at the same time the House of Lords Committee on Science and Technology reported that medical research suffers from low morale — even despondency.[38]

While lack of funding is certainly an important part of the problem, at the same time, the research community needs to look to itself. If it wants to make major discoveries, it must study major problems.[39] Unquestionably, in the applied field of clinical research, what is most important is what is most common. Coronary heart disease is both common and important.

I have outlined a possible strategy which, based upon present knowledge, is capable of significantly reducing the premature morbidity and mortality from the disorder. The strategy now needs to be evaluated on a long term basis and answers found to some other fundamental questions, such as: What factors make people intrinsically resistant to coronary heart disease? What are the characteristics of families and people who do not get coronary heart disease, even though they lead high risk lifestyles?

I suggest that the College, in collaboration with other interested bodies such as the DHSS, should mount a major study,

which will not only utilize the unique list system operating in British general practice, but will involve the everyday general practitioner in important clinical research. It is probable that such a study can only be mounted in the UK.

The pilot has already been carried out by Maurice Stone and the results have been, to say the very least, favourable. If the College is willing, the project could be channelled through the Clinical and Research Division. It will show to family doctors and the public at large, that the College indeed exists to encourage, foster and promote the highest possible standards of general practice for the population of the United Kingdom — a College worthy of Mackenzie.

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